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Timber Resource Statistics for Western Washington

Colin D. MacLean, Patricia M. Bassett, am.] Glenn Yeary



Authors

COLIN D. MacLEAN is a mensurationist and PATRICIA M. BASSET T is a programmer/analyst, U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Forestry Sciences Laboratory, P.O. Box 3890, Portland, Oregon 97208-3890. GLENN YEARY is a natural resource assistant manager, Washington Department of Natural Resources, Division of Forest Land Management, 9701 Blomberg Street S.W., Olympia, VVA 98504.

Abstract

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This report summarizes a 1988-90 timber resource inventory of 19 counties in western Washington: Clallam, Clark, Cowlitz, Grays Harbor, Island, Jefferson, King, Kitsap, Lewis, Mason, Pacific, Pierce, San Juan, Skagit, Skamania, Snohomish, Thurston, Wahkiakum, and Whatcom. Detailed tables of forest area, timber volume, growth, mortality, and harvest are presented.

Keywords: Forest surveys, forest inventory, statistics (forest), timber resources, resources (forest), Olympic Peninsula, Washington (western), Puget Sound area, southwest Washington.

Summary

Western Washington (Washington west of the Cascade Range) totals 15,866,000 acres, of which an estimated 11,874,000 acres are forested and an estimated 9,581,000 acres are classified as timberland. The area has 41.3 billion cubic feet of standing timber with 52 percent of this volume in public ownership.

Preface

Forest Inventory and Analysis is a nationwide project of the USDA Forest Service authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. Work units located at Forest Service Research and Experiment Stations conduct forest resource inventories throughout the 50 States. The Inventory and Economics Research and Development Program of the Pacific Northwest Research Station at Portland, Oregon, is responsible for these inventories in Alaska, California, Hawaii, Oregon, and Washington.

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Map of Western Washington



This report presents statistics from the 1988-90 inventory of the timber resources in western Washington. For inventory purposes, the area is divided into three regions: southwest Washington, the Olympic Peninsula, and the Puget Sound area

Western Washington was first inventoried in 1931-33; subsequent inventories were taken in 1937-41, 1948-60, 1963-67, and 1978-79. Field data for all private land and all public land except National Forests were collected in 1988 and 1989 by per of the Inventory and Economics Research and Development Program (IE) of the Pacific Northwest Research Station. Inventory data for National Forest land were collected in 1975-76 by personnel of the Olympic and Mount Baker-Snoqualmie National Forests and in 1981 by personnel of the Gifford Pinchot National Forest. Results of those inventories have been reported previously (MacLean and others 1991 a, 1991 b, 1991 c).

In 1990, the Washington State Legislature funded a timber supply study to be prepared by the University of Washington. In support of the study, the State of Washington Department of Natural Resources (DNR), proposed collecting additional field data to provide analysis of five western Washington geographic regions. By doubling the number of field plots sampled on all lands except National Forest, we were able to meet the sampling precision required for the study. The additional field sampling was accomplished through a joint effort of IE and the DNR that was funded by the Washington Legislature. The data collection was completed by fall 1990. The findings of the combined 1988-89 and 1990 inventories are presented in this report.

The statistical tables presented in this report parallel those reported by MacLean and others (1991a, 1991b, 1991c). Differences between the statistics reported here and those reported in 1991 reflect the added reliability obtained from a doubling of the field observations and the correction of a few minor ownership classifications. Table format in this and the preliminary reports differs from the format used in earlier inventory reports (Bassett and Oswald 1981 a, 1981b, 1982; Bolsinger 1969, 1971; Hazard 1965). The western core tables (tables 1-22, 34-55, 67-88, and 100-121) are standard tables designed to provide consistent resource data for all Western States. The supplemental tables (tables 23-33, 56-66, 89-99, and 122-132) provide both information included in previous reports but omitted from the core tables and new information requested by the users of our inventory data. Tables 30-32, 63-65, 96 and 129-131 present data on resource changes over the 10 years preceding 1988-89 on lands other than National Forest. Data on resource changes on National Forest land are not available. With minor exceptions, all the resource statistics provided by Bassett and Oswald (1981a, 1981b, 1982) have been updated to January 1, 1991, and are included in this report.

Scientific names of trees (Little 1979) are given on page 11 of this report. "Terminology" for definitions of terms used in this report.

¹ An electronic version of tables in this report is available Lotus 1-2-3 spreadsheet format. Send computer disk and self-addressed mailing envelope to Pacific Northwest Research Station, Inventory and Economics Research and Development Program, P.O. Box 3890, Portland, OR 97208-3890. (Mention of a commercial or proprietary product does not constitute endorsement by the USDA.)

**Inventory Procedures All
Lands Other Than
National Forests**

For lands other than National Forests, the sampling design was double sampling for stratification (Cochran 1977). The primary sample was a grid of 22,107 photo points established in 1978-79 and reexamined in 1988-89. At each photo point, owner group and major land class (timberland, other forest, nonforest) were identified, and for forested points, stage of development, major type, and broad stocking class were determined. The secondary sample was a grid of 2,789 field plots that subsampled the primary grid at about every eighth photo point. During the 1963-66 inventory, permanent plots were established at every timberland location on the 3.4-mile permanent field plot grid. Each of these plots consisted of 10 variable-radius points distributed over 1 acre. In 1978-79, these 10-point plots were replaced with 5-point plots that sampled about 8 acres (MacLean 1980). In 1988-89, the 5-point plots were remeasured and the data combined with new classifications on the 22,107 photo points to provide current estimates of timber volume, growth, mortality, removals, and area attributes such as forest type, site class, and stand-size class. In 1990, in cooperation with the DNR, the field plot grid was doubled, the new field plots established, and the inventory recomputed from the data collected on the combined double grid of field plots.

Data on changes between 1978-79 and 1988-89 (tables 30-32, 63-65, 96-98, and 129-131) are based on changes observed and measured on remeasured plots. Because the plots established in 1990 were all new, estimates of inventory change are based solely on the 1988-89 remeasured plots. For this reason, current estimates of area and volume that appear in tables 30-32, 63-65, 96-98, and 129-131 differ slightly from similar estimates in the other tables.

National Forests

National Forest statistics presented in this report are for lands administered by the Gifford Pinchot, Olympic, and Mount Baker-Snoqualmie National Forests. About 197,000 acres of National Forest land in Skagit and Whatcom Counties administered by the Okanogan National Forest are included with eastern Washington statistics (Bassett and Oswald 1983). An updated report on eastern Washington is planned in 1992. About 10,000 acres of the Mount Baker-Snoqualmie National Forest lie in Pierce and Thurston Counties and are administered by the Gifford Pinchot National Forest. These lands are reported as part of the southwest Washington region. National Forest statistics for southwest Washington include 47,000 acres of the Gifford Pinchot National Forest that fall in Klickitat and Yakima Counties. Statistics for area and volume change between inventories are unavailable for National Forest lands.

Olympic and Mount Baker-Snoqualmie National Forests-The areas of timberland, other forest land, reserved forest land, and nonforest land in the Olympic and Mount Baker-Snoqualmie National Forests were determined from maps prepared from aerial photographs. The inventories were restricted to the timberland area, where a 1.7-mile grid of 10-point field plot clusters was established. Recent clearcuts and young plantations were excluded from the inventory.

The inventory statistics reported here have been updated by National Forest personnel to reflect the effects of harvesting activities between 1975 and 1989. Statistics for unsampled areas and for areas harvested since 1976 were based on stand examination records and other ancillary data.

Gifford Pinchot National Forest-The design for the 'ft' I inventory of the Gifford Pinchot National Forest was a stratified random sample with optimum allocation of field plots (Cochran 1977).² Strata, based on management criteria, were delineated on aerial photographs, and a total of 355 field plots were allocated to the various strata in proportion to their estimated stratum variance in Scribner board-foot volume. Recent clearcuts and young plantations were excluded from the inventory as were areas not qualifying as timberland. Data for excluded areas have been added to the inventory data based on stand examination records and other ancillary data. All area statistics have been updated to reflect conditions as of January 1, 1989, but volume statistics are as of 1981 and reduced to account for timber harvest since that date. Tables 14-17, 19-22, 47-50, and 52-55 require that growing-stock volume, sawtimber volume, net growth, and mortality be reported by forest type. Because the Gifford Pinchot National Forest was unable to provide these data, they were approximated, by using volumes per acre as obtained from the RPA (Resources Planning Act; Forest and Rangeland Renewable Resources Planning Act 1974) assessment data base.³

Further information about National Forest inventories can be obtained from the USDA Forest Service, Pacific Northwest Region, Division of Timber Management, P.O. Box 3623, Portland, OR 97208-3623.

Changes Since the Previous Inventory

The eruption of Mount St. Helens in May 1980 had a substantial effect on the timber resources of southwest Washington. Shortly after the eruption, inventory data were combined with aerial maps of the blast zone to develop estimates of damage to forest resources. Estimates of losses in the Gifford Pinchot National Forest were provided by the Forest; estimates of losses from other lands were based on IE inventory data. About 146,000 acres of forest land were estimated to have been denuded or heavily damaged by the blast-61,000 acres on the Gifford Pinchot National Forest, 14,000 acres on State land, and 71,000 acres on private land The total timber loss was estimated to be 1.6 billion board feet.

In 1982, the Congress established the Mount St. Helens National Volcanic Monument, encompassing 110,000 acres of the blast area. To create the new monument National Forest, State, and private lands were exchanged, and timberland was reserved from harvest. Land exchanges also occurred in 1986 as a result of the establishment of the Columbia River Gorge National Scenic Area, and 85,000 acres of newly dedicated wilderness were created within the Gifford Pinchot National Forest by the passage of Washington State Wilderness Act of 1984 (U.S. Laws, Statutes, etc. 1984). Many of the changes in inventory statistics since the 1978 inventory (Bassett and Oswald 1981a) are a direct result of either the effects of the eruption or of the land exchanges and timber withdrawals that have occurred since then.

² Treply, John. 1981. Gifford Pinchot National Forest summary tables for timber resource inventory. Unpublished report. Or file with: U S. Department of Agriculture, Forest Service, Pacific Northwest Region, P.O. Box 3623, Portland, OR 97208-3623.

³ On file with: Pacific Northwest Research Station Inventory and Economics Research and Development: Program, P.O. Box 3890 Portland, OR 97208-3890.

About 12,000 acres recently were transferred from the Olympic National Forest to the Quinault Indian Reservation. The Mount Baker-Snoqualmie National Forest and adjacent landowners exchanged about 50,000 acres during the past decade, thereby causing changes in the timberland area and volume held by each owner. In addition; new dedicated wilderness reduced the available timberland area in the Mount Baker-Snoqualmie by 63,000 acres.

Tables 30-32, 63-65, 96-98, and 129-131 present information on the changes in area and volume that have occurred outside the National Forests since the 1978-79 inventory. Detailed information on changes on these lands will be presented in a later publication. Information is not available about changes in timberland area and volume that have taken place within the National Forests. Comparisons of statistics from this report with those presented by Bassett and Oswald (1981a, 1981b, 1982) are unreliable estimators of change for the following reasons:

1. The accuracy of the current inventory statistics was improved by new photo interpretation of the latest available aerial photographs. To make use of this new information, new stratum weights were calculated to expand the field plots. Thus, even though the same photo points and field plots were used for each inventory, any given field plot in the current inventory represents a slightly different number of acres than it did in the earlier inventory.

2. We try constantly to improve the data base. On some plots, better site trees were obtained, thus improving our estimate of site capability. For hemlock sites, the availability of new site curves (Wiley 1978) permitted improved estimates site. After careful examination, ownership or land class was revised on a few plots. These changes reflect new information or reevaluation, not resource change.

3. Ownership classifications have been revised since the last inventory. In 1978 forest industry lands were defined as lands belonging to companies or individuals operating wood-using plants. Because this definition no longer identifies most industrial timber growers, we have broadened the definition to include all companies holding land for timber production. Native American lands are now classed as "other private" at the request of the owners. These lands were previously shown in "other public" ownership.

Reliability of Inventory Data

The area of timberland, reserved timberland, other forest land, and nonforest land in National Forests was determined from maps and, therefore, is without sampling error. All other area and volume statistics are based on sampling and are subject to sampling error. Error statistics for National Forest inventories are unavailable and confidence intervals cannot be calculated for estimates that combine data from all owners. Confidence intervals (68 percent probability) for the estimated timber, and area, cubic-foot volume, and n." annual cubic-foot growth of owners other than

Owner	Timberland area	Net volume	Net annual growth
	<i>Thousand acres</i>	<i>----- Million cubic feet -----</i>	
Southwest Washington:			
Other public	443±14	2,181±145	75±5
Forest industry	1,536±23	4,599±215	224±9
Other private	494±18	1,620±117	60±4
All owners, other than National Forest	2,473±23	8,400±274	359±10
Olympic Peninsula:			
Other public	589±19	3,154±204	86±5
Forest industry	1,259±21	4,893±245	178±8
Other private	620±23	2,012±152	69±5
All owners, other than National Forest	2,468±28	10,059±339	333±10
Puget Sound area:			
Other public	631±17	3,477±173	110±5
Forest industry	938±24	3,348±172	143±7
Other private	864±26	3,456±159	118±5
All owners, other than National Forest	2,433±33	10,281±277	371±10
Western Washington:			
Other public	1,663±29	8,812±304	270±9
Forest industry	3,732±39	12,840±368	545±13
Other private	1,978±40	7,089±249	247±8
All owners, other than National Forest	7,373±49	28,741±516	1,062±17

Confidence intervals are quantitative expressions of the reliability of the timberland area, volume, and growth statistics. The above tabulation indicates, for instance, a two-in-three (68 percent) chance that, in western Washington, the timberland area for all owners other than National Forest is within the range of 7,324,000 to 7,422,000 acres.

Confidence intervals vary by both size of the estimate and variance of the item being estimated. If variance is assumed constant, confidence intervals can be approximated for estimates of various sizes. The confidence interval guides that follow are based on the assumption that an average relation exists between variance and the size of the estimates, and thus they provide only an approximation of the reliability of individual estimates.

The following tabulations approximate confidence bounds for table cells of various sizes in this report. Please note that these confidence bounds are valid only for estimates that are not based, in any part, on National Forest data.

Timberland area	Confidence interval		Growing-stock volume	Confidence interval	
	By owner	By type or class		By species	By type
----- Thousand acres -----			----- Million cubic feet -----		
3,500	±35	±81	20,000	±497	±515
3,000	±33	±84	15,000	±422	±480
2,500	±31	±78	10,000	±335	±450
2,000	±29	±70	8,000	±295	±405
1,500	±26	±61	6,000	±251	±353
1,000	±23	±51	4,000	±199	±290
800	±21	±46	2,000	±135	±208
600	±19	±40	1,000	±91	±149
400	±16	±33	800	±80	±134
200	±13	±24	600	±68	±117
100	±10	±18	400	±54	±96
50	±8	±13	200	±36	±69
25	±6	±9	100	±25	±49
15	±5	±7	50	±17	±31
10	±4	±6	25	±11	±18
			15	±8	±13
			10	±7	±9
			5	±3	±5

Net growth	Confidence interval		Annual removals	Confidence interval
	By species	By type		
----- Thousand cubic feet -----			----- Million cubic feet -----	
800,000	±15,750	±18,000	1,000	±86
600,000	±14,000	±16,800	800	±74
400,000	±11,608	±15,000	600	±61
200,000	±8,045	±11,750	400	±46
100,000	±5,575	±8,175	200	±28
50,000	±3,864	±5,685	100	±18
25,000	±2,678	±3,947	50	±11
15,000	±2,044	±3,018	25	±7
10,000	±1,649	±2,438	15	±5
5,000	±1,143	±1,693	10	±4
1,000	±488	±726	5	±2
500	±338	±504	3	±2
100	±100	±100	1	±1
10	±10	±10		

Actual confidence intervals have been calculated for the tabular data in this report and are available on request from the Inventory and Economics Research and Development Program, Forestry Sciences Laboratory, P.O. Box 3890, Poland, Oregon 97208-3890.

Terminology

Class of timber-A classification of trees as growing stock, cull, and salvable dead. Growing-stock trees are divided into poletimber and sawtimber trees.

County and municipal lands-Lands owned by county and other local public agencies.

Cull trees-Live trees of noncommercial species, or live trees of commercial that are more than 75 percent defective.

Cull trees, rotten-Cull trees with defect caused primarily by rot.

Cull trees, sound-Trees of noncommercial species or cull trees of commercial species with defect caused primarily by poor form and roughness.

Diameter class-A classification of trees based on diameter outside the height measured at breast height, 4-1/2 feet above the ground. D.b.h. is the common abbreviation for "diameter at breast height."

Even-aged-Stands where 70 percent or more of the stocking falls within three adjacent 10-year age classes.

Farmer owned-Lands owned by the operators of farms.

Forest industry lands-Lands owned by companies that grow timber for industrial use. Includes companies both with and without wood processing plants. In earlier reports (Bassett and Oswald 1981a, 1981b, 1982; Bolsinger 1969, 1971; Hazard 1965), only lands owned by companies with wood processing plants were included

Forest land-Land at least 10 percent stocked by live trees or land formerly having such tree cover and not currently developed for nonforest use. The minimum area recognized is 1 acre.

Forest types-Stands with 70 percent or more of the stocking in live conifer trees are classed as pure softwood types; stands with 50 to 69 percent of the stocking in live conifer trees are classed as softwood/hardwood types. Stands with 70 percent or more of the stocking in live hardwood trees are classed as pure hardwood types stands with 50 to 69 percent of the stocking in live hardwood trees are classed as hardwood/softwood types. The specific forest type reflects the individual species of live softwood or hardwood tree with the greatest total stocking.

Growing-stock trees-All live trees except cull trees.

Growing-stock volume-Net volume in cubic feet of live sawtimber and poletimber growing-stock trees from 12-inch stump to a minimum 4-inch top (of central stem, outside the bark. Net volume equals gross volume less deduction for rot and missing bole sections.

Growth, current net annual-The net increase in volume of trees during a specified year. Components of net annual growth include (a) the increment in net volume of sawtimber and poletimber trees alive at the beginning of the year and surviving to the year's end, plus (b) the net volume of trees reaching poletimber or sawtimber size during the period, minus (c) mortality-the net volume of trees that died during the year.

Growth, periodic gross-The increase in volume of trees, during a specified period, attributable to increasing tree size. Gross growth includes (a) the increment in net volume of trees alive at the beginning of the specified period and surviving to the period's end, (b) the increment in net volume of trees alive at the beginning of the specified period and harvested during the period, and (c) ingrowth-the net volume of trees reaching poletimber or sawtimber size during the period.

Hardwoods--Nonconiferous trees, usually broad-leaved.

Industrial wood-All commercial roundwood products except fuelwood.

Land area-Area reported as land by the Bureau of the Census, U.S. Department of Commerce. Total land area includes dry land and land temporarily or partially covered by water such as marshes, swamps, and river flood plains; streams, sloughs, and canals less than one-eighth mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

Land class-A classification of land by major use. The minimum area for classification is 1 acre.

Mean annual increment-A measure of the productivity of forest land in terms of the average increase in cubic-foot volume per acre per year. For a given species and site index, the average is based on the age at which the mean annual increment culminates for fully stocked natural stands as reported in normal yield tables (see for example, Barnes 1962, McArdle and others 1961). Productivity for conifer sites is based on conifer yields, even when the current stand is hardwood. When productivity is calculated, nonforest inclusions of less than 1 acre are excluded.

Miscellaneous Federal lands-Federal lands other than lands administered by the Forest Service or the Bureau of Land Management.

Miscellaneous private owners-All private owners not otherwise classified.

Mortality, average annual-Annual loss of growing-stock volume from trees dying of natural causes. Sometimes shown as periodic mortality-the loss between inventories.

National Forest lands-Federal lands that have been designated by Executive Order or statute as National Forest or purchase units and other lands under the administration of the Forest Service, U.S. Department of Agriculture, including experimental areas and Bankhead-Jones Title III lands.

Native American lands-Tribal and allotted lands held in trust by the Federal Government. Native American lands are grouped with farmer and miscellaneous private lands as other private.

Noncommercial species-A tree species not suitable for industrial wood products.

Nonforest land-Land that has never supported forests or was formerly forested and is currently developed for nonforest uses. Included are lands used for agricultural crops, Christmas tree farms, improved pasture, residential areas, city parks, constructed roads, operating railroads and their right-of-way clearings, powerline and pipeline clearings, streams more than 30 feet wide, and 1-to 40-acre areas of water

classified by the Bureau of the Census, U.S. Department of Commerce, as land. If intermingled in forest areas, unimproved roads and other nonforest strips must be more than 120 feet wide, and clearings or other areas must be 1 acre or larger to qualify as nonforest land.

Nonstocked areas-Timberland less than 10 percent stocked with growing-stock trees. Recent clearcuts scheduled for planting are classed as nonstocked.

Other forest land-Forest land incapable of producing 20 cubic feet per acre per year of industrial wood because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness.

Other private lands-Private lands not owned by forest industry. Farmer-owned lands, Native American lands, and miscellaneous private lands are included. In earlier reports (Bassett and Oswald 1981 a, 1981b, 1982; Bolsinger 1969, 1971; Hazard 1965), Native American lands were classed as other public.

Other public lands-Lands administered by public agencies other than the Forest Service, U.S. Department of Agriculture. Does not include Native American lands, which are now classed as other private.

Poletimber stands-Stands with a mean diameter (weighted by basal area) from 5.0 to 9.0 inches if softwood and from 5.0 to 11.0 inches if hardwood.

Poletimber trees-Live trees of commercial species, of good form and vigor, that are at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Removals, average annual-The annual volume of trees removed by cutting, bulldozing, girdling, or poisoning during a specified period. Includes timber removed by harvest, silvicultural activity, and land clearing. Sometimes shown as periodic removals-the removals between inventories.

Reserved timberland-Land capable of producing 20 cubic feet or more per acre per year but withdrawn from timber utilization through statute, ordinance, or administrative order.

Roundwood-Logs, bolts, or other round sections cut from trees.

Salvable dead trees-Dead trees-either standing or down-of commercial species and at least 9.0 inches in d.b.h. if softwood and at least 11.0 inches in d.b.h. if hardwood, containing 25 percent or more sound wood volume and at least one merchantable 12-foot log if softwood or one merchantable 8-foot log if hardwood.

Sapling and seedling stands-Stands with a mean diameter (weighted by basal area) less than 5.0 inches.

Sapling and seedling trees-Live trees of commercial species less than 5.0 inches in d.b.h., with no diseases, defects, or deformities likely to prevent their becoming poletimber trees.

Saw-log portion-The bole of sawtimber trees between the stump and the saw-log top.

Sawtimber stands-Stands with a mean diameter (weighted by basal area) large than 9.0 inches if softwood and larger than 11.0 inches if hardwood.

Sawtimber trees-Live softwood trees of commercial species at least 9.0 inches in d.b.h. and live hardwood trees of commercial species at least 11.0 inches in d.b.h. At least 25 percent of the board-foot volume in a sawtimber tree must be free from defect. Softwood trees must contain at least one 12-foot saw log with a top diameter of not less than 6 inches inside bark; hardwood trees must contain at least one 8-foot saw log with a top diameter of not less than 8 inches inside bark.

Sawtimber volume-Net volume of sawtimber trees measured in board feet. Net sawtimber volume equals gross volume less deduction for rot, sweep, crook, and other defects that affect use for lumber.

Scribner rule-The common board-foot log rule used locally in determining volume of s sawtimber. Scribner volume is estimated in terms of 32-foot logs for conifers and 16-foot logs for hardwoods.

Site class-A classification of the potential productivity of forest land in terms of mean annual increment.

Site index-A measure of the productivity of forest land in terms of the average height of dominant and codominant trees at a specified age.

Softwoods- Coniferous trees, usually evergreen, with needles or scalelike leaves.

Stand age-The 10-year age class that best characterizes the stand. See "even-aged" and "uneven-aged" for more detail.

Stand-size class-A classification of stands based on tree size. Stand-size classes are large sawtimber, small sawtimber, poletimber, and sapling and seedling stands.

State lands-Lands owned by States or administered by State agencies.

Timber harvest-Volume of roundwood removed from forest land for products.

Timber volume-Includes the net volume in cubic feet of poletimber and sawtimber trees and salvable dead sawtimber trees of all species, the net volume in cubic feet of cull trees of commercial species, and gross volume of noncommercial species. Volume is measured from stump to a minimum 4-inch top outside the bark.

Timberland-Forest land capable of producing 20 cubic feet or more per acre per year of industrial wood and not withdrawn from timber utilization.

Uneven-aged-Stands where less than 70 percent of the tree stocking falls in three adjacent 10-year age classes.

Upper-stem portion-The bole of sawtimber trees above the saw-log top-7.0 inches outside the bark for softwoods and 9.0 inches outside the bark for hardwoods-to a minimum top diameter of 4.0 inches outside the bark, or to the point where the central stem breaks into limbs.

Names of Trees**Common name****Scientific name**

Softwoods:

Alaska-cedar
Douglas-fir
Engelmann spruce
Grand fir
Lodgepole pine
Mountain hemlock
Noble fir
Pacific silver fir
Pacific yew
Ponderosa pine
Sitka spruce
Subalpine fir
Western hemlock
Western larch
Western redcedar
Western white pine

Chamaecyparis nootkatensis (D. Don) Spach
Pseudotsuga menziesii (Mirb.) Franco
Picea engelmannii Parry ex Engelm.
Abies grandis (Dougl. ex D. Don) Lindl.
Pinus contorta var. *latifolia* Engelm.
Tsuga mertensiana (Bong.) Carr.
Abies procera Rehd.
Abies amabilis Dougl. ex Forties
Taxus brevifolia Nutt.
Pinus ponderosa Dougl. ex Laws.
Picea sitchensis (Bong.) Carr.
Abies lasiocarpa (Hook.) Nutt.
Tsuga heterophylla (Raf.) Sarg.
Larix occidentalis Nutt.
Thuja plicata Donn ex D. Don
Pinus monticola Dougl. ex D. Don

Hardwoods:

Bigleaf maple
Bitter cherry
Black cottonwood
Oregon ash
Oregon white oak
Pacific dogwood
Pacific madrone
Quaking aspen
Red alder
Western paper birch
Willow

Acer macrophyllum Pursh
Prunus emarginata Dougl. ex Eaton
Populus trichocarpa Torr. & Gray
Fraxinus latifolia Benth.
Quercus garryana Dougl. ex Hook.
Cornus nuttallii Audubon
Arbutus menziesii Pursh
Populus tremuloides Michx.
Alnus rubra Bong.
Betula papyrifera var. *comrnutata* (Regel) Fern.
Salix spp. L.

Tables

Table 1--Area by county and land class, western Washington, January 1, 1991^a

County	Forest land				Total	Nonforest land ^b	All land ^c
	Timberland	Reserved timberland	Other forest	Reserved other forest			
<i>Thousand acres</i>							
Clallam	658	182	9	103	952	150	1,102 1122
Clark	200	2	4	--	206	195	401 401
Cowlitz	592	14	7	--	613	108	721 727
Grays Harbor	1,062	23	13	2	1,100	132	1,232 1228
Island	75	1	5	1	82	53	135 135
Jefferson	494	343	8	152	998	169	1,167 1155
King	679	60	37	45	821	534	1,355 1451/362
Kitsap	158	1	5	--	164	90	254 251
Lewis	1,131	93	16	26	1,267	283	1,550 1542
Mason	471	30	9	17	526	86	612 615
Pacific	515	2	6	--	523	66	589 581
Pierce	572	110	18	74	774	303	1,077 1072
San Juan	67	3	--	3	73	41	114 115
Skagit	584	82	22	56	743	370	1,114 1110
Skamania	812	81	15	19	927	140	1,067 1070
Snohomish	658	139	48	59	904	445	1,349 1343
Thurston	283	1	5	--	289	179	468 465
Wahkiakum	129	--	2	--	131	36	167 167
Whatcom	410	158	24	146	737	598	1,335 1360
Other counties ^d	31	5	2	5	43	14	57
All counties	9,581	1,330	255	708	11,874	3,992	15,866 15823

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes cropland, pasture and range, swampland, industrial and urban areas, powerline clearings, railroads, and all improved roads and highways; and water as classified by Forest Inventory and Analysis standards but defined by the Bureau of the Census as land.

^c Source: U.S. Department of Commerce 1983.

^d Includes Gifford Pinchot National Forest land in Klickitat, Yakima, Pierce, and Thurston Counties.

Table 2--Area of reserved timberland and other forest land by forest type, western Washington, January 1, 1991^a

Forest type	Other forest			Total
	Reserved timberland	Available	Reserved	
<i>Thousand acres</i>				
Softwood types:				
Douglas-fir	430	20	40	490
Western white pine	4	--	--	4
Fir-spruce	392	38	81	511
Hemlock-Sitka spruce	423	30	60	513
Lodgepole pine	3	--	--	3
Cedar	10	2	4	16
Other softwoods	2	--	--	2
Total	1,264	91	185	1,540
Hardwood types:				
Western hardwoods	19	2	15	36
Unclassified ^b	42	164	508	714
All types	1,330	255	708	2,293

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

Table 3--Area of timberland by county and owner, western Washington, January 1, 1991^a

County	Public										Private					All owners
	National Forest	Miscellaneous Federal	Other public			Total public	Forest industry	Farmer	Native American	Miscellaneous	Total private	Total				
			State	County and municipal	Total public											
Challam	169	--	139	--	308	254	4	24	68	350	658					
Clark	1	--	56	--	57	41	4	--	98	143	200					
Cowlitz	8	--	68	--	76	414	8	--	94	516	592					
Grays Harbor	116	--	81	53	250	556	7	139	110	812	1,062					
Island	--	2	10	1	13	2	3	--	57	62	75					
Jefferson	115	3	170	1	289	149	--	6	50	205	494					
King	114	4	61	90	269	272	--	--	138	410	679					
Kitsap	--	8	21	13	42	29	--	8	79	116	158					
Lewis	288	--	116	10	414	548	54	--	115	717	1,131					
Mason	100	--	72	--	172	207	--	5	87	299	471					
Pacific	--	6	67	3	76	377	27	--	35	439	515					
Pierce	94	37	35	7	173	243	9	--	147	399	572					
San Juan	--	1	3	--	4	--	--	--	63	63	67					
Skagit	172	1	128	3	304	180	6	2	92	280	584					
Skamania	611	1	75	3	690	75	--	--	47	122	812					
Snohomish	248	4	108	7	367	134	9	5	143	291	658					
Thurston	--	11	58	1	70	93	10	3	107	213	283					
Wahkiakum	--	--	36	--	36	81	3	--	9	93	129					
Whatcom	142	--	85	2	229	77	13	2	89	181	410					
Other counties ^b	31	--	--	--	31	--	--	--	--	--	31					
All counties	2,208	78	1,390	194	3,872	3,732	157	194	1,627	5,710	9,581					

Thousand acres

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes Gifford Pinchot National Forest land in Klickitat, Yakima, Pierce, and Thurston Counties.

Table 4--Area of timberland by forest type and owner, western Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand acres</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	892	683	1,411	527	3,513
Douglas-fir/red alder	--	96	246	117	460
Douglas-fir/other hardwood	--	17	49	60	126
Total	892	796	1,705	705	4,099
Ponderosa pine	3	--	--	--	3
Western white pine	2	--	--	--	2
Fir-spruce--					
Grand fir	14	6	10	8	38
Noble fir	21	6	50	--	76
Noble fir/red alder	--	4	--	--	4
Pacific silver fir	421	74	87	12	593
Pacific silver fir/red alder	--	2	--	--	2
Subalpine fir	12	--	--	--	12
Engelmann spruce	2	--	--	--	2
Mountain hemlock	30	4	10	--	44
Total	500	95	156	19	770
Hemlock-Sitka spruce--					
Western hemlock	583	386	953	128	2,050
Western hemlock/red alder	--	50	64	21	134
Western hemlock/other hardwood	--	4	8	--	11
Sitka spruce	1	--	23	15	39
Sitka spruce/red alder	--	--	4	--	4
Total	583	440	1,052	164	2,239
Lodgepole pine	8	2	4	20	34
Other softwood types--					
Western redcedar	24	29	56	100	209
Western redcedar/red alder	--	10	16	24	50
Western redcedar/other hardwood	--	--	4	10	15
Alaska-cedar	5	--	--	--	5
Unclassified softwood types ^b	4	--	--	--	4
Total	33	40	76	134	283
Total, softwood types	2,021	1,373	2,994	1,042	7,429
Hardwood types:					
Western hardwoods--					
Red alder	15	115	252	407	789
Red alder/conifer	--	118	257	170	545
Bigleaf maple	12	10	29	124	175
Bigleaf maple/conifer	--	11	39	57	107
Black cottonwood	--	7	27	31	65
Black cottonwood/conifer	--	7	--	12	19
Pacific madrone	--	--	--	7	7
Pacific madrone/conifer	--	--	--	8	8
Oregon white oak/conifer	--	--	--	3	3
Oregon ash	--	--	8	30	38
Bitter cherry	--	--	--	3	3
Bitter cherry/conifer	--	--	4	3	7
Other hardwood types	4	--	8	21	33
Other hardwood types/conifer	--	--	4	11	15
Total, hardwood types	31	269	627	886	1,813
Nonstocked ^c	10	21	111	50	193
Unclassified ^b	145	--	--	--	145
All types	2,208	1,663	3,732	1,978	9,581

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 5—Area of timberland by owner and stand-size class, western Washington, January 1, 1991^a

Owner	Sawtimber	Poletimber	Seedling-sapling		All classes
			Nonstocked ^b		
<i>Thousand acres</i>					
National Forest	1,486	179	451	91	2,208
Other public	1,068	177	397	21	1,663
Forest industry	1,765	579	1,277	111	3,732
Other private	1,229	274	425	50	1,978
All owners	5,548	1,210	2,550	274	9,581

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 6—Area of timberland by owner and site class, western Washington, January 1, 1991^a

Owner	Site class ^b						All classes
	≥225	165-224	120-164	85-119	50-84	20-49 ^c	
<i>Thousand acres</i>							
National Forest	31	321	663	562	544	75	2,194
Other public	207	646	539	170	69	19	1,650
Forest industry	681	1,590	1,038	235	121	40	3,706
Other private	144	525	814	324	124	32	1,963
All owners	1,063	3,082	3,055	1,291	857	165	9,513

^a Totals may be off because of rounding; data subject to sampling error.

^b Mean annual cubic-foot growth per acre at culmination, in fully stocked natural stands. Excludes 68,000 acres of included nonforest land less than 1 acre.

^c Includes 18,000 acres of National Forest land in site class 0-19.

Table 7--Area of timberland by forest type and stand-size class, western Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Thousand acres</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	2,099	397	1,015	1	3,513
Douglas-fir/red alder	284	30	146	--	460
Douglas-fir/other hardwood	79	24	24	--	126
Total	2,461	451	1,185	1	4,099
Ponderosa pine	2	--	1	--	3
Western white pine	1	1	1	--	2
Fir-spruce--					
Grand fir	26	1	10	--	38
Noble fir	3	--	72	--	76
Noble fir/red alder	--	--	4	--	4
Pacific silver fir	329	43	222	--	593
Pacific silver fir/red alder	--	--	2	--	2
Subalpine fir	7	5	1	--	12
Engelmann spruce	1	--	1	--	2
Mountain hemlock	29	4	11	--	44
Total	395	53	322	--	770
Hemlock-Sitka spruce--					
Western hemlock	1,242	240	568	--	2,050
Western hemlock/red alder	97	20	18	--	134
Western hemlock/other hardwood	8	4	--	--	11
Sitka spruce	17	3	19	--	39
Sitka spruce/red alder	--	4	--	--	4
Total	1,364	271	604	--	2,239
Lodgepole pine	14	8	12	--	34
Other softwood types--					
Western redcedar	134	14	60	--	209
Western redcedar/red alder	47	--	3	--	50
Western redcedar/other hardwood	15	--	--	--	15
Alaska-cedar	4	--	1	--	5
Unclassified softwood types ^c	--	1	3	--	4
Total	200	15	67	--	283
Total, softwood types	4,436	799	2,192	1	7,429
Hardwood types:					
Western hardwoods--					
Red alder	437	226	126	--	789
Red alder/conifer	310	91	145	--	545
Bigleaf maple	130	27	19	--	175
Bigleaf maple/conifer	73	23	11	--	107
Black cottonwood	34	--	31	--	65
Black cottonwood/conifer	--	8	11	--	19
Pacific madrone	3	3	--	--	7
Pacific madrone/conifer	8	--	--	--	8
Oregon white oak/conifer	3	--	--	--	3
Oregon ash	26	8	4	--	38
Bitter cherry	3	--	--	--	3
Bitter cherry/conifer	--	7	--	--	7
Other hardwood type	7	15	11	--	33
Other hardwood type/conifer	12	3	--	--	15
Total, hardwood types	1,046	410	357	--	1,813
Nonstocked ^b	--	--	--	193	193
Unclassified ^c	65	--	--	79	145
All types	5,548	1,210	2,550	274	9,581

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 8--Number of live trees on timberland by species and diameter class, western Washington, January 1, 1991*

Species	Diameter class (inches at breast height)																All classes
	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
Thousand trees																	
Softwoods:																	
Alaska-cedar	1,911	1,784	1,080	673	332	379	223	176	168	76	54	56	50	36	185	7,184	
Douglas-fir	240,439	149,913	115,581	94,115	72,888	58,007	43,713	32,924	25,448	19,049	13,941	9,918	7,486	4,768	11,925	900,111	
Grand fir	10,228	3,625	3,484	1,517	1,802	1,340	1,015	555	601	349	199	200	107	94	101	25,214	
Noble fir	1,140	604	618	460	309	104	285	206	142	130	91	104	79	56	162	4,470	
Pacific silver fir	112,312	67,659	30,159	20,917	14,484	9,029	6,156	4,554	3,474	2,871	1,695	1,527	1,339	1,072	3,162	280,411	
Subalpine fir	3,813	2,531	1,978	1,164	600	666	204	129	91	103	18	6	13	6	13	11,335	
Mountain hemlock	9,201	3,081	1,259	2,045	1,098	981	1,022	729	806	658	565	384	222	216	729	22,998	
Western hemlock	408,144	212,113	130,251	102,892	69,077	49,901	33,133	22,738	14,109	9,442	6,260	4,276	3,053	2,046	7,024	1,074,458	
Western larch	--	--	1	--	--	--	12	--	13	--	2	1	--	--	9	40	
Lodgepole pine	5,162	2,214	2,321	1,407	1,411	884	679	346	174	16	9	7	4	2	4	14,642	
Ponderosa pine	408	47	--	--	--	--	13	6	--	--	4	3	3	3	31	519	
Western white pine	1,339	1,327	1,134	372	282	191	170	45	7	14	20	12	11	2	12	4,940	
Western redcedar	111,615	56,131	30,471	23,122	12,338	9,766	7,202	4,908	3,806	2,901	2,232	1,629	1,424	1,023	3,830	272,398	
Engelmann spruce	36	--	142	218	155	66	81	128	69	56	84	55	50	33	29	1,201	
Sitka spruce	14,334	8,078	4,398	3,052	2,442	1,398	1,254	727	572	370	263	275	129	136	588	38,015	
Pacific yew	3,735	1,937	877	45	136	31	44	12	--	--	--	--	--	--	--	6,817	
Total	923,815	511,044	323,754	251,998	177,353	132,744	95,186	68,181	49,481	36,035	25,438	18,453	13,971	9,495	27,804	2,664,752	
Hardwoods:																	
Red alder	134,463	72,862	47,384	46,179	43,600	32,588	19,911	11,662	5,872	2,783	1,374	579	282	125	168	419,832	
Oregon ash	1,377	1,907	1,760	1,307	792	604	474	275	245	146	90	19	6	14	11	9,029	
Quaking aspen	1,544	--	--	144	116	28	--	14	--	--	--	--	--	--	--	1,846	
Western paper birch	846	309	1,103	1,498	1,216	551	213	98	--	10	6	--	--	--	--	5,850	
Bitter cherry	9,042	5,166	2,702	2,029	878	211	52	31	--	10	--	7	--	--	--	20,127	
Black cottonwood	2,684	2,212	1,511	720	1,092	768	464	370	665	419	324	299	263	212	279	12,279	
Pacific dogwood	1,668	--	499	112	--	--	--	--	--	--	--	--	--	--	--	2,280	
Pacific madrone	1,720	1,507	1,443	918	867	573	378	236	90	115	26	46	--	6	--	7,925	
Bigleaf maple	14,187	14,526	13,220	12,209	8,662	5,837	3,488	2,679	2,061	1,212	834	490	459	269	753	80,884	
Oregon white oak	335	315	453	310	373	89	--	9	--	33	13	9	7	--	--	1,947	
Willow	86	56	--	--	--	--	--	--	--	--	--	--	--	--	--	142	
Other trees	6,044	7,141	3,948	1,431	1,341	476	186	142	40	19	33	--	--	14	12	20,827	
Total	173,996	105,999	74,027	66,855	58,938	41,725	25,164	15,517	8,973	4,749	2,699	1,449	1,019	640	1,223	582,970	
All species	1,097,811	617,043	397,780	318,854	236,292	174,470	120,350	83,698	58,455	40,783	28,137	19,902	14,990	10,135	29,026	3,247,722	

-- = none found or less than 500 trees.

* Totals may be off because of rounding; data subject to sampling error.

Table 9--Number of growing stock trees on timberland by species and diameter class, western Washington, January 1, 1991*

Species	Diameter class (inches at breast height)																All classes
	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
Thousand trees																	
Softwoods:																	
Alaska-cedar	2,176	1,892	871	673	279	379	204	176	157	76	54	56	34	36	171	7,236	
Douglas-fir	224,152	141,851	114,847	93,683	72,383	57,484	43,345	32,822	25,364	19,017	13,872	9,884	7,447	4,735	11,843	872,727	
Grand fir	9,140	2,913	3,484	1,517	1,802	1,340	1,015	555	601	349	199	200	107	94	101	23,414	
Noble fir	1,140	604	618	460	309	104	265	206	142	130	91	104	74	56	162	4,464	
Pacific silver fir	105,745	67,788	28,927	20,647	14,114	8,919	6,105	4,525	3,431	2,863	1,673	1,522	1,329	1,064	3,130	271,782	
Subalpine fir	3,342	2,638	1,979	1,164	600	666	204	129	91	95	18	6	9	6	13	10,959	
Mountain hemlock	9,745	2,916	1,189	2,045	1,098	930	1,009	729	806	641	552	384	211	216	693	23,168	
Western hemlock	362,417	195,490	127,202	101,055	68,001	49,484	32,750	22,591	14,059	9,341	6,170	4,244	2,985	2,015	6,827	1,004,612	
Western larch	--	--	1	--	--	--	12	--	13	--	2	2	1	--	9	40	
Lodgepole pine	5,162	2,214	2,159	1,407	1,368	884	679	346	174	16	9	7	4	2	4	14,436	
Ponderosa pine	408	47	--	--	--	--	13	6	--	--	4	3	3	3	31	519	
Western white pine	1,339	904	1,134	372	282	191	170	45	7	14	20	12	11	2	12	4,516	
Western redcedar	99,179	52,285	29,595	22,424	12,019	9,467	6,972	4,754	3,692	2,828	2,160	1,579	1,356	964	3,631	252,904	
Engelmann spruce	36	--	142	218	155	66	81	128	69	56	84	55	50	33	29	1,201	
Sitka spruce	12,765	6,433	4,398	3,052	2,410	1,398	1,254	727	572	370	260	275	129	136	588	34,767	
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	836,746	477,975	316,546	248,717	174,819	131,293	94,078	67,739	49,180	35,796	25,169	18,332	13,750	9,364	27,243	2,526,745	
Hardwoods:																	
Red alder	123,691	67,699	47,196	45,492	43,129	32,366	19,590	11,446	5,762	2,714	1,318	537	278	125	146	401,508	
Oregon ash	1,377	1,598	1,683	1,307	721	514	474	251	245	100	90	19	6	14	11	8,411	
Quaking aspen	1,544	--	--	144	116	28	--	14	--	--	--	--	--	--	--	1,846	
Western paper birch	846	309	1,002	1,498	1,216	551	213	54	--	10	6	--	--	--	--	5,705	
Bitter cherry	8,620	4,408	2,529	1,809	878	211	52	31	--	10	--	7	--	--	--	18,556	
Black cottonwood	2,342	1,870	1,300	720	1,058	768	403	370	665	419	324	299	259	212	271	11,279	
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pacific madrone	1,720	1,507	1,443	816	763	521	289	205	90	105	26	38	--	6	--	7,529	
Bigleaf maple	12,931	13,475	11,956	12,128	8,563	5,540	3,314	2,536	1,912	1,182	809	441	423	254	634	76,098	
Oregon white oak	335	315	453	310	373	89	--	9	--	33	13	9	--	--	--	1,940	
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	153,406	91,182	67,564	64,224	56,816	40,588	24,332	14,917	8,693	4,574	2,585	1,352	966	611	1,062	532,871	
All species	990,153	569,156	384,110	312,942	231,636	171,882	118,410	82,655	57,874	40,369	27,754	19,683	14,715	9,975	28,305	3,059,616	

-- = none found or less than 500 trees.
 * Totals may be off because of rounding; data subject to sampling error.

Table 10--Net volume of growing stock on timberland by species and diameter class, western Washington, January 1, 1991^a

Species	Diameter class (inches at breast height)														All classes
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
<i>Million cubic feet</i>															
Softwoods:															
Alaska-cedar	2	3	2	6	4	6	6	4	3	4	3	4	3	4	32
Douglas-fir	329	661	964	1,271	1,458	1,537	1,563	1,516	1,378	1,194	1,047	772	3,403	17,093	
Grand fir	8	12	24	31	34	26	36	27	19	24	15	16	31	303	
Noble fir	2	3	4	2	7	8	8	9	8	11	9	9	44	122	
Pacific silver fir	85	127	159	167	176	180	187	202	150	168	173	164	892	2,829	
Subalpine fir	6	7	5	10	4	4	3	5	1	1	1	1	2	50	
Mountain hemlock	2	9	10	14	22	23	33	34	34	30	20	23	129	384	
Western hemlock	418	764	1,002	1,177	1,178	1,106	909	759	609	511	409	322	1,833	10,997	
Western larch	--	--	--	--	--	--	1	--	--	--	--	--	1	3	
Lodgepole pine	5	11	18	18	18	14	9	1	1	1	1	1	--	97	
Ponderosa pine	--	--	--	--	--	--	--	--	--	--	1	1	8	10	
Western white pine	3	3	4	4	6	2	--	1	1	1	2	--	4	33	
Western redcedar	82	138	139	173	180	169	175	167	162	138	141	116	885	2,665	
Engelmann spruce	--	1	2	1	3	5	4	4	7	5	6	4	6	49	
Sitka spruce	12	19	30	28	38	32	30	27	24	32	18	24	242	555	
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	954	1,759	2,364	2,903	3,128	3,109	2,964	2,755	2,398	2,120	1,846	1,456	7,513	35,271	
Hardwoods:															
Red alder	164	410	703	835	723	565	359	210	123	57	34	15	27	4,226	
Oregon ash	5	10	11	13	15	12	15	7	8	2	1	2	3	103	
Quaking aspen	--	2	2	1	--	1	--	--	--	--	--	--	--	4	
Western paper birch	4	14	21	13	7	3	--	1	--	--	--	--	--	62	
Bitter cherry	9	16	14	5	2	1	--	1	--	1	--	--	--	48	
Black cottonwood	4	6	17	20	19	21	49	39	38	41	40	37	65	395	
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pacific madrone	4	5	10	10	8	8	4	5	2	3	--	1	--	60	
Bigleaf maple	41	94	125	131	117	120	113	85	68	46	50	34	114	1,138	
Oregon white oak	1	3	4	2	--	--	--	2	1	1	--	--	--	13	
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	234	560	906	1,028	890	731	539	349	240	152	124	88	209	6,051	
All species	1,188	2,319	3,270	3,931	4,018	3,841	3,503	3,104	2,639	2,272	1,970	1,544	7,722	41,321	

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

Table 11--Net volume of sawtimber on timberland by species and diameter class, western Washington, January 1, 1991^{a, b}

Species	Diameter class (inches at breast height)											All classes
	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+	
<i>Million board feet, Scribner rule</i>												
Softwoods:												
Alaska-cedar	4	17	14	18	21	17	13	19	14	17	173	327
Douglas-fir	2,526	4,245	5,598	6,407	6,922	7,027	6,717	5,993	5,328	3,992	19,173	73,927
Grand fir	64	107	132	108	164	129	92	119	76	89	179	1,259
Noble fir	11	7	26	31	34	43	41	59	49	45	255	600
Pacific silver fir	406	566	673	749	860	976	764	876	922	898	5,327	13,015
Subalpine fir	11	29	14	14	12	21	6	2	4	3	11	126
Mountain hemlock	24	43	73	87	137	146	155	142	103	121	725	1,758
Western hemlock	2,749	4,046	4,541	4,603	4,030	3,544	2,941	2,580	2,135	1,726	11,250	44,145
Western larch	--	--	1	--	3	--	1	1	--	--	8	16
Lodgepole pine	47	57	60	53	35	4	5	4	--	--	1	265
Ponderosa pine	--	--	1	1	--	--	2	2	3	2	48	59
Western white pine	11	15	22	10	1	4	8	9	8	1	23	113
Western redcedar	321	492	575	579	647	639	652	550	580	485	4,266	9,784
Engelmann spruce	5	4	10	20	21	21	35	26	33	21	34	229
Sitka spruce	74	82	132	124	120	115	109	150	85	125	1,356	2,472
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--
Total	6,254	9,710	11,872	12,804	13,007	12,684	11,540	10,533	9,340	7,524	42,827	148,097
Hardwoods:												
Red alder	38	3,152	3,307	2,802	1,842	1,104	657	304	179	78	143	13,605
Oregon ash	--	48	67	60	72	36	36	12	5	11	14	360
Quaking aspen	--	2	--	4	--	--	--	--	--	--	--	6
Western paper birch	--	44	30	14	--	4	1	--	--	--	--	92
Bitter cherry	--	18	6	3	--	4	--	4	--	--	--	35
Black cottonwood	--	77	92	107	270	212	226	243	233	214	385	2,057
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--
Pacific madrone	1	35	35	38	17	26	7	18	--	2	--	180
Bigleaf maple	20	483	530	583	561	430	347	247	257	174	573	4,204
Oregon white oak	--	6	--	3	--	8	4	2	--	--	--	23
Willow	--	--	--	--	--	--	--	--	--	--	--	--
Other trees	--	--	--	--	--	--	--	--	--	--	--	--
Total	59	3,864	4,067	3,613	2,762	1,824	1,277	830	674	479	1,115	20,564
All species	6,313	13,575	15,939	16,416	15,769	14,508	12,817	11,363	10,014	8,003	43,943	168,660

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 12—Net volume of growing stock on timberland by species and owner, western Washington, January 1, 1991^{a b}

Species	National forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Softwoods:					
Alaska-cedar	73	4	2	1	80
Douglas-fir	5,399	4,211	4,864	2,619	17,093
Grand fir	96	36	63	109	303
Noble fir	122	--	--	--	122
Pacific silver fir	2,272	282	247	28	2,829
Subalpine fir	50	--	--	--	50
Mountain hemlock	367	14	3	--	384
Western hemlock	3,165	2,456	4,505	871	10,997
Western larch	3	--	--	--	3
Lodgepole pine	19	1	23	54	97
Ponderosa pine	10	--	--	--	10
Western white pine	11	4	3	14	33
Western redcedar	740	427	670	827	2,665
Engelmann spruce	44	--	5	--	49
Sitka spruce	46	133	257	119	555
Pacific yew	--	--	--	--	--
Total	12,418	7,569	10,642	4,641	35,271
Hardwoods:					
Red alder	96	962	1,714	1,455	4,226
Oregon ash	--	4	15	84	103
Quaking aspen	--	--	--	4	4
Western paper birch	--	7	23	32	62
Bitter cherry	--	11	19	18	48
Black cottonwood	27	58	140	170	395
Pacific dogwood	--	--	--	--	--
Pacific madrone	1	11	--	48	60
Bigleaf maple	38	190	286	623	1,138
Oregon white oak	--	--	1	12	13
Willow	--	--	--	--	--
Other trees	--	--	--	--	--
Total	163	1,243	2,198	2,448	6,051
All species	12,580	8,812	12,840	7,089	41,321

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes trees 5 inches in d.b.h. and larger.

Table 13—Net volume of sawtimber on timberland by species and owner, western Washington, January 1, 1991^{a b}

Species	National forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwoods:					
Alaska-cedar	300	16	9	3	327
Douglas-fir	26,049	18,004	19,489	10,386	73,927
Grand fir	438	136	235	451	1,259
Noble fir	600	--	--	--	600
Pacific silver fir	10,904	1,168	827	116	13,015
Subalpine fir	126	--	--	--	126
Mountain hemlock	1,695	53	10	--	1,758
Western hemlock	15,085	9,625	16,167	3,269	44,145
Western larch	16	--	--	--	16
Lodgepole pine	65	4	63	133	265
Ponderosa pine	59	--	--	--	59
Western white pine	48	13	11	41	113
Western redcedar	3,331	1,462	2,172	2,821	9,784
Engelmann spruce	209	--	20	--	229
Sitka spruce	283	607	1,030	553	2,472
Pacific yew	--	--	--	--	--
Total	59,207	31,085	40,032	17,772	148,097
Hardwoods:					
Red alder	270	3,344	5,471	4,519	13,605
Oregon ash	--	19	32	309	360
Quaking aspen	--	--	--	6	6
Western paper birch	--	7	25	61	92
Bitter cherry	--	1	6	28	35
Black cottonwood	144	288	718	908	2,057
Pacific dogwood	--	--	--	--	--
Pacific madrone	1	25	--	154	180
Bigleaf maple	92	713	900	2,500	4,204
Oregon white oak	--	--	3	21	23
Willow	--	--	--	--	--
Other trees	--	--	--	--	--
Total	507	4,397	7,155	8,505	20,564
All species	59,714	35,483	47,187	26,277	168,660

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 13--Net volume of sawtimber on timberland by species and owner, western Washington, January 1, 1991^{a b}

Species	National forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwoods:					
Alaska-cedar	300	16	9	3	327
Douglas-fir	26,049	18,004	19,489	10,386	73,927
Grand fir	438	136	235	451	1,259
Noble fir	600	--	--	--	600
Pacific silver fir	10,904	1,168	827	116	13,015
Subalpine fir	126	--	--	--	126
Mountain hemlock	1,695	53	10	--	1,758
Western hemlock	15,085	9,625	16,167	3,269	44,145
Western larch	16	--	--	--	16
Lodgepole pine	65	4	63	133	265
Ponderosa pine	59	--	--	--	59
Western white pine	48	13	11	41	113
Western redcedar	3,331	1,462	2,172	2,821	9,784
Engelmann spruce	209	--	20	--	229
Sitka spruce	283	607	1,030	553	2,472
Pacific yew	--	--	--	--	--
Total	59,207	31,085	40,032	17,772	148,097
Hardwoods:					
Red alder	270	3,344	5,471	4,519	13,605
Oregon ash	--	19	32	309	360
Quaking aspen	--	--	--	6	6
Western paper birch	--	7	25	61	92
Bitter cherry	--	1	6	28	35
Black cottonwood	144	288	718	908	2,057
Pacific dogwood	--	--	--	--	--
Pacific madrone	1	25	--	154	180
Bigleaf maple	92	713	900	2,500	4,204
Oregon white oak	--	--	3	21	23
Willow	--	--	--	--	--
Other trees	--	--	--	--	--
Total	507	4,397	7,155	8,505	20,564
All species	59,714	35,483	47,187	26,277	168,660

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 14--Net volume of growing stock on timberland by forest type and stand-size class, western Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Million cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	14,897	717	93	--	15,707
Douglas-fir/red alder	1,768	62	23	--	1,853
Douglas-fir/other hardwood	418	37	8	--	463
Total	17,084	816	124	--	18,024
Ponderosa pine	6	1	--	--	7
Western white pine	4	3	--	--	7
Fir-spruce--					
Grand fir	144	3	1	--	148
Noble fir	124	5	1	--	130
Noble fir/red alder	--	--	9	--	9
Pacific silver fir	2,616	87	91	--	2,794
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	33	11	--	--	44
Engelmann spruce	12	--	--	--	12
Mountain hemlock	200	4	2	--	206
Total	3,129	112	105	--	3,345
Hemlock-Sitka spruce--					
Western hemlock	9,358	539	163	--	10,059
Western hemlock/red alder	632	44	5	--	680
Western hemlock/other hardwood	62	1	--	--	63
Sitka spruce	111	10	--	--	121
Sitka spruce/red alder	--	5	--	--	5
Total	10,163	598	167	--	10,928
Lodgepole pine	53	20	17	--	90
Other softwood types--					
Western redcedar	873	23	20	--	916
Western redcedar/red alder	279	--	1	--	281
Western redcedar/other hardwood	77	--	--	--	77
Alaska-cedar	26	--	--	--	26
Unclassified softwood types ^c	--	3	--	--	3
Total	1,255	26	22	--	1,303
Total, softwood types	31,693	1,575	435	--	33,704
Hardwood types:					
Western hardwoods--					
Red alder	2,233	748	82	--	3,062
Red alder/conifer	1,860	292	39	--	2,192
Bigleaf maple	581	87	2	--	670
Bigleaf maple/conifer	374	71	7	--	452
Black cottonwood	179	--	4	--	182
Black cottonwood/conifer	--	10	3	--	12
Pacific madrone	15	6	--	--	21
Pacific madrone/conifer	22	--	--	--	22
Oregon white oak/conifer	5	--	--	--	5
Oregon ash	99	24	2	--	125
Bitter cherry	9	--	--	--	9
Bitter cherry/conifer	--	17	--	--	17
Other hardwood types	28	52	7	--	88
Other hardwood types/conifer	38	3	--	--	42
Total, hardwood types	5,443	1,311	146	--	6,899
Nonstocked ^b	--	--	--	37	37
Unclassified ^c	680	--	--	--	680
All types	37,816	2,886	581	37	41,321

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 15—Net volume of sawtimber on timberland by forest type and stand-size class, western Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Million board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	63,884	1,211	198	--	65,293
Douglas-fir/red alder	7,083	106	57	--	7,246
Douglas-fir/other hardwood	1,599	61	17	--	1,677
Total	72,566	1,379	272	--	74,216
Ponderosa pine	33	3	--	--	36
Western white pine	28	8	--	--	36
Fir-spruce--					
Grand fir	676	8	--	--	684
Noble fir	657	13	1	--	671
Noble fir/red alder	--	--	35	--	35
Pacific silver fir	13,460	139	475	--	14,073
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	135	17	--	--	153
Engelmann spruce	61	1	--	--	62
Mountain hemlock	816	6	8	--	830
Total	15,805	185	519	--	16,510
Hemlock-Sitka spruce--					
Western hemlock	39,281	751	520	--	40,550
Western hemlock/red alder	2,554	76	1	--	2,630
Western hemlock/other hardwood	211	--	--	--	211
Sitka spruce	487	16	--	--	503
Sitka spruce/red alder	--	3	--	--	3
Total	42,532	845	520	--	43,897
Lodgepole pine	151	52	49	--	252
Other softwood types--					
Western redcedar	3,308	42	44	--	3,394
Western redcedar/red alder	1,106	--	4	--	1,111
Western redcedar/other hardwood	290	--	--	--	290
Alaska-cedar	104	--	--	--	104
Unclassified softwood types ^c	--	--	--	--	--
Total	4,809	42	48	--	4,899
Total, softwood types	135,925	2,514	1,409	--	139,847
Hardwood types:					
Western hardwoods--					
Red alder	8,819	1,799	227	--	10,844
Red alder/conifer	7,304	769	85	--	8,158
Bigleaf maple	2,345	242	5	--	2,592
Bigleaf maple/conifer	1,342	220	26	--	1,588
Black cottonwood	777	--	7	--	783
Black cottonwood/conifer	--	10	--	--	10
Pacific madrone	50	15	--	--	65
Pacific madrone/conifer	86	--	--	--	86
Oregon white oak/conifer	13	--	--	--	13
Oregon ash	397	65	8	--	470
Bitter cherry	25	--	--	--	25
Bitter cherry/conifer	--	37	--	--	37
Other hardwood types	100	118	23	--	241
Other hardwood types/conifer	155	10	--	--	165
Total, hardwood types	21,413	3,285	380	--	25,079
Nonstocked ^b	--	--	--	144	144
Unclassified ^c	3,534	56	--	--	3,590
All types	160,872	5,854	1,789	144	168,660

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 16--Net volume of growing stock on timberland by forest type and owner, western Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	5,537	3,917	4,196	2,058	15,707
Douglas-fir/red alder	--	567	892	394	1,853
Douglas-fir/other hardwood	--	96	149	218	463
Total	5,537	4,580	5,238	2,669	18,024
Ponderosa pine	7	--	--	--	7
Western white pine	7	--	--	--	7
Fir-spruce--					
Grand fir	86	11	6	45	148
Noble fir	129	--	1	--	130
Noble fir/red alder	--	9	--	--	9
Pacific silver fir	2,539	198	49	8	2,794
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	44	--	--	--	44
Engelmann spruce	12	--	--	--	12
Mountain hemlock	183	18	5	--	206
Total	2,994	236	61	53	3,345
Hemlock-Sitka spruce--					
Western hemlock	3,052	2,210	4,269	529	10,059
Western hemlock/red alder	--	256	337	87	680
Western hemlock/other hardwood	--	35	28	--	63
Sitka spruce	17	--	43	60	121
Sitka spruce/red alder	--	--	5	--	5
Total	3,069	2,501	4,681	677	10,928
Lodgepole pine	26	1	21	42	90
Other softwood types--					
Western redcedar	136	142	278	361	916
Western redcedar/red alder	--	60	99	121	281
Western redcedar/other hardwood	--	--	27	50	77
Alaska-cedar	26	--	--	--	26
Unclassified softwood types ^b	3	--	--	--	3
Total	165	202	404	532	1,303
Total, softwood types	11,805	7,520	10,405	3,974	33,704
Hardwood types:					
Western hardwoods--					
Red alder	61	598	1,070	1,333	3,062
Red alder/conifer	--	565	990	637	2,192
Bigleaf maple	31	48	55	536	670
Bigleaf maple/conifer	--	33	182	236	452
Black cottonwood	--	47	47	88	182
Black cottonwood/conifer	--	--	--	12	12
Pacific madrone	--	--	--	21	21
Pacific madrone/conifer	--	--	--	22	22
Oregon white oak/conifer	--	--	--	5	5
Oregon ash	--	--	21	104	125
Bitter cherry	--	--	--	9	9
Bitter cherry/conifer	--	--	6	10	17
Other hardwood types	3	--	34	51	88
Other hardwood types/conifer	--	--	10	31	42
Total, hardwood types	95	1,291	2,417	3,096	6,899
Nonstocked ^c	--	1	17	19	37
Unclassified ^d	680	--	--	--	680
All types	12,580	8,812	12,840	7,089	41,321

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 17--Net volume of sawtimber on timberland by forest type and owner, western Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	25,291	16,026	16,080	7,897	65,293
Douglas-fir/red alder	--	2,284	3,551	1,411	7,246
Douglas-fir/other hardwood	--	399	465	813	1,677
Total	25,291	18,709	20,096	10,120	74,216
Ponderosa pine	36	--	--	--	36
Western white pine	36	--	--	--	36
Fir-spruce--					
Grand fir	446	36	18	184	684
Noble fir	670	--	1	--	671
Noble fir/red alder	--	35	--	--	35
Pacific silver fir	13,145	806	103	20	14,073
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	153	--	--	--	153
Engelmann spruce	62	--	--	--	62
Mountain hemlock	752	66	12	--	830
Total	15,228	943	135	204	16,510
Hemlock-Sitka spruce--					
Western hemlock	14,293	8,923	15,244	2,090	40,550
Western hemlock/red alder	--	1,031	1,278	322	2,630
Western hemlock/other hardwood	--	120	90	--	211
Sitka spruce	114	--	138	251	503
Sitka spruce/red alder	--	--	3	--	3
Total	14,407	10,074	16,753	2,663	43,897
Lodgepole pine	88	1	54	109	252
Other softwood types--					
Western redcedar	604	532	1,004	1,254	3,394
Western redcedar/red alder	--	240	408	462	1,111
Western redcedar/other hardwood	--	--	105	185	290
Alaska-cedar	104	--	--	--	104
Unclassified softwood types ^b	--	--	--	--	--
Total	708	772	1,518	1,901	4,899
Total, softwood types	55,795	30,499	38,556	14,997	139,847
Hardwood types:					
Western hardwoods--					
Red alder	224	2,142	3,864	4,615	10,844
Red alder/conifer	--	2,336	3,494	2,328	8,158
Bigleaf maple	105	205	210	2,072	2,592
Bigleaf maple/conifer	--	115	601	872	1,588
Black cottonwood	--	182	173	428	783
Black cottonwood/conifer	--	--	--	10	10
Pacific madrone	--	--	--	65	65
Pacific madrone/conifer	--	--	--	86	86
Oregon white oak/conifer	--	--	--	13	13
Oregon ash	--	--	72	397	470
Bitter cherry	--	--	--	25	25
Bitter cherry/conifer	--	--	10	27	37
Other hardwood types	--	--	93	148	241
Other hardwood types/conifer	--	--	47	118	165
Total, hardwood types	328	4,981	8,565	11,205	25,079
Nonstocked ^c	--	3	66	75	144
Unclassified ^d	3,590	--	--	--	3,590
All types	59,714	35,483	47,187	26,277	168,660

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 18--Net volume of timber on timberland by class of timber and species group, western Washington, January 1, 1991^a

Class of timber	Softwoods	Hardwoods	All species
	<i>Million cubic feet</i>		
Growing-stock trees:			
Sawtimber trees--			
Saw-log portion ^b	25,487	3,792	29,279
Upper-stem portion ^b	854	474	1,329
Total ^c	32,557	4,355	36,913
Poletimber	2,713	1,696	4,409
Total growing-stock trees	35,27	6,051	41,32
Cull trees:			
Sound cull	26	76	102
Rotten cull	132	61	193
Total cull trees	159	137	296
Salvable dead trees	904	11	916
All timber	36,334	6,199	42,533

^a Totals may be off because of rounding; data subject to sampling error.

^b Volume distribution by saw-log portion and upper-stem portion is unavailable for Olympic and Mount Baker-Snoqualmie National Forests.

^c Includes total volume for Olympic and Mount Baker-Snoqualmie National Forests.

Table 19--Current net annual growth of growing stock on timberland by forest type and owner, western Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	61,019	119,849	192,413	67,809	441,090
Douglas-fir/red alder	--	19,626	31,900	15,766	67,293
Douglas-fir/other hardwood	--	3,024	7,763	8,445	19,232
Total	61,019	142,500	232,076	92,020	527,615
Ponderosa pine	75	--	--	--	75
Western white pine	75	--	--	--	75
Fir-spruce--					
Grand fir	791	347	567	1,551	3,256
Noble fir	1,185	--	210	--	1,395
Noble fir/red alder	--	689	--	--	689
Pacific silver fir	10,926	5,289	3,090	530	19,835
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	398	--	--	--	398
Engelmann spruce	110	--	--	--	110
Mountain hemlock	1,071	24	506	--	1,602
Total	14,481	6,350	4,374	2,080	27,285
Hemlock-Sitka spruce--					
Western hemlock	18,508	68,249	196,912	17,727	301,395
Western hemlock/red alder	--	8,637	13,533	4,147	26,317
Western hemlock/other hardwood	--	1,368	1,617	--	2,985
Sitka spruce	85	--	2,203	2,003	4,291
Sitka spruce/red alder	--	--	729	--	729
Total	18,593	78,254	214,994	23,877	335,717
Lodgepole pine	279	107	-83	919	1,221
Other softwood types--					
Western redcedar	828	3,967	9,343	11,005	25,144
Western redcedar/red alder	--	1,729	3,868	4,159	9,756
Western redcedar/other hardwood	--	--	828	1,743	2,571
Alaska-cedar	366	--	--	--	366
Unclassified softwood types ^c	1	--	--	--	1
Total	1,195	5,696	14,039	16,908	37,838
Total, softwood types	95,717	232,906	465,400	135,803	929,827
Hardwood types:					
Western hardwoods--					
Red alder	1,090	16,846	30,683	49,499	98,118
Red alder/conifer	--	15,862	34,670	22,990	73,522
Bigleaf maple	541	1,212	1,955	16,018	19,726
Bigleaf maple/conifer	--	1,071	6,719	7,656	15,446
Black cottonwood	--	2,146	1,957	3,736	7,839
Black cottonwood/conifer	--	--	--	1,015	1,015
Pacific madrone	--	--	--	735	735
Pacific madrone/conifer	--	--	--	698	698
Oregon white oak/conifer	--	--	--	172	172
Oregon ash	--	--	388	3,054	3,442
Bitter cherry	--	--	--	246	246
Bitter cherry/conifer	--	--	568	778	1,346
Other hardwood types	1	--	1,545	2,494	4,040
Other hardwood types/conifer	--	--	388	1,413	1,801
Total, hardwood types	1,633	37,138	78,872	110,503	228,146
Nonstocked ^d	--	11	362	670	1,042
Unclassified ^d	6,494	--	--	--	6,494
All types	103,843	270,054	544,634	246,976	1,165,508

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative net annual growth is the result of annual mortality exceeding gross annual growth.

^c Information on forest type unavailable.

^d Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 20--Current net annual growth of sawtimber on timberland by forest type and owner, western Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	298,324	625,478	854,836	344,711	2,123,350
Douglas-fir/red alder	--	94,127	174,756	69,349	338,232
Douglas-fir/other hardwood	--	14,836	32,492	41,499	88,828
Total	298,324	734,441	1,062,084	455,560	2,550,410
Ponderosa pine	389	--	--	--	389
Western white pine	389	--	--	--	389
Fir-spruce--					
Grand fir	4,103	1,250	1,711	8,044	15,108
Noble fir	6,146	--	98	--	6,244
Noble fir/red alder	--	2,150	--	--	2,150
Pacific silver fir	62,578	17,023	4,251	2,291	86,143
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	778	--	--	--	778
Engelmann spruce	570	--	--	--	570
Mountain hemlock	8,155	200	392	--	8,747
Total	82,331	20,622	6,452	10,335	119,739
Hemlock-Sitka spruce--					
Western hemlock	98,419	323,463	870,461	81,218	1,373,561
Western hemlock/red alder	--	39,321	58,168	17,126	114,615
Western hemlock/other hardwood	--	5,357	5,469	--	10,826
Sitka spruce	575	--	10,166	8,828	19,569
Sitka spruce/red alder	--	--	470	--	470
Total	98,994	368,141	944,735	107,172	1,519,042
Lodgepole pine	944	145	54	2,891	4,033
Other softwood types--					
Western redcedar	5,804	18,739	39,527	46,070	110,140
Western redcedar/red alder	--	10,297	20,197	18,600	49,094
Western redcedar/other hardwood	--	--	3,642	7,914	11,557
Alaska-cedar	1,234	--	--	--	1,234
Unclassified softwood types ^b	--	--	--	--	--
Total	7,038	29,036	63,366	72,584	172,024
Total, softwood types	488,409	1,152,385	2,076,690	648,541	4,366,026
Hardwood types:					
Western hardwoods--					
Red alder	3,351	114,066	195,030	222,569	535,016
Red alder/conifer	--	89,358	169,430	112,095	370,883
Bigleaf maple	2,053	12,522	10,087	102,726	127,388
Bigleaf maple/conifer	--	4,512	29,312	38,755	72,579
Black cottonwood	--	9,315	9,773	21,411	40,498
Black cottonwood/conifer	--	--	--	2,108	2,108
Pacific madrone	--	--	--	4,841	4,841
Pacific madrone/conifer	--	--	--	3,422	3,422
Oregon white oak/conifer	--	--	--	604	604
Oregon ash	--	--	1,331	12,625	13,956
Bitter cherry	--	--	--	984	984
Bitter cherry/conifer	--	--	1,304	2,975	4,279
Other hardwood types	--	--	7,250	9,772	17,021
Other hardwood types/conifer	--	--	2,210	6,278	8,488
Total, hardwood types	5,405	229,774	425,727	541,163	1,202,068
Nonstocked ^c	--	74	1,420	3,240	4,735
Unclassified ^b	30,930	--	--	--	30,930
All types	524,744	1,382,234	2,503,837	1,192,945	5,603,759

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 21--Average annual mortality of growing stock on timberland by forest type and owner, western Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	12,282	22,978	22,580	13,704	71,544
Douglas-fir/red alder	--	4,528	6,388	2,590	13,505
Douglas-fir/other hardwood	--	598	1,557	1,258	3,413
Total	12,282	28,104	30,524	17,552	88,462
Ponderosa pine	10	--	--	--	10
Western white pine	10	--	--	--	10
Fir-spruce--					
Grand fir	124	61	17	242	444
Noble fir	186	--	6	--	192
Noble fir/red alder	--	12	--	--	12
Pacific silver fir	11,632	976	220	31	12,859
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	310	--	--	--	310
Engelmann spruce	18	--	--	--	18
Mountain hemlock	532	75	30	--	637
Total	12,801	1,124	273	273	14,472
Hemlock-Sitka spruce--					
Western hemlock	13,517	17,152	30,220	3,874	64,763
Western hemlock/red alder	--	1,879	2,797	666	5,342
Western hemlock/other hardwood	--	408	177	--	585
Sitka spruce	--	--	448	513	961
Sitka spruce/red alder	--	--	37	--	37
Total	13,517	19,439	33,679	5,053	71,688
Lodgepole pine	38	3	311	497	849
Other softwood types--					
Western redcedar	454	632	1,547	1,485	4,118
Western redcedar/red alder	--	377	576	546	1,499
Western redcedar/other hardwood	--	--	96	233	328
Alaska-cedar	66	--	--	--	66
Unclassified softwood types ^b	--	--	--	--	--
Total	521	1,009	2,218	2,264	6,012
Total, softwood types	39,179	49,680	67,005	25,640	181,503
Hardwood types:					
Western hardwoods--					
Red alder	210	6,215	12,146	12,173	30,745
Red alder/conifer	--	4,910	9,381	4,512	18,802
Bigleaf maple	86	585	582	4,345	5,597
Bigleaf maple/conifer	--	296	1,421	1,823	3,540
Black cottonwood	--	474	442	633	1,549
Black cottonwood/conifer	--	--	--	135	135
Pacific madrone	--	--	--	304	304
Pacific madrone/conifer	--	--	--	94	94
Oregon white oak/conifer	--	--	--	19	19
Oregon ash	--	--	248	771	1,019
Bitter cherry	--	--	--	44	44
Bitter cherry/conifer	--	--	24	99	123
Other hardwood types	--	--	353	486	839
Other hardwood types/conifer	--	--	42	285	327
Total, hardwood types	296	12,479	24,639	25,722	63,137
Nonstocked ^c	--	5	167	85	257
Unclassified ^b	983	--	--	--	983
All types	40,458	62,164	91,811	51,447	245,880

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 12—Net volume of growing stock on timberland by species and owner, western Washington, January 1, 1991^{a b}

Species	National forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Softwoods:					
Alaska-cedar	73	4	2	1	80
Douglas-fir	5,399	4,211	4,864	2,619	17,093
Grand fir	96	36	63	109	303
Noble fir	122	--	--	--	122
Pacific silver fir	2,272	282	247	28	2,829
Subalpine fir	50	--	--	--	50
Mountain hemlock	367	14	3	--	384
Western hemlock	3,165	2,456	4,505	871	10,997
Western larch	3	--	--	--	3
Lodgepole pine	19	1	23	54	97
Ponderosa pine	10	--	--	--	10
Western white pine	11	4	3	14	33
Western redcedar	740	427	670	827	2,665
Engelmann spruce	44	--	5	--	49
Sitka spruce	46	133	257	119	555
Pacific yew	--	--	--	--	--
Total	12,418	7,569	10,642	4,641	35,271
Hardwoods:					
Red alder	96	962	1,714	1,455	4,226
Oregon ash	--	4	15	84	103
Quaking aspen	--	--	--	4	4
Western paper birch	--	7	23	32	62
Bitter cherry	--	11	19	18	48
Black cottonwood	27	58	140	170	395
Pacific dogwood	--	--	--	--	--
Pacific madrone	1	11	--	48	60
Bigleaf maple	38	190	286	623	1,138
Oregon white oak	--	--	1	12	13
Willow	--	--	--	--	--
Other trees	--	--	--	--	--
Total	163	1,243	2,198	2,448	6,051
All species	12,580	8,812	12,840	7,089	41,321

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes trees 5 inches in d.b.h. and larger.

Table 13—Net volume of sawtimber on timberland by species and owner, western Washington, January 1, 1991^{a b}

Species	National forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwoods:					
Alaska-cedar	300	16	9	3	327
Douglas-fir	26,049	18,004	19,489	10,386	73,927
Grand fir	438	136	235	451	1,259
Noble fir	600	--	--	--	600
Pacific silver fir	10,904	1,168	827	116	13,015
Subalpine fir	126	--	--	--	126
Mountain hemlock	1,695	53	10	--	1,758
Western hemlock	15,085	9,625	16,167	3,269	44,145
Western larch	16	--	--	--	16
Lodgepole pine	65	4	63	133	265
Ponderosa pine	59	--	--	--	59
Western white pine	48	13	11	41	113
Western redcedar	3,331	1,462	2,172	2,821	9,784
Engelmann spruce	209	--	20	--	229
Sitka spruce	283	607	1,030	553	2,472
Pacific yew	--	--	--	--	--
Total	59,207	31,085	40,032	17,772	148,097
Hardwoods:					
Red alder	270	3,344	5,471	4,519	13,605
Oregon ash	--	19	32	309	360
Quaking aspen	--	--	--	6	6
Western paper birch	--	7	25	61	92
Bitter cherry	--	1	6	28	35
Black cottonwood	144	288	718	908	2,057
Pacific dogwood	--	--	--	--	--
Pacific madrone	1	25	--	154	180
Bigleaf maple	92	713	900	2,500	4,204
Oregon white oak	--	--	3	21	23
Willow	--	--	--	--	--
Other trees	--	--	--	--	--
Total	507	4,397	7,155	8,505	20,564
All species	59,714	35,483	47,187	26,277	168,660

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 13--Net volume of sawtimber on timberland by species and owner, western Washington, January 1, 1991^{a b}

Species	National forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwoods:					
Alaska-cedar	300	16	9	3	327
Douglas-fir	26,049	18,004	19,489	10,386	73,927
Grand fir	438	136	235	451	1,259
Noble fir	600	--	--	--	600
Pacific silver fir	10,904	1,168	827	116	13,015
Subalpine fir	126	--	--	--	126
Mountain hemlock	1,695	53	10	--	1,758
Western hemlock	15,085	9,625	16,167	3,269	44,145
Western larch	16	--	--	--	16
Lodgepole pine	65	4	63	133	265
Ponderosa pine	59	--	--	--	59
Western white pine	48	13	11	41	113
Western redcedar	3,331	1,462	2,172	2,821	9,784
Engelmann spruce	209	--	20	--	229
Sitka spruce	283	607	1,030	553	2,472
Pacific yew	--	--	--	--	--
Total	59,207	31,085	40,032	17,772	148,097
Hardwoods:					
Red alder	270	3,344	5,471	4,519	13,605
Oregon ash	--	19	32	309	360
Quaking aspen	--	--	--	6	6
Western paper birch	--	7	25	61	92
Bitter cherry	--	1	6	28	35
Black cottonwood	144	288	718	908	2,057
Pacific dogwood	--	--	--	--	--
Pacific madrone	1	25	--	154	180
Bigleaf maple	92	713	900	2,500	4,204
Oregon white oak	--	--	3	21	23
Willow	--	--	--	--	--
Other trees	--	--	--	--	--
Total	507	4,397	7,155	8,505	20,564
All species	59,714	35,483	47,187	26,277	168,660

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 14--Net volume of growing stock on timberland by forest type and stand-size class, western Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Million cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	14,897	717	93	--	15,707
Douglas-fir/red alder	1,768	62	23	--	1,853
Douglas-fir/other hardwood	418	37	8	--	463
Total	17,084	816	124	--	18,024
Ponderosa pine	6	1	--	--	7
Western white pine	4	3	--	--	7
Fir-spruce--					
Grand fir	144	3	1	--	148
Noble fir	124	5	1	--	130
Noble fir/red alder	--	--	9	--	9
Pacific silver fir	2,616	87	91	--	2,794
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	33	11	--	--	44
Engelmann spruce	12	--	--	--	12
Mountain hemlock	200	4	2	--	206
Total	3,129	112	105	--	3,345
Hemlock-Sitka spruce--					
Western hemlock	9,358	539	163	--	10,059
Western hemlock/red alder	632	44	5	--	680
Western hemlock/other hardwood	62	1	--	--	63
Sitka spruce	111	10	--	--	121
Sitka spruce/red alder	--	5	--	--	5
Total	10,163	598	167	--	10,928
Lodgepole pine	53	20	17	--	90
Other softwood types--					
Western redcedar	873	23	20	--	916
Western redcedar/red alder	279	--	1	--	281
Western redcedar/other hardwood	77	--	--	--	77
Alaska-cedar	26	--	--	--	26
Unclassified softwood types ^c	--	3	--	--	3
Total	1,255	26	22	--	1,303
Total, softwood types	31,693	1,575	435	--	33,704
Hardwood types:					
Western hardwoods--					
Red alder	2,233	748	82	--	3,062
Red alder/conifer	1,860	292	39	--	2,192
Bigleaf maple	581	87	2	--	670
Bigleaf maple/conifer	374	71	7	--	452
Black cottonwood	179	--	4	--	182
Black cottonwood/conifer	--	10	3	--	12
Pacific madrone	15	6	--	--	21
Pacific madrone/conifer	22	--	--	--	22
Oregon white oak/conifer	5	--	--	--	5
Oregon ash	99	24	2	--	125
Bitter cherry	9	--	--	--	9
Bitter cherry/conifer	--	17	--	--	17
Other hardwood types	28	52	7	--	88
Other hardwood types/conifer	38	3	--	--	42
Total, hardwood types	5,443	1,311	146	--	6,899
Nonstocked ^b	--	--	--	37	37
Unclassified ^c	680	--	--	--	680
All types	37,816	2,886	581	37	41,321

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 15—Net volume of sawtimber on timberland by forest type and stand-size class, western Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Million board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	63,884	1,211	198	--	65,293
Douglas-fir/red alder	7,083	106	57	--	7,246
Douglas-fir/other hardwood	1,599	61	17	--	1,677
Total	72,566	1,379	272	--	74,216
Ponderosa pine	33	3	--	--	36
Western white pine	28	8	--	--	36
Fir-spruce--					
Grand fir	676	8	--	--	684
Noble fir	657	13	1	--	671
Noble fir/red alder	--	--	35	--	35
Pacific silver fir	13,460	139	475	--	14,073
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	135	17	--	--	153
Engelmann spruce	61	1	--	--	62
Mountain hemlock	816	6	8	--	830
Total	15,805	185	519	--	16,510
Hemlock-Sitka spruce--					
Western hemlock	39,281	751	520	--	40,550
Western hemlock/red alder	2,554	76	1	--	2,630
Western hemlock/other hardwood	211	--	--	--	211
Sitka spruce	487	16	--	--	503
Sitka spruce/red alder	--	3	--	--	3
Total	42,532	845	520	--	43,897
Lodgepole pine	151	52	49	--	252
Other softwood types--					
Western redcedar	3,308	42	44	--	3,394
Western redcedar/red alder	1,106	--	4	--	1,111
Western redcedar/other hardwood	290	--	--	--	290
Alaska-cedar	104	--	--	--	104
Unclassified softwood types ^c	--	--	--	--	--
Total	4,809	42	48	--	4,899
Total, softwood types	135,925	2,514	1,409	--	139,847
Hardwood types:					
Western hardwoods--					
Red alder	8,819	1,799	227	--	10,844
Red alder/conifer	7,304	769	85	--	8,158
Bigleaf maple	2,345	242	5	--	2,592
Bigleaf maple/conifer	1,342	220	26	--	1,588
Black cottonwood	777	--	7	--	783
Black cottonwood/conifer	--	10	--	--	10
Pacific madrone	50	15	--	--	65
Pacific madrone/conifer	86	--	--	--	86
Oregon white oak/conifer	13	--	--	--	13
Oregon ash	397	65	8	--	470
Bitter cherry	25	--	--	--	25
Bitter cherry/conifer	--	37	--	--	37
Other hardwood types	100	118	23	--	241
Other hardwood types/conifer	155	10	--	--	165
Total, hardwood types	21,413	3,285	380	--	25,079
Nonstocked ^b	--	--	--	144	144
Unclassified ^c	3,534	56	--	--	3,590
All types	160,872	5,854	1,789	144	168,660

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 16--Net volume of growing stock on timberland by forest type and owner, western Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	5,537	3,917	4,196	2,058	15,707
Douglas-fir/red alder	--	567	892	394	1,853
Douglas-fir/other hardwood	--	96	149	218	463
Total	5,537	4,580	5,238	2,669	18,024
Ponderosa pine	7	--	--	--	7
Western white pine	7	--	--	--	7
Fir-spruce--					
Grand fir	86	11	6	45	148
Noble fir	129	--	1	--	130
Noble fir/red alder	--	9	--	--	9
Pacific silver fir	2,539	198	49	8	2,794
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	44	--	--	--	44
Engelmann spruce	12	--	--	--	12
Mountain hemlock	183	18	5	--	206
Total	2,994	236	61	53	3,345
Hemlock-Sitka spruce--					
Western hemlock	3,052	2,210	4,269	529	10,059
Western hemlock/red alder	--	256	337	87	680
Western hemlock/other hardwood	--	35	28	--	63
Sitka spruce	17	--	43	60	121
Sitka spruce/red alder	--	--	5	--	5
Total	3,069	2,501	4,681	677	10,928
Lodgepole pine	26	1	21	42	90
Other softwood types--					
Western redcedar	136	142	278	361	916
Western redcedar/red alder	--	60	99	121	281
Western redcedar/other hardwood	--	--	27	50	77
Alaska-cedar	26	--	--	--	26
Unclassified softwood types ^b	3	--	--	--	3
Total	165	202	404	532	1,303
Total, softwood types	11,805	7,520	10,405	3,974	33,704
Hardwood types:					
Western hardwoods--					
Red alder	61	598	1,070	1,333	3,062
Red alder/conifer	--	565	990	637	2,192
Bigleaf maple	31	48	55	536	670
Bigleaf maple/conifer	--	33	182	236	452
Black cottonwood	--	47	47	88	182
Black cottonwood/conifer	--	--	--	12	12
Pacific madrone	--	--	--	21	21
Pacific madrone/conifer	--	--	--	22	22
Oregon white oak/conifer	--	--	--	5	5
Oregon ash	--	--	21	104	125
Bitter cherry	--	--	--	9	9
Bitter cherry/conifer	--	--	6	10	17
Other hardwood types	3	--	34	51	88
Other hardwood types/conifer	--	--	10	31	42
Total, hardwood types	95	1,291	2,417	3,096	6,899
Nonstocked ^c	--	1	17	19	37
Unclassified ^b	680	--	--	--	680
All types	12,580	8,812	12,840	7,089	41,321

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 17--Net volume of sawtimber on timberland by forest type and owner, western Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	25,291	16,026	16,080	7,897	65,293
Douglas-fir/red alder	--	2,284	3,551	1,411	7,246
Douglas-fir/other hardwood	--	399	465	813	1,677
Total	25,291	18,709	20,096	10,120	74,216
Ponderosa pine	36	--	--	--	36
Western white pine	36	--	--	--	36
Fir-spruce--					
Grand fir	446	36	18	184	684
Noble fir	670	--	1	--	671
Noble fir/red alder	--	35	--	--	35
Pacific silver fir	13,145	806	103	20	14,073
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	153	--	--	--	153
Engelmann spruce	62	--	--	--	62
Mountain hemlock	752	66	12	--	830
Total	15,228	943	135	204	16,510
Hemlock-Sitka spruce--					
Western hemlock	14,293	8,923	15,244	2,090	40,550
Western hemlock/red alder	--	1,031	1,278	322	2,630
Western hemlock/other hardwood	--	120	90	--	211
Sitka spruce	114	--	138	251	503
Sitka spruce/red alder	--	--	3	--	3
Total	14,407	10,074	16,753	2,663	43,897
Lodgepole pine	88	1	54	109	252
Other softwood types--					
Western redcedar	604	532	1,004	1,254	3,394
Western redcedar/red alder	--	240	408	462	1,111
Western redcedar/other hardwood	--	--	105	185	290
Alaska-cedar	104	--	--	--	104
Unclassified softwood types ^b	--	--	--	--	--
Total	708	772	1,518	1,901	4,899
Total, softwood types	55,795	30,499	38,556	14,997	139,847
Hardwood types:					
Western hardwoods--					
Red alder	224	2,142	3,864	4,615	10,844
Red alder/conifer	--	2,336	3,494	2,328	8,158
Bigleaf maple	105	205	210	2,072	2,592
Bigleaf maple/conifer	--	115	601	872	1,588
Black cottonwood	--	182	173	428	783
Black cottonwood/conifer	--	--	--	10	10
Pacific madrone	--	--	--	65	65
Pacific madrone/conifer	--	--	--	86	86
Oregon white oak/conifer	--	--	--	13	13
Oregon ash	--	--	72	397	470
Bitter cherry	--	--	--	25	25
Bitter cherry/conifer	--	--	10	27	37
Other hardwood types	--	--	93	148	241
Other hardwood types/conifer	--	--	47	118	165
Total, hardwood types	328	4,981	8,565	11,205	25,079
Nonstocked ^c	--	3	66	75	144
Unclassified ^d	3,590	--	--	--	3,590
All types	59,714	35,483	47,187	26,277	168,660

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 18--Net volume of timber on timberland by class of timber and species group, western Washington, January 1, 1991^a

Class of timber	Softwoods	Hardwoods	All species
	<i>Million cubic feet</i>		
Growing-stock trees:			
Sawtimber trees--			
Saw-log portion ^b	25,487	3,792	29,279
Upper-stem portion ^b	854	474	1,329
Total ^c	32,557	4,355	36,913
Poletimber	2,713	1,696	4,409
Total growing-stock trees	35,27	6,051	41,32
Cull trees:			
Sound cull	26	76	102
Rotten cull	132	61	193
Total cull trees	159	137	296
Salvable dead trees	904	11	916
All timber	36,334	6,199	42,533

^a Totals may be off because of rounding; data subject to sampling error.

^b Volume distribution by saw-log portion and upper-stem portion is unavailable for Olympic and Mount Baker-Snoqualmie National Forests.

^c Includes total volume for Olympic and Mount Baker-Snoqualmie National Forests.

Table 19--Current net annual growth of growing stock on timberland by forest type and owner, western Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	61,019	119,849	192,413	67,809	441,090
Douglas-fir/red alder	--	19,626	31,900	15,766	67,293
Douglas-fir/other hardwood	--	3,024	7,763	8,445	19,232
Total	61,019	142,500	232,076	92,020	527,615
Ponderosa pine	75	--	--	--	75
Western white pine	75	--	--	--	75
Fir-spruce--					
Grand fir	791	347	567	1,551	3,256
Noble fir	1,185	--	210	--	1,395
Noble fir/red alder	--	689	--	--	689
Pacific silver fir	10,926	5,289	3,090	530	19,835
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	398	--	--	--	398
Engelmann spruce	110	--	--	--	110
Mountain hemlock	1,071	24	506	--	1,602
Total	14,481	6,350	4,374	2,080	27,285
Hemlock-Sitka spruce--					
Western hemlock	18,508	68,249	196,912	17,727	301,395
Western hemlock/red alder	--	8,637	13,533	4,147	26,317
Western hemlock/other hardwood	--	1,368	1,617	--	2,985
Sitka spruce	85	--	2,203	2,003	4,291
Sitka spruce/red alder	--	--	729	--	729
Total	18,593	78,254	214,994	23,877	335,717
Lodgepole pine	279	107	-83	919	1,221
Other softwood types--					
Western redcedar	828	3,967	9,343	11,005	25,144
Western redcedar/red alder	--	1,729	3,868	4,159	9,756
Western redcedar/other hardwood	--	--	828	1,743	2,571
Alaska-cedar	366	--	--	--	366
Unclassified softwood types ^c	1	--	--	--	1
Total	1,195	5,696	14,039	16,908	37,838
Total, softwood types	95,717	232,906	465,400	135,803	929,827
Hardwood types:					
Western hardwoods--					
Red alder	1,090	16,846	30,683	49,499	98,118
Red alder/conifer	--	15,862	34,670	22,990	73,522
Bigleaf maple	541	1,212	1,955	16,018	19,726
Bigleaf maple/conifer	--	1,071	6,719	7,656	15,446
Black cottonwood	--	2,146	1,957	3,736	7,839
Black cottonwood/conifer	--	--	--	1,015	1,015
Pacific madrone	--	--	--	735	735
Pacific madrone/conifer	--	--	--	698	698
Oregon white oak/conifer	--	--	--	172	172
Oregon ash	--	--	388	3,054	3,442
Bitter cherry	--	--	--	246	246
Bitter cherry/conifer	--	--	568	778	1,346
Other hardwood types	1	--	1,545	2,494	4,040
Other hardwood types/conifer	--	--	388	1,413	1,801
Total, hardwood types	1,633	37,138	78,872	110,503	228,146
Nonstocked ^d	--	11	362	670	1,042
Unclassified ^d	6,494	--	--	--	6,494
All types	103,843	270,054	544,634	246,976	1,165,508

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative net annual growth is the result of annual mortality exceeding gross annual growth.

^c Information on forest type unavailable.

^d Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 20--Current net annual growth of sawtimber on timberland by forest type and owner, western Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	298,324	625,478	854,836	344,711	2,123,350
Douglas-fir/red alder	--	94,127	174,756	69,349	338,232
Douglas-fir/other hardwood	--	14,836	32,492	41,499	88,828
Total	298,324	734,441	1,062,084	455,560	2,550,410
Ponderosa pine	389	--	--	--	389
Western white pine	389	--	--	--	389
Fir-spruce--					
Grand fir	4,103	1,250	1,711	8,044	15,108
Noble fir	6,146	--	98	--	6,244
Noble fir/red alder	--	2,150	--	--	2,150
Pacific silver fir	62,578	17,023	4,251	2,291	86,143
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	778	--	--	--	778
Engelmann spruce	570	--	--	--	570
Mountain hemlock	8,155	200	392	--	8,747
Total	82,331	20,622	6,452	10,335	119,739
Hemlock-Sitka spruce--					
Western hemlock	98,419	323,463	870,461	81,218	1,373,561
Western hemlock/red alder	--	39,321	58,168	17,126	114,615
Western hemlock/other hardwood	--	5,357	5,469	--	10,826
Sitka spruce	575	--	10,166	8,828	19,569
Sitka spruce/red alder	--	--	470	--	470
Total	98,994	368,141	944,735	107,172	1,519,042
Lodgepole pine	944	145	54	2,891	4,033
Other softwood types--					
Western redcedar	5,804	18,739	39,527	46,070	110,140
Western redcedar/red alder	--	10,297	20,197	18,600	49,094
Western redcedar/other hardwood	--	--	3,642	7,914	11,557
Alaska-cedar	1,234	--	--	--	1,234
Unclassified softwood types ^b	--	--	--	--	--
Total	7,038	29,036	63,366	72,584	172,024
Total, softwood types	488,409	1,152,385	2,076,690	648,541	4,366,026
Hardwood types:					
Western hardwoods--					
Red alder	3,351	114,066	195,030	222,569	535,016
Red alder/conifer	--	89,358	169,430	112,095	370,883
Bigleaf maple	2,053	12,522	10,087	102,726	127,388
Bigleaf maple/conifer	--	4,512	29,312	38,755	72,579
Black cottonwood	--	9,315	9,773	21,411	40,498
Black cottonwood/conifer	--	--	--	2,108	2,108
Pacific madrone	--	--	--	4,841	4,841
Pacific madrone/conifer	--	--	--	3,422	3,422
Oregon white oak/conifer	--	--	--	604	604
Oregon ash	--	--	1,331	12,625	13,956
Bitter cherry	--	--	--	984	984
Bitter cherry/conifer	--	--	1,304	2,975	4,279
Other hardwood types	--	--	7,250	9,772	17,021
Other hardwood types/conifer	--	--	2,210	6,278	8,488
Total, hardwood types	5,405	229,774	425,727	541,163	1,202,068
Nonstocked ^c	--	74	1,420	3,240	4,735
Unclassified ^b	30,930	--	--	--	30,930
All types	524,744	1,382,234	2,503,837	1,192,945	5,603,759

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 21--Average annual mortality of growing stock on timberland by forest type and owner, western Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	12,282	22,978	22,580	13,704	71,544
Douglas-fir/red alder	--	4,528	6,388	2,590	13,505
Douglas-fir/other hardwood	--	598	1,557	1,258	3,413
Total	12,282	28,104	30,524	17,552	88,462
Ponderosa pine	10	--	--	--	10
Western white pine	10	--	--	--	10
Fir-spruce--					
Grand fir	124	61	17	242	444
Noble fir	186	--	6	--	192
Noble fir/red alder	--	12	--	--	12
Pacific silver fir	11,632	976	220	31	12,859
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	310	--	--	--	310
Engelmann spruce	18	--	--	--	18
Mountain hemlock	532	75	30	--	637
Total	12,801	1,124	273	273	14,472
Hemlock-Sitka spruce--					
Western hemlock	13,517	17,152	30,220	3,874	64,763
Western hemlock/red alder	--	1,879	2,797	666	5,342
Western hemlock/other hardwood	--	408	177	--	585
Sitka spruce	--	--	448	513	961
Sitka spruce/red alder	--	--	37	--	37
Total	13,517	19,439	33,679	5,053	71,688
Lodgepole pine	38	3	311	497	849
Other softwood types--					
Western redcedar	454	632	1,547	1,485	4,118
Western redcedar/red alder	--	377	576	546	1,499
Western redcedar/other hardwood	--	--	96	233	328
Alaska-cedar	66	--	--	--	66
Unclassified softwood types ^b	--	--	--	--	--
Total	521	1,009	2,218	2,264	6,012
Total, softwood types	39,179	49,680	67,005	25,640	181,503
Hardwood types:					
Western hardwoods--					
Red alder	210	6,215	12,146	12,173	30,745
Red alder/conifer	--	4,910	9,381	4,512	18,802
Bigleaf maple	86	585	582	4,345	5,597
Bigleaf maple/conifer	--	296	1,421	1,823	3,540
Black cottonwood	--	474	442	633	1,549
Black cottonwood/conifer	--	--	--	135	135
Pacific madrone	--	--	--	304	304
Pacific madrone/conifer	--	--	--	94	94
Oregon white oak/conifer	--	--	--	19	19
Oregon ash	--	--	248	771	1,019
Bitter cherry	--	--	--	44	44
Bitter cherry/conifer	--	--	24	99	123
Other hardwood types	--	--	353	486	839
Other hardwood types/conifer	--	--	42	285	327
Total, hardwood types	296	12,479	24,639	25,722	63,137
Nonstocked ^c	--	5	167	85	257
Unclassified ^b	983	--	--	--	983
All types	40,458	62,164	91,811	51,447	245,880

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 22--Average annual mortality of sawtimber on timberland by forest type and owner, western Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	48,890	72,216	68,754	39,170	229,031
Douglas-fir/red alder	--	14,525	19,139	6,450	40,114
Douglas-fir/other hardwood	--	1,771	4,017	2,937	8,725
Total	48,890	88,512	91,910	48,556	277,869
Ponderosa pine	46	--	--	--	46
Western white pine	46	--	--	--	46
Fir-spruce--					
Grand fir	574	202	39	786	1,601
Noble fir	862	--	2	--	864
Noble fir/red alder	--	26	--	--	26
Pacific silver fir	57,561	3,595	358	58	61,573
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	889	--	--	--	889
Engelmann spruce	80	--	--	--	80
Mountain hemlock	2,012	280	110	--	2,401
Total	61,978	4,102	510	844	67,434
Hemlock-Sitka spruce--					
Western hemlock	68,505	57,719	85,531	12,287	224,042
Western hemlock/red alder	--	6,103	7,532	1,920	15,555
Western hemlock/other hardwood	--	818	185	--	1,003
Sitka spruce	--	--	1,211	1,579	2,790
Sitka spruce/red alder	--	--	16	--	16
Total	68,505	64,640	94,476	15,785	243,406
Lodgepole pine	113	3	788	1,206	2,109
Other softwood types--					
Western redcedar	1,653	2,009	3,827	4,080	11,569
Western redcedar/red alder	--	1,108	2,337	1,680	5,126
Western redcedar/other hardwood	--	--	389	830	1,219
Alaska-cedar	289	--	--	--	289
Unclassified softwood types ^b	--	--	--	--	--
Total	1,942	3,117	6,554	6,591	18,203
Total, softwood types	181,521	160,373	194,238	72,982	609,114
Hardwood types:					
Western hardwoods--					
Red alder	778	15,874	33,840	30,360	80,852
Red alder/conifer	--	16,767	22,834	12,196	51,797
Bigleaf maple	219	2,065	1,752	13,399	17,435
Bigleaf maple/conifer	--	720	3,375	4,897	8,992
Black cottonwood	--	1,367	910	2,641	4,918
Black cottonwood/conifer	--	--	--	34	34
Pacific madrone	--	--	--	701	701
Pacific madrone/conifer	--	--	--	310	310
Oregon white oak/conifer	--	--	--	44	44
Oregon ash	--	--	451	2,244	2,696
Bitter cherry	--	--	--	119	119
Bitter cherry/conifer	--	--	12	59	70
Other hardwood types	--	--	438	787	1,225
Other hardwood types/conifer	--	--	189	921	1,110
Total, hardwood types	997	36,793	63,801	68,713	170,303
Nonstocked ^c	--	21	585	302	908
Unclassified ^b	4,620	--	--	--	4,620
All types	187,137	197,187	258,623	141,997	784,945

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 23--Area by county and land class, western Washington, January 1, 1991^a

County	Forest land				Total	Nonforest land ^b	All land ^c
	Timberland	Reserved timberland	Other forest	Reserved other forest			
<i>Thousand hectares</i>							
Clallam	266	74	4	42	385	61	446
Clark	81	1	2	--	83	79	162
Cowlitz	240	6	3	--	248	44	292
Grays Harbor	430	9	5	1	445	53	499
Island	30	--	2	--	33	21	55
Jefferson	200	139	3	62	404	68	472
King	275	24	15	18	332	216	548
Kitsap	64	--	2	--	66	36	103
Lewis	458	38	6	11	513	115	627
Mason	191	12	4	7	213	35	248
Pacific	208	1	2	--	212	27	238
Pierce	231	45	7	30	313	123	436
San Juan	27	1	--	1	30	17	46
Skagit	236	33	9	23	301	150	451
Skamania	329	33	6	8	375	57	432
Snohomish	266	56	19	24	366	180	546
Thurston	115	--	2	--	117	72	189
Wahkiakum	52	--	1	--	53	15	68
Whatcom	166	64	8	59	298	242	540
Other counties ^d	13	2	1	2	17	6	23
All counties	3,877	538	103	287	4,805	1,616	6,421

-- = none found or less than 500 hectares.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes cropland, pasture and range, swampland, industrial and urban areas, powerline clearings, railroads, and all improved roads and highways; and water as classified by Forest Inventory and Analysis standards but defined by the Bureau of the Census as land.

^c Source: U.S. Department of Commerce 1983.

^d Includes Gifford Pinchot National Forest land in Klickitat, Yakima, Pierce, and Thurston Counties.

Table 24--Area of reserved timberland and other forest land by land class, forest type and owner, western Washington, January 1, 1991^a

Land class and forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand acres</i>					
Reserved timberland:					
Douglas-fir	132	298	--	--	430
Western white pine	1	3	--	--	4
Fir-spruce	188	204	--	--	392
Hemlock-Sitka spruce	129	294	--	--	423
Lodgepole pine	2	1	--	--	3
Cedar	7	3	--	--	10
Other softwoods	--	2	--	--	2
Western hardwoods	5	14	--	--	19
Unclassified ^b	42	--	--	--	42
Total	509	822	--	--	1,330
Reserved other forest:					
Douglas-fir	40	--	--	--	40
Fir-spruce	68	13	--	--	81
Hemlock-Sitka spruce	60	--	--	--	60
Cedar	4	--	--	--	4
Western hardwoods	2	13	--	--	15
Unclassified ^b	34	474	--	--	508
Total	207	501	--	--	708
All reserved	716	1,324	--	--	2,039
Unreserved other forest:					
Douglas-fir	20	--	--	--	20
Fir-spruce	38	--	--	--	38
Hemlock-Sitka spruce	30	--	--	--	30
Cedar	2	--	--	--	2
Western hardwoods	2	--	--	--	2
Unclassified ^b	20	43	53	47	164
Total	113	43	53	47	255

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

Table 25--Area of timberland by owner and stand-size class, western Washington, January 1, 1991^a

Owner	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Thousand hectares</i>					
National Forest	601	72	183	37	894
Other public	432	72	161	8	673
Forest industry	714	234	517	45	1,510
Other private	497	111	172	20	800
All owners	2,245	490	1,032	111	3,877

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 27—Net volume of growing stock and sawtimber on timberland by county and owner, western Washington, January 1, 1991^a

County	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Growing stock:					
Clallam	907	873	747	301	2,828
Clark	7	260	191	282	740
Cowlitz	52	299	1,086	374	1,811
Grays Harbor	491	816	2,433	827	4,567
Island	--	62	--	210	272
Jefferson	574	687	498	196	1,955
King	571	774	935	569	2,849
Kitsap	--	201	101	331	633
Lewis	1,784	634	1,578	638	4,634
Mason	410	292	905	292	1,899
Pacific	--	366	1,300	106	1,772
Pierce	405	449	790	486	2,130
San Juan	--	28	--	321	349
Skagit	993	769	638	412	2,812
Skamania	3,780	416	174	199	4,569
Snohomish	1,471	677	576	644	3,368
Thurston	--	487	310	397	1,194
Wahkiakum	--	205	270	21	496
Whatcom	947	518	309	483	2,257
Other counties ^b	190	--	--	--	190
All counties	12,580	8,812	12,840	7,089	41,321

<i>Million board feet, Scribner rule</i>					
Sawtimber:					
Clallam	4,130	3,512	2,467	1,084	11,193
Clark	34	1,098	854	1,223	3,209
Cowlitz	262	1,155	4,107	1,466	6,990
Grays Harbor	2,368	3,561	9,809	2,862	18,600
Island	--	249	--	685	934
Jefferson	2,686	3,063	1,911	678	8,338
King	2,420	2,843	3,341	2,084	10,688
Kitsap	--	718	366	1,222	2,306
Lewis	8,995	2,485	5,416	2,513	19,409
Mason	1,865	961	3,615	1,051	7,492
Pacific	--	1,462	4,511	475	6,448
Pierce	1,600	1,865	2,645	1,774	7,884
San Juan	--	127	--	1,168	1,295
Skagit	4,543	3,051	2,094	1,441	11,129
Skamania	19,058	1,588	668	673	21,987
Snohomish	6,398	2,801	2,070	2,434	13,703
Thurston	--	2,062	1,264	1,417	4,743
Wahkiakum	--	929	1,096	77	2,102
Whatcom	4,401	1,952	951	1,948	9,252
Other counties ^b	955	--	--	--	955
All counties	59,714	35,483	47,187	26,277	168,660

Table 27--(continued)

County	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic meters</i>					
Growing stock:					
Clallam	26	25	21	9	80
Clark	--	7	5	8	21
Cowlitz	1	8	31	11	51
Grays Harbor	14	23	69	23	129
Island	--	2	--	6	8
Jefferson	16	19	14	6	55
King	16	22	26	16	81
Kitsap	--	6	3	9	18
Lewis	51	18	45	18	131
Mason	12	8	26	8	54
Pacific	--	10	37	3	50
Pierce	11	13	22	14	60
San Juan	--	1	--	9	10
Skagit	28	22	18	12	80
Skamania	107	12	5	6	129
Snohomish	42	19	16	18	95
Thurston	--	14	9	11	34
Wahkiakum	--	6	8	1	14
Whatcom	27	15	9	14	64
Other counties ^b	5	--	--	--	5
All counties	356	249	363	201	1,169

-- = none found or less than 500,000 cubic feet, 500,000 board feet, or 500,000 cubic meters.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes Gifford Pinchot National Forest land in Klickitat, Yakima, Pierce, and Thurston Counties.

Table 28--Current net annual growth, average annual mortality, and average annual removals of growing stock on timberland by species and owner, western Washington, 1990^a

Species	National Forest ^b			Other public			Forest industry			Other private			All owners ^c	
	Current net annual growth	Average annual mortality		Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality
<i>Thousand cubic feet^d</i>														
Softwoods:														
Alaska-cedar	572	143		4	30	2,418	72	9	240	24	3	--	672	185
Douglas-fir	51,095	12,290		131,761	21,813	48,253	221,691	23,333	214,336	95,131	14,442	73,508	499,678	71,878
Grand fir	1,493	96		1,689	189	--	4,269	363	742	4,583	727	1,152	12,034	1,375
Noble fir	1,316	120		--	--	--	--	--	--	--	--	--	1,316	120
Pacific silver fir	13,636	11,184		8,737	1,570	10,014	13,070	1,284	29,071	858	148	2,870	36,301	14,186
Subalpine fir	519	371		--	--	--	--	--	--	--	--	--	519	371
Mountain hemlock	1,774	361		46	48	257	200	24	18,067	--	--	--	2,020	433
Western hemlock	23,578	11,992		76,969	20,247	67,478	202,503	33,799	304,648	29,998	6,207	61,734	333,048	72,245
Western larch	14	--		--	--	--	--	--	--	--	--	--	14	--
Lodgepole pine	186	99		107	8	--	143	319	--	746	675	80	1,182	1,101
Ponderosa pine	61	209		--	--	--	--	--	--	--	--	--	61	209
Western white pine	-93	529		8	246	--	-3	173	--	-81	784	--	-169	1,733
Western redcedar	5,855	1,850		13,336	1,086	11,836	25,752	1,679	25,639	30,599	1,132	9,946	75,542	5,747
Engelmann spruce	495	465		--	--	--	229	44	--	--	--	--	723	509
Sitka spruce	273	129		3,819	849	781	11,761	1,777	31,182	3,834	783	876	19,686	3,538
Pacific yew	--	--		--	--	--	--	--	--	--	--	--	--	--
Total	100,772	39,839		236,476	46,086	141,038	479,685	62,803	623,924	165,692	24,902	150,167	982,626	173,630
Hardwoods:														
Red alder	2,221	496		25,484	12,826	9,366	48,812	23,607	88,700	48,614	17,327	47,529	125,131	54,257
Oregon ash	--	--		70	25	--	394	224	681	2,143	794	223	2,607	1,042
Quaking aspen	--	--		--	--	--	--	--	--	169	43	--	169	43
Western paper birch	--	--		63	152	200	652	438	--	1,233	461	--	1,947	1,051
Bitter cherry	--	--		241	289	252	924	304	1,115	859	326	827	2,024	918
Black cottonwood	184	69		2,187	521	421	5,484	1,221	307	7,513	1,177	442	15,368	2,989
Pacific dogwood	--	--		--	--	--	--	--	--	--	--	--	--	--
Pacific madrone	23	1		208	195	--	--	--	117	1,074	725	163	1,305	921
Bigleaf maple	645	52		5,318	2,058	2,330	8,670	3,211	11,113	19,367	5,583	5,811	34,000	10,904
Oregon white oak	--	--		7	12	--	13	4	--	312	110	--	332	126
Willow	--	--		--	--	--	--	--	--	--	--	--	--	--
Other trees	--	--		--	--	--	--	--	--	--	--	--	--	--
Total	3,073	619		33,578	16,078	12,569	64,949	29,009	102,035	81,284	26,545	54,996	182,884	72,251
All species	103,843	40,458		270,054	62,164	153,607	544,634	91,811	725,959	246,976	51,447	205,163	1,165,508	245,880

-- = none found or less than 500 cubic feet.
^a Totals may be off because of rounding; data subject to sampling error.
^b Removals not available for National Forest data.
^c Removals not available for all owners.
^d Negative net annual growth is the result of annual mortality exceeding gross annual growth.

Table 29--Current net annual growth, average annual mortality, and average annual removals of sawtimber on timberland by species and owner, western Washington, 1990^a

Species	National Forest ^b			Other public			Forest industry			Other private			All owners ^c		
	Current net annual growth	Average annual mortality	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	
<i>Thousand board feet, Scribner rule^d</i>															
Softwoods:															
Alaska-cedar	1,976	415	60	106	8,718	394	33	1,028	130	12	--	2,560	566	--	
Douglas-fir	266,693	49,564	699,821	74,108	244,270	1,012,737	74,566	1,016,528	474,378	41,926	311,717	2,453,629	240,163	311,717	
Grand fir	7,581	412	7,973	690	--	19,034	1,120	3,397	26,950	2,310	3,140	61,538	4,532	3,140	
Noble fir	5,833	646	--	--	--	--	--	--	--	--	--	5,833	646	--	
Pacific silver fir	75,105	56,359	34,386	5,947	50,218	46,664	3,652	140,897	4,667	565	13,966	160,822	66,523	13,966	
Subalpine fir	876	1,125	--	--	--	--	--	--	--	--	--	876	1,125	--	
Mountain hemlock	10,661	1,080	221	182	1,080	216	106	98,258	--	--	--	11,098	1,368	--	
Western hemlock	115,184	60,348	365,867	65,792	316,097	924,689	95,473	1,423,489	139,530	18,167	264,414	1,545,270	239,781	264,414	
Western larch	76	--	--	--	--	--	--	--	--	--	--	76	--	--	
Lodgepole pine	753	147	219	19	--	631	857	--	2,636	1,496	--	4,239	2,519	--	
Ponderosa pine	356	1,036	--	--	--	--	--	--	--	--	--	356	1,036	--	
Western white pine	-623	2,501	273	696	--	-190	638	--	-253	2,276	--	-794	6,110	--	
Western redcedar	29,878	8,107	54,693	2,363	45,828	103,682	3,321	86,023	126,773	2,816	30,634	315,026	16,606	30,634	
Engelmann spruce	2,414	2,441	--	--	--	1,080	207	--	--	--	--	3,494	2,648	--	
Sitka spruce	1,132	999	17,899	3,472	3,980	52,480	6,039	159,664	20,811	3,307	3,512	92,321	13,818	3,512	
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	517,894	185,179	1,181,411	153,376	670,192	2,161,415	186,012	2,929,282	795,623	72,875	627,363	4,656,343	597,442	627,363	
Hardwoods:															
Red alder	3,831	1,536	157,374	35,512	30,109	264,442	58,527	332,693	218,133	39,570	145,655	643,780	135,144	145,655	
Oregon ash	--	--	489	114	--	963	210	1,722	8,412	2,399	659	9,864	2,723	659	
Quaking aspen	--	--	--	--	--	--	--	--	273	41	--	273	41	--	
Western paper birch	--	--	275	68	838	1,218	262	--	3,898	721	--	5,391	1,051	--	
Bitter cherry	--	--	22	10	--	331	46	424	2,619	280	2,748	2,972	335	2,748	
Black cottonwood	972	376	12,298	2,083	2,418	37,250	5,610	1,898	44,378	5,757	--	94,898	13,826	--	
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pacific madrone	35	1	518	253	--	--	--	549	9,365	1,866	841	9,918	2,120	841	
Bigleaf maple	2,011	45	29,848	5,773	11,403	38,146	7,941	40,410	109,632	18,346	22,845	179,637	32,105	22,845	
Oregon white oak	--	--	--	--	--	71	16	--	611	142	--	683	158	--	
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	6,850	1,958	200,823	43,812	44,768	342,422	72,611	377,695	397,322	69,122	172,749	947,416	187,503	172,749	
All species	524,744	187,137	1,382,234	197,187	714,959	2,503,837	258,623	3,306,977	1,192,945	141,997	800,132	5,603,759	784,945	800,132	

^a = none found or less than 500 board feet.^b Totals may be off because of rounding; data subject to sampling error.^c Removals not available for National Forest data.^d Removals not available for all owners.^e Negative net annual growth is the result of annual mortality exceeding gross annual growth.

Table 30--Changes in timberland area on private and other public timberland, by owner, western Washington, 1978-79 to 1988-89^a

Description	Other public	Forest industry	Other private	All owners
	<i>Thousand acres^b</i>			
Timberland area in 1978-79	1,636	4,010	2,037	7,682
Area change due to:				
Changes in land class--				
Timberland to rights-of-way	--	-75	-48	-123
Timberland to urban	--	-7	-56	-63
Timberland to agricultural	--	--	-38	-38
Agricultural to timberland	--	--	12	12
Christmas tree farm to timberland	--	6	--	6
Net change	--	-75	-130	-205
Changes in inventory area--				
To National Forest	--	-88	--	-88
From National Forest	3	38	17	58
To reserved timberland	-5	--	--	-5
Net change	-2	-50	17	-35
Changes in ownership--				
From other public	-111	111	--	--
From forest industry	146	-285	139	--
From other private	--	44	-44	--
Net change	35	-130	95	--
Timberland area in 1988-89	1,669	3,755	2,020	7,443

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of timberland and positive values are gains of timberland. Losses are shown by the 1978-79 owner and gains are shown by the 1988-89 owner.

Table 31—Changes in volume of growing stock on private and other public timberland, by species group and owner, western Washington, 1978-79 to 1988-89^a

Description	Other public	Forest industry	Other private	All owners
<i>Million cubic feet^b</i>				
Softwoods:				
Total volume in 1978-79	6,787	13,166	3,919	23,872
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-484	-275	-759
Nonforest to timberland	--	--	33	33
Net change	--	-484	-242	-726
Changes in inventory area--				
To National Forest	--	-165	--	-165
From National Forest	27	36	84	147
To reserved timberland	-16	--	--	-16
Net change	10	-129	84	-34
Changes in ownership--				
From other public	-408	408	--	--
From forest industry	386	-941	555	--
From other private	--	86	-86	--
Net change	-22	-447	469	--
Growth, mortality and harvest--				
Periodic gross growth	2,710	5,552	1,983	10,245
Periodic mortality	-249	-306	-130	-686
Periodic removals	-1,410	-6,239	-1,507	-9,157
Net change	1,050	-993	345	402
Total volume in 1988-89	7,825	11,117	4,579	23,521
Hardwoods:				
Total volume in 1978-79	1,034	2,797	2,330	6,160
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-29	-173	-201
Nonforest to timberland	--	--	--	--
Net change	--	-29	-173	-201
Changes in inventory area--				
To National Forest	--	-22	--	-22
From National Forest	--	7	--	7
To reserved timberland	--	--	--	--
Net change	--	-16	--	-16
Changes in ownership--				
From other public	-110	110	--	--
From forest industry	159	-286	127	--
From other private	--	23	-23	--
Net change	50	-153	104	--
Growth, mortality and harvest--				
Periodic gross growth	430	972	1,031	2,433
Periodic mortality	-93	-134	-147	-373
Periodic removals	-126	-1,020	-550	-1,696
Net change	212	-182	334	363
Total volume in 1988-89	1,295	2,417	2,594	6,307

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of volume and positive values are gains of volume. Losses are shown by the 1978-79 owner and gains are shown by the 1988-89 owner.

Table 32--Changes in volume of sawtimber on private and other public timberland, by species group and owner, western Washington, 1978-79 to 1988-89^a

Description	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule^b</i>				
Softwoods:				
Total volume in 1978-79	26,681	51,730	13,577	91,987
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-2,085	-947	-3,032
Nonforest to timberland	--	--	85	85
Net change	--	-2,085	-862	-2,947
Changes in inventory area--				
To National Forest	--	-667	--	-667
From National Forest	118	137	429	684
To reserved timberland	-58	--	--	-58
Net change	60	-530	429	-41
Changes in ownership--				
From other public	-1,472	1,472	--	--
From forest industry	1,353	-3,464	2,111	--
From other private	--	282	-282	--
Net change	-119	-1,709	1,828	--
Growth, mortality and harvest--				
Periodic gross growth	12,842	24,107	8,863	45,812
Periodic mortality	-703	-728	-409	-1,840
Periodic removals	-6,702	-29,293	-6,296	-42,291
Net change	5,437	-5,913	2,157	1,681
Total volume in 1988-89	32,058	41,491	17,130	90,679
Hardwoods:				
Total volume in 1978-79	2,978	8,177	6,763	17,918
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-88	-542	-630
Nonforest to timberland	--	--	--	--
Net change	--	-88	-542	-630
Changes in inventory area--				
To National Forest	--	-77	--	-77
From National Forest	--	13	--	13
To reserved timberland	--	--	--	--
Net change	--	-64	--	-64
Changes in ownership--				
From other public	-218	218	--	--
From forest industry	339	-748	409	--
From other private	--	56	-56	--
Net change	121	-474	353	--
Growth, mortality and harvest--				
Periodic gross growth	1,948	4,284	4,447	10,680
Periodic mortality	-246	-215	-285	-746
Periodic removals	-448	-3,777	-1,728	-5,953
Net change	1,255	292	2,434	3,981
Total volume in 1988-89	4,354	7,847	9,002	21,204

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of volume and positive values are gains of volume. Losses are shown by the 1978-79 owner and gains are shown by the 1988-89 owner.

Table 33--Timber harvest by owner, western Washington, 1955-90

Year	National Forest	Other public	Private	All owners
<i>Thousand board feet, Scribner rule</i>				
1955	689,672	424,744	2,777,915	3,892,331
1956	727,200	502,135	3,038,207	4,267,542
1957	672,190	387,006	2,237,635	3,296,831
1958	776,080	293,581	2,038,037	3,107,698
1959	1,107,261	273,932	2,585,248	3,966,441
1960	908,243	260,626	2,719,803	3,888,672
1961	891,646	289,318	2,457,226	3,638,190
1962	1,096,100	296,781	2,766,816	4,159,697
1963	1,171,400	529,806	2,782,133	4,483,339
1964	1,274,200	550,482	3,379,857	5,204,539
1965	1,287,000	675,081	3,520,101	5,482,182
1966	1,144,649	536,100	3,363,883	5,044,632
1967	1,151,400	475,640	3,244,896	4,871,936
1968	1,322,273	689,598	3,782,017	5,793,888
1969	1,092,414	716,294	4,127,107	5,935,815
1970	1,045,406	601,215	3,922,566	5,569,187
1971	875,470	716,634	3,788,314	5,380,418
1972	1,005,802	996,613	3,887,790	5,890,205
1973	1,173,961	909,711	4,506,856	6,590,528
1974	906,694	720,640	4,106,312	5,733,646
1975	758,498	539,034	3,874,626	5,172,158
1976	850,548	745,189	4,241,215	5,836,952
1977	848,754	758,894	3,814,114	5,421,762
1978	921,270	916,669	3,725,151	5,563,090
1979	984,246	1,104,197	3,753,066	5,841,509
1980	771,896	732,046	3,157,035	4,660,977
1981	577,876	438,361	2,940,940	3,957,177
1982	549,537	435,222	3,366,713	4,351,472
1983	840,858	491,990	3,629,260	4,962,108
1984	860,919	739,755	3,153,539	4,754,213
1985	803,518	964,710	3,091,271	4,859,499
1986	835,706	991,020	3,505,069	5,331,795
1987	960,512	863,687	3,873,048	5,697,247
1988	1,059,327	761,460	3,928,027	5,748,814
1989	707,974	745,019	3,981,886	5,434,879
1990	503,952	599,267	3,586,460	4,689,679

Source: State of Washington 1955-90.

Table 34--Area by county and land class, southwest Washington, January 1, 1991^a

County	Forest land				Total	Nonforest land ^b	All land ^c
	Timberland	Reserved timberland	Other forest	Reserved other forest			
<i>Thousand acres</i>							
Clark	200	2	4	--	206	195	401
Cowlitz	592	14	7	--	613	108	721
Lewis	1,131	93	16	26	1,267	283	1,550
Pacific	515	2	6	--	523	66	589
Skamania	812	81	15	19	927	140	1,067
Wahkiakum	129	--	2	--	131	36	167
Other counties ^d	31	5	2	5	43	14	57
All counties	3,412	197	52	50	3,710	842	4,552

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes cropland, pasture and range, swampland, industrial and urban areas, powerline clearings, railroads, and all improved roads and highways; and water as classified by Forest Inventory and Analysis standards but defined by the Bureau of the Census as land.

^c Source: U.S. Department of Commerce 1983.

^d Includes Gifford Pinchot National Forest land in-Klickitat, Yakima, Pierce, and Thurston Counties.

Table 35--Area of reserved timberland and other forest land by forest type, southwest Washington, January 1, 1991^a

Forest type	Reserved timberland	Other forest		Total
		Available	Reserved	
<i>Thousand acres</i>				
Softwood types:				
Douglas-fir	68	--	--	68
Western white pine	4	--	--	4
Fir-spruce	63	1	3	67
Hemlock-Sitka spruce	16	--	--	16
Lodgepole pine	2	--	--	2
Total	153	1	3	157
Hardwood types:				
Western hardwoods	1	--	13	14
Unclassified ^b	41	51	34	126
All types	197	52	50	299

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

Table 36--Area of timberland by county and owner, southwest Washington, January 1, 1991^a

County	Public						Private					All owners
	Other public						Other private					
	National Forest	Miscellaneous Federal	State	County and municipal	Total public	Forest industry	Farmer	Native American	Miscellaneous	Total private		
Clark	1	--	56	--	57	41	4	--	98	143	200	
Cowlitz	8	--	68	--	76	414	8	--	94	516	592	
Lewis	288	--	116	10	414	548	54	--	115	717	1,131	
Pacific	--	6	67	3	76	377	27	--	35	439	515	
Skamania	611	1	75	3	690	75	--	--	47	122	812	
Wahkiakum	--	--	36	--	36	81	3	--	9	93	129	
Other counties ^b	31	--	--	--	31	--	--	--	--	--	31	
All counties	939	7	419	16	1,382	1,536	96	--	398	2,030	3,412	

Thousand acres

^a -- = none found or less than 500 acres.^b Totals may be off because of rounding; data subject to sampling error.^c Includes Gifford Pinchot National Forest land in Klickitat, Yakima, Pierce and Thurston Counties.

Table 37--Area of timberland by forest type and owner, southwest Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand acres</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	531	227	706	162	1,626
Douglas-fir/red alder	--	27	123	28	178
Douglas-fir/other hardwood	--	7	21	19	47
Total	531	262	850	208	1,851
Ponderosa pine	3	--	--	--	3
Western white pine	2	--	--	--	2
Fir-spruce--					
Grand fir	14	3	4	--	20
Noble fir	21	4	27	--	52
Pacific silver fir	116	8	17	3	145
Subalpine fir	2	--	--	--	2
Engelmann spruce	2	--	--	--	2
Mountain hemlock	3	--	--	--	3
Total	157	15	48	3	223
Hemlock-Sitka spruce--					
Western hemlock	87	59	309	15	471
Western hemlock/red alder	--	21	23	3	47
Western hemlock/other hardwood	--	--	4	--	4
Sitka spruce	--	--	--	11	11
Total	87	81	335	30	532
Lodgepole pine	8	--	--	--	8
Other softwood types--					
Western redcedar	3	5	3	--	11
Western redcedar/red alder	--	--	4	6	10
Total	3	5	7	6	21
Total, softwood types	790	362	1,240	247	2,639
Hardwood types:					
Western hardwoods--					
Red alder	4	56	95	113	268
Red alder/conifer	--	14	104	27	146
Bigleaf maple	--	4	15	38	57
Bigleaf maple/conifer	--	7	11	14	32
Black cottonwood	--	--	16	--	16
Oregon white oak/conifer	--	--	--	3	3
Oregon ash	--	--	--	19	19
Bitter cherry/conifer	--	--	4	--	4
Other hardwood types	--	--	--	3	3
Other hardwood types/conifer	--	--	--	6	6
Total, hardwood types	4	81	245	223	553
Nonstocked ^b	--	--	50	24	75
Unclassified ^c	145	--	--	--	145
All types	939	443	1,536	494	3,412

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 38--Area of timberland by owner and stand-size class, southwest Washington, January 1, 1991^a

Owner	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
National Forest	648	71	138	81	939
Other public	298	61	84	--	443
Forest industry	664	255	567	50	1,536
Other private	293	53	124	24	494
All owners	1,903	440	913	156	3,412

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 39--Area of timberland by owner and site class, southwest Washington, January 1, 1991^a

Owner	Site class ^b						All classes
	≥225	165-224	120-164	85-119	50-84	20-49 ^c	
	<i>Thousand acres</i>						
National Forest	--	78	289	236	294	42	939
Other public	55	179	137	34	34	--	439
Forest industry	225	722	445	70	48	14	1,524
Other private	30	174	201	64	23	--	492
All owners	310	1,153	1,071	405	399	56	3,395

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Mean annual cubic-foot growth per acre at culmination, in fully stocked natural stands. Excludes 17,000 acres of included nonforest land less than 1 acre.

^c Includes 18,000 acres of National Forest land in site class 0-19.

Table 40--Area of timberland by forest type and stand-size class, southwest Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Thousand acres</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	944	173	507	1	1,626
Douglas-fir/red alder	73	20	85	--	178
Douglas-fir/other hardwood	33	4	11	--	47
Total	1,050	197	602	1	1,851
Ponderosa pine	2	--	1	--	3
Western white pine	1	1	1	--	2
Fir-spruce--					
Grand fir	18	1	--	--	20
Noble fir	3	--	48	--	52
Pacific silver fir	104	10	30	--	145
Subalpine fir	2	--	--	--	2
Engelmann spruce	1	--	1	--	2
Mountain hemlock	2	1	--	--	3
Total	131	12	79	--	223
Hemlock-Sitka spruce--					
Western hemlock	293	87	91	--	471
Western hemlock/red alder	35	4	8	--	47
Western hemlock/other hardwood	--	4	--	--	4
Sitka spruce	8	--	3	--	11
Total	335	95	102	--	532
Lodgepole pine	1	6	2	--	8
Other softwood types--					
Western redcedar	10	--	--	--	11
Western redcedar/red alder	7	--	3	--	10
Total	17	--	3	--	21
Total, softwood types	1,536	310	791	1	2,639
Hardwood types:					
Western hardwoods--					
Red alder	139	83	45	--	268
Red alder/conifer	76	19	51	--	146
Bigleaf maple	34	9	14	--	57
Bigleaf maple/conifer	22	7	3	--	32
Black cottonwood	7	--	8	--	16
Oregon white oak/conifer	3	--	--	--	3
Oregon ash	14	5	--	--	19
Bitter cherry/conifer	--	4	--	--	4
Other hardwood types	3	--	--	--	3
Other hardwood types/conifer	3	3	--	--	6
Total, hardwood types	302	129	122	--	553
Nonstocked ^b	--	--	--	75	75
Unclassified ^c	65	--	--	79	145
All types	1,903	440	913	156	3,412

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 41--Number of live trees on timberland by species and diameter class, southwest Washington, January 1, 1991*

Species	Diameter class (inches at breast height)																All classes
	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
Thousand trees																	
Softwoods:																	
Alaska-cedar	191	512	262	178	23	59	47	17	37	10	--	--	--	--	18	1,355	
Douglas-fir	85,747	59,259	47,997	37,586	30,206	23,857	17,807	13,449	11,709	9,112	6,190	4,481	3,497	2,215	6,031	359,140	
Grand fir	6,081	1,558	1,761	737	1,018	853	550	359	332	178	107	104	80	47	58	13,822	
Noble fir	1,140	604	350	305	245	104	211	160	77	86	62	49	42	29	84	3,546	
Pacific silver fir	27,151	22,296	13,258	8,041	6,644	4,506	3,057	2,044	1,761	1,344	607	510	466	377	814	92,874	
Subalpine fir	1,306	914	940	504	445	421	101	73	26	46	2	2	2	1	6	4,788	
Mountain hemlock	793	400	741	1,023	487	404	323	217	304	184	107	85	72	50	95	5,288	
Western hemlock	81,358	57,109	38,457	29,525	18,031	15,889	10,404	6,271	4,162	2,762	1,913	1,404	858	587	1,840	270,569	
Western larch	--	--	1	--	--	--	12	--	13	--	2	2	1	--	9	40	
Lodgepole pine	49	17	210	116	243	154	144	64	81	16	9	7	4	2	--	1,117	
Ponderosa pine	408	47	--	--	--	--	13	6	--	--	4	3	3	3	31	519	
Western white pine	914	39	258	89	28	41	25	--	7	--	4	3	3	2	8	1,422	
Western redcedar	10,604	5,463	4,357	2,877	1,786	1,698	1,243	955	808	622	398	402	284	210	801	32,506	
Engelmann spruce	36	--	142	144	155	66	57	79	53	56	69	55	43	33	29	1,016	
Sitka spruce	3,075	965	994	733	544	165	227	144	93	34	50	69	21	9	186	7,309	
Total	218,853	149,183	109,727	81,857	59,854	48,217	34,221	23,837	19,463	14,449	9,524	7,175	5,375	3,568	10,011	795,310	
Hardwoods:																	
Red alder	31,254	18,228	13,161	13,959	12,879	8,724	5,945	3,360	1,691	906	436	183	111	73	22	110,934	
Oregon ash	1,068	875	766	720	405	235	140	154	123	91	51	10	--	7	8	4,652	
Bitter cherry	3,232	2,240	1,106	496	244	29	24	--	--	--	--	--	--	--	--	7,370	
Black cottonwood	1,140	692	528	--	46	143	63	112	76	74	49	31	39	55	67	3,114	
Pacific dogwood	823	--	418	112	--	--	--	--	--	--	--	--	--	--	--	1,353	
Bigleaf maple	7,424	5,955	5,007	4,081	3,284	1,539	954	702	477	317	265	155	101	42	178	30,482	
Oregon white oak	--	--	185	--	148	--	--	--	--	33	7	--	--	--	--	373	
Other trees	983	1,122	604	316	451	83	38	55	24	--	14	--	--	5	6	3,702	
Total	45,925	29,111	21,776	19,684	17,457	10,752	7,163	4,384	2,391	1,421	822	379	252	183	281	161,982	
All species	264,778	178,294	131,503	101,541	77,312	58,970	41,383	28,221	21,855	15,870	10,346	7,554	5,627	3,751	10,292	957,292	

-- = none found or less than 500 trees.

* Totals may be off because of rounding; data subject to sampling error.

Table 42--Number of growing stock trees on timberland by species and diameter class, southwest Washington, January 1, 1991*

Species	Diameter class (inches at breast height)																	All classes
	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+			
Thousand trees																		
Softwoods:																		
Alaska-cedar	191	512	262	178	23	59	47	17	37	10	--	--	--	--	18	1,355		
Douglas-fir	81,805	56,858	47,808	37,586	30,206	23,815	17,807	13,414	11,709	9,103	6,190	4,481	3,497	2,215	6,014	352,504		
Grand fir	4,993	1,558	1,761	737	1,018	853	550	359	332	178	107	104	80	47	58	12,734		
Noble fir	1,140	604	350	305	245	104	211	160	77	86	62	49	42	29	84	3,546		
Pacific silver fir	26,189	21,516	13,258	7,960	6,644	4,506	3,057	2,044	1,761	1,344	607	510	466	377	814	91,052		
Subalpine fir	1,306	914	940	504	445	421	101	73	26	46	2	2	2	1	6	4,788		
Mountain hemlock	793	400	741	1,023	487	404	323	217	304	184	107	85	72	50	95	5,288		
Western hemlock	71,242	51,860	38,017	29,525	18,031	15,889	10,379	6,271	4,162	2,751	1,913	1,395	858	587	1,829	254,709		
Western larch	--	--	1	--	--	--	12	--	13	--	2	2	1	--	9	40		
Lodgepole pine	49	17	210	116	243	154	144	64	81	16	9	7	4	2	--	1,117		
Ponderosa pine	408	47	--	--	--	--	13	6	--	--	4	3	3	3	31	519		
Western white pine	914	39	258	89	28	41	25	--	7	--	4	3	3	2	8	1,422		
Western redcedar	9,617	5,463	4,357	2,877	1,734	1,663	1,223	955	796	593	398	402	271	210	796	31,354		
Engelmann spruce	36	--	142	144	155	66	57	79	53	56	69	55	43	33	29	1,016		
Sitka spruce	3,075	643	994	733	544	165	227	144	93	34	50	69	21	9	186	6,987		
Total	201,759	140,430	109,098	81,776	59,802	48,141	34,176	23,802	19,451	14,400	9,524	7,167	5,362	3,568	9,977	768,430		
Hardwoods:																		
Red alder	30,164	17,180	13,075	13,832	12,879	8,698	5,880	3,319	1,660	906	428	156	107	73	14	108,373		
Oregon ash	1,068	875	766	720	334	198	140	129	123	45	51	10	--	7	8	4,474		
Bitter cherry	3,232	1,791	1,020	416	244	29	24	--	--	--	--	--	--	--	--	6,756		
Black cottonwood	799	350	528	--	46	143	63	112	76	74	49	31	39	55	67	2,431		
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Bigleaf maple	6,815	5,955	5,007	4,001	3,225	1,470	931	673	459	317	257	137	86	42	157	29,531		
Oregon white oak	--	--	185	--	148	--	--	--	--	33	7	--	--	--	--	373		
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Total	42,078	26,151	20,583	18,967	16,875	10,536	7,036	4,234	2,319	1,375	792	334	232	178	247	151,938		
All species	243,837	166,581	129,681	100,744	76,678	58,678	41,211	28,036	21,771	15,774	10,315	7,501	5,594	3,746	10,224	920,368		

-- = none found or less than 500 trees.

* Totals may be off because of rounding; data subject to sampling error.

Table 43--Net volume of growing stock on timberland by species and diameter class, southwest Washington, January 1, 1991^a

Species	Diameter class (inches at breast height)														All classes
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
<i>Million cubic feet</i>															
Softwoods:															
Alaska-cedar	1	1	--	1	1	1	2	1	--	--	--	--	3	9	
Douglas-fir	112	252	380	511	579	608	707	709	593	534	483	352	1,771	7,591	
Grand fir	4	6	12	19	16	15	18	13	10	12	11	7	16	160	
Noble fir	1	2	2	2	5	6	4	5	5	5	5	4	20	65	
Pacific silver fir	29	45	70	79	79	73	83	83	47	47	52	48	178	913	
Subalpine fir	2	3	4	6	2	2	1	2	--	--	--	--	1	23	
Mountain hemlock	1	5	4	5	6	6	11	8	6	6	6	5	15	84	
Western hemlock	101	214	256	361	359	280	251	206	174	151	104	81	441	2,977	
Western larch	--	--	--	--	--	--	1	--	--	--	--	--	1	3	
Lodgepole pine	1	1	3	3	3	2	4	1	1	1	--	--	--	19	
Ponderosa pine	--	--	--	--	--	--	--	--	--	--	1	1	8	10	
Western white pine	1	--	--	1	1	--	--	--	--	--	1	--	2	6	
Western redcedar	11	17	21	28	31	31	36	33	29	35	27	25	174	497	
Engelmann spruce	--	1	2	1	2	3	3	4	6	5	5	4	6	42	
Sitka spruce	2	5	8	3	6	6	5	2	4	7	3	1	70	122	
Total	265	550	763	1,018	1,092	1,033	1,126	1,069	874	801	698	527	2,706	12,523	
Hardwoods:															
Red alder	45	128	211	224	215	167	104	71	41	17	13	8	3	1,248	
Oregon ash	3	5	5	5	4	6	7	4	4	1	--	1	2	46	
Bitter cherry	4	3	4	--	1	--	--	--	--	--	--	--	--	12	
Black cottonwood	2	--	1	4	3	6	5	6	5	4	6	9	15	66	
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bigleaf maple	16	30	47	35	31	32	27	21	20	14	10	5	25	313	
Oregon white oak	1	--	1	--	--	--	--	2	--	--	--	--	--	4	
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	69	167	269	269	255	211	143	104	71	36	29	24	45	1,690	
All species	334	717	1,032	1,287	1,347	1,244	1,269	1,173	945	837	726	551	2,751	14,213	

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

Table 44--Net volume of sawtimber on timberland by species and diameter class, southwest Washington, January 1, 1991^{a,b}

Species	Diameter class (inches at breast height)													All classes
	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+			
<i>Million board feet, Scribner rule</i>														
Softwoods:														
Alaska-cedar	--	2	3	2	6	2	--	--	--	--	--	16	31	
Douglas-fir	1,000	1,718	2,239	2,573	3,198	3,361	2,987	2,774	2,530	1,864	10,523	34,767	668	
Grand fir	32	66	62	65	84	64	50	60	55	34	95	120	313	
Noble fir	7	7	19	23	16	26	25	25	25	20	265	1,114	4,111	
Pacific silver fir	202	290	314	317	392	421	252	258	286	1	1	5	63	
Subalpine fir	9	17	8	9	4	9	1	1	1	1	1	1	382	
Mountain hemlock	10	18	26	24	51	41	32	32	32	26	91	2,765	12,393	
Western hemlock	706	1,276	1,437	1,225	1,181	1,037	915	807	592	451	2,794	15,990	55,489	
Western larch	--	--	1	--	3	--	1	1	1	--	--	8	16	
Lodgepole pine	8	10	12	8	15	4	5	4	--	--	--	--	66	
Ponderosa pine	--	--	1	1	--	--	2	2	3	2	48	59	28	
Western white pine	1	2	2	--	1	--	1	1	3	1	15	28	1,857	
Western redcedar	50	77	99	104	131	127	121	140	110	102	796	34	203	
Engelmann spruce	5	4	6	13	16	21	31	26	26	21	7	361	532	
Sitka spruce	22	7	21	22	18	11	17	33	12	--	--	--	--	
Total	2,053	3,494	4,251	4,387	5,117	5,123	4,441	4,164	3,675	2,794	15,990	55,489		
Hardwoods:														
Red alder	4	854	992	837	539	378	221	92	70	42	15	4,044	161	
Oregon ash	--	17	19	29	36	20	21	5	--	5	9	3	356	
Bitter cherry	--	1	2	--	--	--	--	--	--	--	--	--	--	
Black cottonwood	--	19	16	29	26	29	31	23	36	53	93	--	--	
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bigleaf maple	6	129	140	157	134	108	98	76	48	22	121	1,039	10	
Oregon white oak	--	--	--	--	--	8	2	--	--	--	--	--	--	
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	10	1,021	1,169	1,053	735	544	372	196	154	123	238	5,614	61,103	
All species	2,062	4,515	5,420	5,440	5,851	5,667	4,813	4,360	3,830	2,917	16,228	61,103		

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 45--Net volume of growing stock on timberland by species and owner, southwest Washington, January 1, 1991^{a,b}

Species	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Softwoods:					
Alaska-cedar	9	--	--	--	9
Douglas-fir	3,460	1,266	2,112	752	7,591
Grand fir	90	12	32	27	160
Noble fir	65	--	--	--	65
Pacific silver fir	797	49	62	5	913
Subalpine fir	23	--	--	--	23
Mountain hemlock	84	--	--	--	84
Western hemlock	938	468	1,434	137	2,977
Western larch	3	--	--	--	3
Lodgepole pine	19	--	--	--	19
Ponderosa pine	10	--	--	--	10
Western white pine	6	--	--	--	6
Western redcedar	232	39	126	101	497
Engelmann spruce	42	--	--	--	42
Sitka spruce	--	4	72	45	122
Total	5,779	1,838	3,838	1,067	12,523
Hardwoods:					
Red alder	12	280	629	327	1,248
Oregon ash	--	--	4	42	46
Bitter cherry	--	1	6	4	12
Black cottonwood	14	--	41	11	66
Pacific dogwood	--	--	--	--	--
Bigleaf maple	8	61	80	164	313
Oregon white oak	--	--	1	4	4
Other trees	--	--	--	--	--
Total	33	343	761	553	1,690
All species	5,812	2,181	4,599	1,620	14,213

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes trees 5 inches in d.b.h. and larger.

Table 46--Net volume of sawtimber on timberland by species and owner, southwest Washington, January 1, 1991^{a b}

Species	National Forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwoods:					
Alaska-cedar	31	--	--	--	31
Douglas-fir	17,874	5,421	8,166	3,307	34,767
Grand fir	405	34	115	114	668
Noble fir	313	--	--	--	313
Pacific silver fir	3,710	164	221	15	4,111
Subalpine fir	63	--	--	--	63
Mountain hemlock	382	--	--	--	382
Western hemlock	5,096	1,697	4,998	602	12,393
Western larch	16	--	--	--	16
Lodgepole pine	65	--	--	1	66
Ponderosa pine	59	--	--	--	59
Western white pine	28	--	--	--	28
Western redcedar	935	129	421	372	1,857
Engelmann spruce	203	--	--	--	203
Sitka spruce	--	9	322	201	532
Total	29,179	7,455	14,243	4,612	55,489
Hardwoods:					
Red alder	32	1,044	1,996	973	4,044
Oregon ash	--	--	10	150	161
Bitter cherry	--	--	2	1	3
Black cottonwood	80	--	216	60	356
Pacific dogwood	--	--	--	--	--
Bigleaf maple	13	220	182	625	1,039
Oregon white oak	--	--	3	8	10
Other trees	--	--	--	--	--
Total	125	1,264	2,409	1,817	5,614
All species	29,304	8,718	16,652	6,428	61,103

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 47--Net volume of growing stock on timberland by forest type and stand-size class, southwest Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Million cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	6,949	322	40	--	7,310
Douglas-fir/red alder	413	29	4	--	446
Douglas-fir/other hardwood	184	3	--	--	187
Total	7,546	353	44	--	7,944
Ponderosa pine	6	1	--	--	7
Western white pine	4	3	--	--	7
Fir-spruce--					
Grand fir	99	3	--	--	102
Noble fir	124	5	--	--	129
Pacific silver fir	742	27	2	--	771
Subalpine fir	12	--	--	--	12
Engelmann spruce	12	--	--	--	12
Mountain hemlock	18	1	--	--	19
Total	1,007	37	2	--	1,046
Hemlock-Sitka spruce--					
Western hemlock	1,971	184	24	--	2,179
Western hemlock/red alder	192	13	3	--	208
Western hemlock/other hardwood	--	1	--	--	1
Sitka spruce	60	--	--	--	60
Total	2,224	198	27	--	2,448
Lodgepole pine	7	19	--	--	26
Other softwood types--					
Western redcedar	61	1	--	--	62
Western redcedar/red alder	27	--	1	--	28
Total	88	1	1	--	90
Total, softwood types	10,882	612	74	--	11,568
Hardwood types:					
Western hardwoods--					
Red alder	690	246	37	--	974
Red alder/conifer	483	49	13	--	545
Bigleaf maple	157	12	2	--	171
Bigleaf maple/conifer	120	27	--	--	148
Black cottonwood	26	--	--	--	26
Oregon white oak/conifer	5	--	--	--	5
Oregon ash	51	11	--	--	62
Bitter cherry/conifer	--	6	--	--	6
Other hardwood types	11	--	--	--	11
Other hardwood types/conifer	10	3	--	--	14
Total, hardwood types	1,554	355	52	--	1,961
Nonstocked ^b	--	--	--	3	3
Unclassified ^c	680	--	--	--	680
All types	13,116	968	127	3	14,213

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 48--Net volume of sawtimber on timberland by forest type and stand-size class, southwest Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Million board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	31,793	632	69	--	32,494
Douglas-fir/red alder	1,629	48	--	--	1,677
Douglas-fir/other hardwood	709	2	--	--	712
Total	34,132	682	69	--	34,883
Ponderosa pine	33	3	--	--	36
Western white pine	28	8	--	--	36
Fir-spruce--					
Grand fir	492	8	--	--	500
Noble fir	657	13	--	--	670
Pacific silver fir	3,800	72	1	--	3,873
Subalpine fir	61	1	--	--	62
Engelmann spruce	61	1	--	--	62
Mountain hemlock	93	2	--	--	95
Total	5,164	98	1	--	5,263
Hemlock-Sitka spruce--					
Western hemlock	8,106	307	53	--	8,466
Western hemlock/red alder	782	43	1	--	826
Western hemlock/other hardwood	--	--	--	--	--
Sitka spruce	251	--	--	--	251
Total	9,139	350	54	--	9,543
Lodgepole pine	37	51	--	--	88
Other softwood types--					
Western redcedar	287	3	--	--	290
Western redcedar/red alder	116	--	4	--	120
Total	403	3	4	--	410
Total, softwood types	48,936	1,196	128	--	50,259
Hardwood types:					
Western hardwoods--					
Red alder	2,809	636	97	--	3,542
Red alder/conifer	1,965	112	31	--	2,108
Bigleaf maple	639	13	5	--	657
Bigleaf maple/conifer	406	89	--	--	495
Black cottonwood	79	--	--	--	79
Oregon white oak/conifer	13	--	--	--	13
Oregon ash	219	26	--	--	245
Bitter cherry/conifer	--	10	--	--	10
Other hardwood types	45	--	--	--	45
Other hardwood types/conifer	36	10	--	--	46
Total, hardwood types	6,212	896	133	--	7,241
Nonstocked ^b	--	--	--	12	12
Unclassified ^c	3,534	56	--	--	3,590
All types	58,682	2,148	261	12	61,103

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 49--Net volume of growing stock on timberland by forest type and owner, southwest Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	3,589	1,190	1,934	597	7,310
Douglas-fir/red alder	--	78	282	86	446
Douglas-fir/other hardwood	--	39	75	74	187
Total	3,589	1,306	2,292	757	7,944
Ponderosa pine	7	--	--	--	7
Western white pine	7	--	--	--	7
Fir-spruce--					
Grand fir	86	11	5	--	102
Noble fir	129	--	--	--	129
Pacific silver fir	715	28	21	7	771
Subalpine fir	12	--	--	--	12
Engelmann spruce	12	--	--	--	12
Mountain hemlock	19	--	--	--	19
Total	974	39	26	7	1,046
Hemlock-Sitka spruce--					
Western hemlock	500	315	1,272	92	2,179
Western hemlock/red alder	--	102	83	23	208
Western hemlock/other hardwood	--	--	1	--	1
Sitka spruce	--	--	--	60	60
Total	500	417	1,355	176	2,448
Lodgepole pine	26	--	--	--	26
Other softwood types--					
Western redcedar	20	15	27	--	62
Western redcedar/red alder	--	--	24	4	28
Total	20	15	51	4	90
Total, softwood types	5,123	1,778	3,723	944	11,568
Hardwood types:					
Western hardwoods--					
Red alder	8	290	353	323	974
Red alder/conifer	--	70	407	68	545
Bigleaf maple	--	20	8	143	171
Bigleaf maple/conifer	--	23	77	48	148
Black cottonwood	--	--	26	--	26
Oregon white oak/conifer	--	--	--	5	5
Oregon ash	--	--	--	62	62
Bitter cherry/conifer	--	--	6	--	6
Other hardwood types	--	--	--	11	11
Other hardwood types/conifer	--	--	--	14	14
Total, hardwood types	8	404	876	673	1,961
Nonstocked ^b	--	--	--	3	3
Unclassified ^c	680	--	--	--	680
All types	5,812	2,181	4,599	1,620	14,213

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 50—Net volume of sawtimber on timberland by forest type and owner, southwest Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	17,775	4,970	7,170	2,580	32,494
Douglas-fir/red alder	--	287	1,086	304	1,677
Douglas-fir/other hardwood	--	169	253	289	712
Total	17,775	5,426	8,508	3,173	34,883
Ponderosa pine	36	--	--	--	36
Western white pine	36	--	--	--	36
Fir-spruce--					
Grand fir	446	36	18	--	500
Noble fir	670	--	--	--	670
Pacific silver fir	3,716	67	71	19	3,873
Subalpine fir	62	--	--	--	62
Engelmann spruce	62	--	--	--	62
Mountain hemlock	95	--	--	--	95
Total	5,052	103	89	19	5,263
Hemlock-Sitka spruce--					
Western hemlock	2,592	1,090	4,394	390	8,466
Western hemlock/red alder	--	398	320	108	826
Western hemlock/other hardwood	--	--	--	--	--
Sitka spruce	--	--	--	251	251
Total	2,592	1,488	4,713	749	9,543
Lodgepole pine	88	--	--	--	88
Other softwood types--					
Western redcedar	103	62	125	--	290
Western redcedar/red alder	--	--	108	12	120
Total	103	62	233	12	410
Total, softwood types	25,683	7,079	13,544	3,953	50,259
Hardwood types:					
Western hardwoods--					
Red alder	31	1,160	1,229	1,122	3,542
Red alder/conifer	--	302	1,552	254	2,108
Bigleaf maple	--	99	16	542	657
Bigleaf maple/conifer	--	77	221	196	495
Black cottonwood	--	--	79	--	79
Oregon white oak/conifer	--	--	--	13	13
Oregon ash	--	--	--	245	245
Bitter cherry/conifer	--	--	10	--	10
Other hardwood types	--	--	--	45	45
Other hardwood types/conifer	--	--	--	46	46
Total, hardwood types	31	1,639	3,108	2,463	7,241
Nonstocked ^b	--	--	--	12	12
Unclassified ^c	3,590	--	--	--	3,590
All types	29,304	8,718	16,652	6,428	61,103

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 51--Net volume of timber on timberland by class of timber and species group, southwest Washington, January 1, 1991^a

Class of timber	Softwoods	Hardwoods	All species
<i>Million cubic feet</i>			
Growing-stock trees:			
Sawtimber trees--			
Saw-log portion	11,342	1,057	12,399
Upper-stem portion	366	132	498
Total	11,709	1,189	12,898
Poletimber	814	501	1,316
Total growing-stock trees	12,523	1,690	14,213
Cull trees:			
Sound cull	1	22	23
Rotten cull	35	20	55
Total cull trees	36	43	79
Salvable dead trees	394	3	398
All timber	12,954	1,736	14,691

^a Totals may be off because of rounding; data subject to sampling error.

Table 52--Current net annual growth of growing stock on timberland by forest type and owner, southwest Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	37,803	36,717	102,082	22,260	198,863
Douglas-fir/red alder	--	3,654	12,020	4,229	19,903
Douglas-fir/other hardwood	--	1,181	3,516	2,933	7,630
Total	37,803	41,552	117,617	29,423	226,395
Ponderosa pine	75	--	--	--	75
Western white pine	75	--	--	--	75
Fir-spruce--					
Grand fir	791	347	382	--	1,519
Noble fir	1,185	--	--	--	1,185
Pacific silver fir	6,571	1,433	433	476	8,914
Subalpine fir	110	--	--	--	110
Engelmann spruce	110	--	--	--	110
Mountain hemlock	175	--	--	--	175
Total	8,942	1,780	815	476	12,013
Hemlock-Sitka spruce--					
Western hemlock	3,427	15,300	69,517	3,713	91,958
Western hemlock/red alder	--	3,112	4,273	500	7,884
Western hemlock/other hardwood	--	--	287	--	287
Sitka spruce	--	--	--	2,003	2,003
Total	3,427	18,412	74,078	6,216	102,133
Lodgepole pine	279	--	--	--	279
Other softwood types--					
Western redcedar	137	621	518	--	1,276
Western redcedar/red alder	--	--	850	151	1,001
Total	137	621	1,369	151	2,277
Total, softwood types	50,738	62,365	193,878	36,266	343,247
Hardwood types:					
Western hardwoods--					
Red alder	73	8,717	11,824	11,819	32,432
Red alder/conifer	--	2,219	13,056	2,737	18,012
Bigleaf maple	--	415	511	4,633	5,559
Bigleaf maple/conifer	--	906	3,246	1,343	5,495
Black cottonwood	--	--	897	--	897
Oregon white oak/conifer	--	--	--	172	172
Oregon ash	--	--	--	2,006	2,006
Bitter cherry/conifer	--	--	568	--	568
Other hardwood types	--	--	--	385	385
Other hardwood types/conifer	--	--	--	660	660
Total, hardwood types	73	12,257	30,102	23,755	66,187
Nonstocked ^b	--	--	--	123	123
Unclassified ^c	6,494	--	--	--	6,494
All types	57,305	74,622	223,980	60,143	416,050

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 53--Current net annual growth of sawtimber on timberland by forest type and owner, southwest Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	189,573	192,457	424,407	119,596	926,033
Douglas-fir/red alder	--	14,785	60,101	13,901	88,787
Douglas-fir/other hardwood	--	6,503	16,027	14,022	36,552
Total	189,573	213,746	500,535	147,518	1,051,372
Ponderosa pine	389	--	--	--	389
Western white pine	389	--	--	--	389
Fir-spruce--					
Grand fir	4,103	1,250	1,711	--	7,064
Noble fir	6,146	--	--	--	6,146
Pacific silver fir	34,083	4,383	1,444	2,239	42,150
Subalpine fir	570	--	--	--	570
Engelmann spruce	570	--	--	--	570
Mountain hemlock	908	--	--	--	908
Total	46,381	5,633	3,156	2,239	57,409
Hemlock-Sitka spruce--					
Western hemlock	17,775	68,677	291,553	19,060	397,065
Western hemlock/red alder	--	15,309	18,240	3,106	36,655
Western hemlock/other hardwood	--	--	--	--	--
Sitka spruce	--	--	--	8,828	8,828
Total	17,775	83,987	309,793	30,994	442,548
Lodgepole pine	944	--	--	--	944
Other softwood types--					
Western redcedar	706	3,132	2,709	--	6,547
Western redcedar/red alder	--	--	4,941	351	5,293
Total	706	3,132	7,650	351	11,840
Total, softwood types	256,157	306,497	821,133	181,103	1,564,890
Hardwood types:					
Western hardwoods--					
Red alder	283	62,082	69,921	54,429	186,715
Red alder/conifer	--	11,443	61,990	12,186	85,619
Bigleaf maple	--	5,566	3,071	22,596	31,233
Bigleaf maple/conifer	--	3,798	14,275	9,780	27,853
Black cottonwood	--	--	4,116	--	4,116
Oregon white oak/conifer	--	--	--	604	604
Oregon ash	--	--	--	9,190	9,190
Bitter cherry/conifer	--	--	1,304	--	1,304
Other hardwood types	--	--	--	1,957	1,957
Other hardwood types/conifer	--	--	--	2,033	2,033
Total, hardwood types	283	82,889	154,676	112,776	350,624
Nonstocked ^b	--	--	--	659	659
Unclassified ^c	30,930	--	--	--	30,930
All types	287,370	389,387	975,809	294,538	1,947,103

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 54--Average annual mortality of growing stock on timberland by forest type and owner, southwest Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	5,189	6,015	9,738	2,424	23,366
Douglas-fir/red alder	--	479	2,464	568	3,511
Douglas-fir/other hardwood	--	211	1,038	385	1,634
Total	5,189	6,706	13,240	3,377	28,512
Ponderosa pine	10	--	--	--	10
Western white pine	10	--	--	--	10
Fir-spruce--					
Grand fir	124	61	12	--	196
Noble fir	186	--	--	--	186
Pacific silver fir	1,034	200	80	28	1,342
Subalpine fir	18	--	--	--	18
Engelmann spruce	18	--	--	--	18
Mountain hemlock	28	--	--	--	28
Total	1,408	260	91	28	1,788
Hemlock-Sitka spruce--					
Western hemlock	723	3,098	8,809	352	12,981
Western hemlock/red alder	--	907	414	206	1,528
Western hemlock/other hardwood	--	--	4	--	4
Sitka spruce	--	--	--	513	513
Total	723	4,005	9,227	1,072	15,026
Lodgepole pine	38	--	--	--	38
Other softwood types--					
Western redcedar	29	31	42	--	102
Western redcedar/red alder	--	--	131	21	152
Total	29	31	173	21	254
Total, softwood types	7,407	11,002	22,732	4,498	45,639
Hardwood types:					
Western hardwoods--					
Red alder	12	2,862	4,055	2,756	9,685
Red alder/conifer	--	690	3,515	344	4,549
Bigleaf maple	--	223	113	1,168	1,504
Bigleaf maple/conifer	--	234	684	262	1,180
Black cottonwood	--	--	311	--	311
Oregon white oak/conifer	--	--	--	19	19
Oregon ash	--	--	--	420	420
Bitter cherry/conifer	--	--	24	--	24
Other hardwood types	--	--	--	115	115
Other hardwood types/conifer	--	--	--	108	108
Total, hardwood types	12	4,010	8,704	5,190	17,915
Nonstocked ^b	--	--	--	2	2
Unclassified ^c	983	--	--	--	983
All types	8,402	15,011	31,435	9,690	64,539

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 55--Average annual mortality of sawtimber on timberland by forest type and owner, southwest Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	23,948	18,994	29,531	7,686	80,159
Douglas-fir/red alder	--	1,138	7,926	1,287	10,351
Douglas-fir/other hardwood	--	854	2,860	775	4,488
Total	23,948	20,986	40,316	9,748	94,998
Ponderosa pine	46	--	--	--	46
Western white pine	46	--	--	--	46
Fir-spruce--					
Grand fir	574	202	39	--	815
Noble fir	862	--	--	--	862
Pacific silver fir	4,780	416	191	54	5,442
Subalpine fir	80	--	--	--	80
Engelmann spruce	80	--	--	--	80
Mountain hemlock	122	--	--	--	122
Total	6,498	618	230	54	7,400
Hemlock-Sitka spruce--					
Western hemlock	3,334	9,021	24,209	1,318	37,882
Western hemlock/red alder	--	2,955	1,323	884	5,162
Western hemlock/other hardwood	--	--	--	--	--
Sitka spruce	--	--	--	1,579	1,579
Total	3,334	11,975	25,533	3,781	44,623
Lodgepole pine	113	--	--	--	113
Other softwood types--					
Western redcedar	132	123	195	--	449
Western redcedar/red alder	--	--	589	67	656
Total	132	123	784	67	1,106
Total, softwood types	34,117	33,702	66,863	13,650	148,331
Hardwood types:					
Western hardwoods--					
Red alder	40	9,331	10,178	6,723	26,273
Red alder/conifer	--	2,578	9,952	852	13,382
Bigleaf maple	--	1,052	119	3,480	4,651
Bigleaf maple/conifer	--	499	1,277	839	2,614
Black cottonwood	--	--	413	--	413
Oregon white oak/conifer	--	--	--	44	44
Oregon ash	--	--	--	1,160	1,160
Bitter cherry/conifer	--	--	12	--	12
Other hardwood types	--	--	--	305	305
Other hardwood types/conifer	--	--	--	317	317
Total, hardwood types	40	13,460	21,950	13,720	49,170
Nonstocked ^b	--	--	--	10	10
Unclassified ^c	4,620	--	--	--	4,620
All types	38,777	47,162	88,813	27,380	202,131

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 56--Area by county and land class, southwest Washington, January 1, 1991^a

County	Forest land				Total	Nonforest land ^b	All land ^c
	Timberland	Reserved timberland	Other forest	Reserved other forest			
<i>Thousand hectares</i>							
Clark	81	1	2	--	83	79	162
Cowlitz	240	6	3	--	248	44	292
Lewis	458	38	6	11	513	115	627
Pacific	208	1	2	--	212	27	238
Skamania	329	33	6	8	375	57	432
Wahkiakum	52	--	1	--	53	15	68
Other counties ^d	13	2	1	2	17	6	23
All counties	1,381	80	21	20	1,501	341	1,842

-- = none found or less than 500 hectares.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes cropland, pasture and range, swampland, industrial and urban areas, powerline clearings, railroads, and all improved roads and highways; and water as classified by Forest Inventory and Analysis standards but defined by the Bureau of the Census as land.

^c Source: U.S. Department of Commerce 1983.

^d Includes Gifford Pinchot National Forest land in Klickitat, Yakima, Pierce, and Thurston Counties.

Table 57--Area of reserved timberland and other forest land by land class, forest type and owner, southwest Washington, January 1, 1991^a

Land class and forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand acres</i>					
Reserved timberland:					
Douglas-fir	48	20	--	--	68
Western white pine	1	3	--	--	4
Fir-spruce	57	6	--	--	63
Hemlock-Sitka spruce	14	2	--	--	16
Lodgepole pine	2	--	--	--	2
Western hardwoods	1	--	--	--	1
Unclassified ^b	41	--	--	--	41
Total	166	32	--	--	197
Reserved other forest:					
Fir-spruce	3	--	--	--	3
Western hardwoods	--	13	--	--	13
Unclassified ^b	34	--	--	--	34
Total	37	13	--	--	50
All reserved	203	45	--	--	247
Unreserved other forest:					
Fir-spruce	1	--	--	--	1
Unclassified ^b	21	6	16	8	51
Total	22	6	16	8	52

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

Table 58--Area of timberland by owner and stand-size class, southwest Washington, January 1, 1991^a

Owner	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Thousand hectares</i>					
National Forest	262	29	56	33	380
Other public	121	25	34	--	179
Forest industry	269	103	229	20	622
Other private	119	21	50	10	200
All owners	770	178	369	63	1,381

-- = none found or less than 500 hectares.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 60—Net volume of growing stock and sawtimber on timberland by county and owner, southwest Washington, January 1, 1991^a

County	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Growing stock:					
Clark	7	260	191	282	740
Cowlitz	52	299	1,086	374	1,811
Lewis	1,784	634	1,578	638	4,634
Pacific	--	366	1,300	106	1,772
Skamania	3,780	416	174	199	4,569
Wahkiakum	--	205	270	21	496
Other counties ^b	190	--	--	--	190
All counties	5,812	2,181	4,599	1,620	14,213
<i>Million board feet, Scribner rule</i>					
Sawtimber:					
Clark	34	1,098	854	1,223	3,209
Cowlitz	262	1,155	4,107	1,466	6,990
Lewis	8,995	2,485	5,416	2,513	19,409
Pacific	--	1,462	4,511	475	6,448
Skamania	19,058	1,588	668	673	21,987
Wahkiakum	--	929	1,096	77	2,102
Other counties ^b	955	--	--	--	955
All counties	29,304	8,718	16,652	6,428	61,103
<i>Million cubic meters</i>					
Growing stock:					
Clark	--	7	5	8	21
Cowlitz	1	8	31	11	51
Lewis	51	18	45	18	131
Pacific	--	10	37	3	50
Skamania	107	12	5	6	129
Wahkiakum	--	6	8	1	14
Other counties ^b	5	--	--	--	5
All counties	164	62	130	46	402

-- = none found or less than 500,000 cubic feet, 500,000 board feet, or 500,000 cubic meters.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes Gifford Pinchot National Forest land in Klickitat, Yakima, Pierce, and Thurston Counties.

Table 61—Current net annual growth, average annual mortality, and average annual removals of growing stock on timberland by species and owner, southwest Washington, 1990^a

Species	National Forest ^b			Other public			Forest industry			Other private			All owners ^c	
	Current net annual growth	Average annual mortality	51	Current net annual growth	Average annual mortality	5,873	Current net annual growth	Average annual mortality	10,159	Current net annual growth	Average annual mortality	2,613	Current net annual growth	Average annual mortality
<i>Thousand cubic feet</i>														
Softwoods:														
Alaska-cedar	81	51	--	--	--	--	--	--	--	--	--	--	81	51
Douglas-fir	33,951	4,729	40,801	5,873	5,930	110,232	10,159	122,006	29,431	14,419	2,613	214,414	23,375	
Grand fir	1,412	89	681	52	--	2,444	186	369	1,286	490	115	5,823	442	
Noble fir	755	72	--	--	--	--	--	--	--	--	--	755	72	
Pacific silver fir	7,497	1,254	2,279	330	--	3,457	269	8,475	357	--	17	13,591	1,870	
Subalpine fir	381	77	--	--	--	--	--	--	--	--	--	381	77	
Mountain hemlock	621	70	--	--	--	--	--	8,507	--	--	--	621	70	
Western hemlock	8,751	769	19,789	4,320	5,519	75,809	10,379	91,006	4,857	11,075	794	109,206	16,261	
Western larch	14	--	--	--	--	--	--	--	--	--	--	14	--	
Lodgepole pine	186	99	--	--	--	--	--	--	25	2	2	211	101	
Ponderosa pine	61	209	--	--	--	--	--	--	--	--	--	61	209	
Western white pine	65	343	--	--	--	--	--	--	--	--	--	65	343	
Western redcedar	2,380	97	1,455	83	--	4,814	231	8,755	3,818	1,954	88	12,467	498	
Engelmann spruce	471	465	--	--	--	--	--	--	--	--	--	471	465	
Sitka spruce	--	--	250	46	--	2,727	425	5,112	1,204	696	339	4,181	809	
Total	56,624	8,324	65,256	10,704	11,450	199,482	21,649	244,230	40,978	28,635	3,967	362,340	44,644	
Hardwoods:														
Red alder	410	2	7,605	3,542	2,284	19,775	8,233	39,065	11,445	11,876	3,718	39,235	15,496	
Oregon ash	--	--	--	--	--	114	39	--	1,242	--	390	1,356	429	
Bitter cherry	--	--	64	38	149	364	68	968	224	499	58	652	163	
Black cottonwood	--	69	31	--	--	1,583	367	307	578	--	75	2,192	511	
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bigleaf maple	272	7	1,666	727	156	2,650	1,077	5,491	5,991	2,762	1,449	10,178	3,260	
Oregon white oak	--	--	--	--	--	13	4	--	85	--	32	97	36	
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	682	78	9,366	4,308	2,590	24,498	9,786	45,851	19,165	15,137	5,723	53,711	19,895	
All species	57,305	8,402	74,622	15,011	14,039	223,980	31,435	290,081	60,143	43,772	9,690	416,050	64,539	

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Removals not available for National Forest.

^c Removals not available for all owners.

Table 62--Current net annual growth, average annual mortality, and average annual removals of sawtimber on timberland by species and owner, southwest Washington, 1990^a

Species	National Forest ^b			Other public			Forest industry			Other private			All owners ^c		
	Current net annual growth	Average annual mortality	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	
<i>Thousand board feet, Scribner rule</i>															
Softwoods:															
Alaska-cedar	291	67	--	--	--	--	--	--	--	--	--	--	--	--	
Douglas-fir	178,073	19,122	214,885	19,775	25,290	479,424	32,340	591,356	154,684	8,609	66,546	1,027,066	79,846	67	
Grand fir	6,797	394	2,597	158	--	10,117	561	1,573	6,475	434	2,032	25,987	1,547	1,547	
Noble fir	3,427	437	--	--	--	--	--	--	--	--	--	3,427	437	437	
Pacific silver fir	35,723	6,419	7,899	957	--	14,409	856	42,834	1,962	44	--	59,993	8,277	8,277	
Subalpine fir	1,162	259	--	--	--	--	--	--	--	--	--	1,162	259	259	
Mountain hemlock	2,800	204	--	--	--	--	--	50,265	--	--	--	2,800	204	204	
Western hemlock	43,759	5,903	92,412	13,095	21,472	320,721	28,903	429,606	24,202	2,755	46,240	481,095	50,656	50,656	
Western larch	76	--	--	--	--	--	--	--	--	--	--	76	--	--	
Lodgepole pine	753	147	--	--	--	--	--	--	104	6	--	857	153	153	
Ponderosa pine	356	1,036	--	--	--	--	--	--	--	--	--	356	1,036	1,036	
Western white pine	171	1,570	--	--	--	--	--	--	--	--	--	171	1,570	1,570	
Western redcedar	9,976	403	6,446	256	--	18,175	597	29,954	15,895	281	6,664	50,492	1,537	1,537	
Engelmann spruce	2,315	2,441	--	--	--	--	--	--	--	--	--	2,315	2,441	2,441	
Sitka spruce	--	--	682	50	--	13,254	1,557	24,577	7,032	1,244	2,792	20,969	2,851	2,851	
Total	285,679	38,401	324,922	34,292	46,762	856,101	64,814	1,170,165	210,354	13,373	124,274	1,677,057	150,880	150,880	
Hardwoods:															
Red alder	1,145	--	53,182	10,878	5,904	97,416	20,247	141,979	47,656	8,371	24,140	199,398	39,496	39,496	
Oregon ash	--	--	--	--	--	387	72	--	4,800	1,025	--	5,187	1,097	1,097	
Bitter cherry	--	--	--	--	--	64	15	424	1,401	13	1,927	1,466	27	27	
Black cottonwood	--	376	--	--	--	10,247	1,783	1,898	2,955	369	--	13,202	2,529	2,529	
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bigleaf maple	546	--	11,283	1,992	854	11,522	1,865	15,082	27,256	4,177	11,149	50,607	8,035	8,035	
Oregon white oak	--	--	--	--	--	71	16	--	116	51	--	188	67	67	
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	1,691	376	64,465	12,870	6,758	119,708	23,999	159,382	84,183	14,006	37,216	270,047	51,251	51,251	
All species	287,370	38,777	389,387	47,162	53,520	975,809	88,813	1,329,547	294,538	27,380	161,490	1,947,103	202,131	202,131	

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Removals not available for National Forest.

^c Removals not available for all owners.

Table 63—Changes in timberland area on private and other public timberland, by owner, southwest Washington, 1978 to 1988^a

Description	Other public	Forest industry	Other private	All owners
	<i>Thousand acres^b</i>			
Timberland area in 1978	435	1,622	499	2,555
Area changes due to:				
Changes in land class--				
Timberland to rights-of-way	--	-34	--	-34
Timberland to agricultural	--	--	-5	-5
Net change	--	-34	-5	-39
Changes in inventory area--				
To National Forest	--	-64	--	-64
From National Forest	3	15	--	18
Net change	3	-49	--	-46
Changes in ownership--				
From other public	-67	67	--	--
From forest industry	66	-99	32	--
From other private	--	22	-22	--
Net change	-1	-9	10	--
Timberland area in 1988	437	1,530	504	2,471

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of timberland and positive values are gains of timberland. Losses are shown by the 1978 owner and gains are shown by the 1988 owner.

Table 64--Changes in volume of growing stock on private and other public timberland, by species group and owner, southwest Washington, 1978 to 1988^a

Description	Other public	Forest industry	Other private	All owners
<i>Million cubic feet^b</i>				
Softwoods:				
Total volume in 1978	1,404	4,634	796	6,834
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-189	-12	-201
Nonforest to timberland	--	--	--	--
Net change	--	-189	-12	-201
Changes in inventory area--				
To National Forest	--	-51	--	-51
From National Forest	27	33	--	59
Net change	27	-19	--	8
Changes in ownership--				
From other public	-257	257	--	--
From forest industry	159	-263	104	--
From other private	--	24	-24	--
Net change	-98	18	81	--
Growth, mortality and harvest--				
Periodic gross growth	732	2,258	482	3,473
Periodic mortality	-44	-89	-20	-154
Periodic removals	-114	-2,442	-286	-2,843
Net change	574	-273	175	476
Total volume in 1988	1,906	4,173	1,040	7,119
Hardwoods:				
Total volume in 1978	321	964	537	1,822
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-21	--	-21
Nonforest to timberland	--	--	--	--
Net change	--	-21	--	-21
Changes in inventory area--				
To National Forest	--	-21	--	-21
From National Forest	--	--	--	--
Net change	--	-21	--	-21
Changes in ownership--				
From other public	-78	78	--	--
From forest industry	28	-63	35	--
From other private	--	18	-18	--
Net change	-50	33	17	--
Growth, mortality and harvest--				
Periodic gross growth	130	372	258	760
Periodic mortality	-33	-30	-26	-89
Periodic removals	-26	-459	-151	-636
Net change	71	-117	81	36
Total volume in 1988	342	837	636	1,815

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of volume and positive values are gains of volume. Losses are shown by the 1978 owner and gains are shown by the 1988 owner.

Table 65—Changes in volume of sawtimber on private and other public timberland, by species group and owner, southwest Washington, 1978 to 1988^a

Description	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule^b</i>				
Softwoods:				
Total volume in 1978	5,257	18,499	3,066	26,821
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-819	-42	-861
Nonforest to timberland	--	--	--	--
Net change	--	-819	-42	-861
Changes in inventory area--				
To National Forest	--	-174	--	-174
From National Forest	118	137	--	255
To reserved timberland	--	--	--	--
From reserved timberland	--	--	--	--
Net change	118	-37	--	81
Changes in ownership--				
From other public	-941	941	--	--
From forest industry	478	-903	425	--
From other private	--	96	-96	--
Net change	-462	134	328	--
Growth, mortality and harvest--				
Periodic gross growth	3,354	9,794	2,359	15,507
Periodic mortality	-124	-166	-62	-353
Periodic removals	-468	-11,702	-1,243	-13,413
Net change	2,762	-2,074	1,054	1,743
Total volume in 1988	7,674	15,703	4,406	27,783
Hardwoods:				
Total volume in 1978	925	2,905	1,469	5,298
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-72	--	-72
Nonforest to timberland	--	--	--	--
Net change	--	-72	--	-72
Changes in inventory area--				
To National Forest	--	-72	--	-72
From National Forest	--	--	--	--
To reserved timberland	--	--	--	--
From reserved timberland	--	--	--	--
Net change	--	-72	--	-72
Changes in ownership--				
From other public	-170	170	--	--
From forest industry	109	-245	136	--
From other private	--	45	-45	--
Net change	-60	-31	91	--
Growth, mortality and harvest--				
Periodic gross growth	526	1,644	1,044	3,214
Periodic mortality	-124	-38	-51	-213
Periodic removals	-68	-1,594	-372	-2,034
Net change	334	13	620	967
Total volume in 1988	1,199	2,742	2,180	6,121

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of volume and positive values are gains of volume. Losses are shown by the 1978 owner and gains are shown by the 1988 owner.

Table 66--Timber harvest by owner, southwest Washington, 1955-90

Year	National Forest	Other public	Private	All owners
<i>Thousand board feet, Scribner rule</i>				
1955	237,367	144,456	1,315,483	1,697,306
1956	252,900	199,265	1,468,636	1,920,801
1957	184,621	225,571	1,053,056	1,463,248
1958	274,716	191,288	977,546	1,443,550
1959	447,581	105,760	1,115,801	1,669,142
1960	384,520	103,964	1,112,804	1,601,288
1961	393,870	131,688	1,081,660	1,607,218
1962	480,600	100,001	1,368,463	1,949,064
1963	464,200	186,926	1,325,216	1,976,342
1964	467,600	240,910	1,588,929	2,297,439
1965	523,700	264,473	1,781,444	2,569,617
1966	525,685	189,673	1,588,839	2,304,197
1967	526,500	110,401	1,504,798	2,141,699
1968	647,672	176,208	1,911,927	2,735,807
1969	530,597	203,260	1,727,551	2,461,408
1970	476,359	142,507	1,870,674	2,489,540
1971	358,356	156,003	1,933,007	2,447,366
1972	403,064	243,832	1,850,745	2,497,641
1973	496,891	269,065	2,059,011	2,824,967
1974	391,596	111,817	1,826,730	2,330,143
1975	347,292	75,912	1,914,226	2,337,430
1976	320,892	145,038	2,149,989	2,615,919
1977	299,010	161,310	1,988,193	2,448,513
1978	363,334	185,554	1,967,116	2,516,004
1979	402,397	174,938	1,883,610	2,460,945
1980	278,183	82,084	1,678,648	2,038,915
1981	244,722	103,985	1,645,530	1,994,237
1982	276,292	123,388	1,624,230	2,023,910
1983	335,692	99,292	1,536,484	1,971,468
1984	357,895	147,106	1,325,598	1,830,599
1985	329,356	158,868	1,132,580	1,620,804
1986	337,607	241,941	1,368,991	1,948,539
1987	428,571	188,064	1,431,898	2,048,533
1988	535,615	203,908	1,458,061	2,197,584
1989	391,015	215,999	1,525,911	2,132,925
1990	265,746	159,225	1,297,473	1,722,444

Source: State of Washington 1955-90.

Table 67--Area by county and land class, Olympic Peninsula, Washington, January 1, 1991^a

County	Forest land				Total	Nonforest land ^b	All land ^c
	Timberland	Reserved timberland	Other forest	Reserved other forest			
<i>Thousand acres</i>							
Clallam	658	182	9	103	952	150	1,102
Grays Harbor	1,062	23	13	2	1,100	132	1,232
Jefferson	494	343	8	152	998	169	1,167
Mason	471	30	9	17	526	86	612
Thurston	283	1	5	--	289	179	468
All counties	2,967	579	44	274	3,865	716	4,581

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes cropland, pasture and range, swampland, industrial and urban areas, powerline clearings, railroads, and all improved roads and highways; and water as classified by Forest Inventory and Analysis standards but defined by the Bureau of the Census as land.

^c Source: U.S. Department of Commerce 1983.

Table 68--Area of reserved timberland and other forest land by forest type, Olympic Peninsula, Washington, January 1, 1991^a

Forest type	Reserved timberland	Other forest		Total
		Available	Reserved	
<i>Thousand acres</i>				
Softwood types:				
Douglas-fir	198	4	10	212
Fir-spruce	127	5	17	149
Hemlock-Sitka spruce	244	1	2	247
Other softwood types	2	--	--	2
Total	572	10	28	609
Hardwood types:				
Western hardwoods	5	--	--	5
Unclassified ^b	--	34	246	280
All types	579	44	274	897

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

Table 70--Area of timberland by forest type and owner, Olympic Peninsula, Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand acres</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	173	217	436	149	975
Douglas-fir/red alder	--	23	67	38	128
Douglas-fir/other hardwood	--	3	10	16	29
Total	173	243	513	204	1,133
Fir-spruce--					
Pacific silver fir	66	11	--	--	77
Subalpine fir	3	--	--	--	3
Mountain hemlock	2	--	--	--	2
Total	70	11	--	--	81
Hemlock-Sitka spruce--					
Western hemlock	235	198	378	98	909
Western hemlock/red alder	--	22	37	10	68
Sitka spruce	1	--	23	3	28
Sitka spruce/red alder	--	--	4	--	4
Total	236	220	442	112	1,009
Lodgepole pine	--	--	4	16	20
Other softwood types--					
Western redcedar	5	15	25	78	123
Western redcedar/red alder	--	10	4	11	26
Western redcedar/other hardwood	--	--	4	--	4
Alaska-cedar	2	--	--	--	2
Unclassified softwood types ^b	4	--	--	--	4
Total	10	25	33	90	158
Total, softwood types	489	499	993	421	2,402
Hardwood types:					
Western hardwoods--					
Red alder	4	27	93	74	197
Red alder/conifer	--	49	94	40	183
Bigleaf maple	2	--	7	23	31
Bigleaf maple/conifer	--	--	10	28	39
Black cottonwood	--	--	4	5	10
Pacific madrone/conifer	--	--	--	3	3
Oregon ash	--	--	8	4	12
Other hardwood types	4	--	--	3	7
Other hardwood types/conifer	--	--	4	--	4
Total, hardwood types	10	75	221	181	487
Nonstocked ^c	--	15	45	18	78
All types	500	589	1,259	620	2,967

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 71--Area of timberland by owner and stand-size class, Olympic Peninsula, Washington, January 1, 1991^a

Owner	Sawtimber	Poletimber	Seedling-sapling		Nonstocked ^b	All classes
			Seedling-sapling	Nonstocked ^b		
<i>Thousand acres</i>						
National Forest	259	81	160	--		500
Other public	345	50	179	15		589
Forest industry	652	146	416	45		1,259
Other private	338	93	171	18		620
All owners	1,594	371	925	78		2,967

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 72--Area of timberland by owner and site class, Olympic Peninsula, Washington, January 1, 1991^a

Owner	Site class ^b						All classes
	≥225	165-224	120-164	85-119	50-84	20-49	
<i>Thousand acres</i>							
National Forest	21	86	139	135	92	25	497
Other public	123	249	161	39	15	--	586
Forest industry	342	524	291	71	15	8	1,251
Other private	90	156	221	88	45	16	617
All owners	575	1,016	812	333	167	49	2,952

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Mean annual cubic-foot growth per acre at culmination, in fully stocked natural stands. Excludes 15,000 acres of included nonforest land less than 1 acre.

Table 73--Area of timberland by forest type and stand-size class, Olympic Peninsula, Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Thousand acres</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	512	119	345	--	975
Douglas-fir/red alder	95	--	33	--	128
Douglas-fir/other hardwood	10	10	9	--	29
Total	617	129	387	--	1,133
Fir-spruce--					
Pacific silver fir	40	9	28	--	77
Subalpine fir	1	2	--	--	3
Mountain hemlock	2	--	--	--	2
Total	42	11	28	--	81
Hemlock-Sitka spruce--					
Western hemlock	482	88	339	--	909
Western hemlock/red alder	47	12	10	--	68
Sitka spruce	9	3	16	--	28
Sitka spruce/red alder	--	4	--	--	4
Total	537	107	365	--	1,009
Lodgepole pine	13	--	7	--	20
Other softwood types--					
Western redcedar	65	8	50	--	123
Western redcedar/red alder	26	--	--	--	26
Western redcedar/other hardwood	4	--	--	--	4
Alaska-cedar	2	--	--	--	2
Unclassified softwood types ^c	--	1	3	--	4
Total	96	9	53	--	158
Total, softwood types	1,306	256	840	--	2,402
Hardwood types:					
Western hardwoods--					
Red alder	104	72	21	--	197
Red alder/conifer	119	15	49	--	183
Bigleaf maple	21	8	3	--	31
Bigleaf maple/conifer	18	16	4	--	39
Black cottonwood	10	--	--	--	10
Pacific madrone/conifer	3	--	--	--	3
Oregon ash	9	--	4	--	12
Other hardwood types	--	4	3	--	7
Other hardwood types/conifer	4	--	--	--	4
Total, hardwood types	288	115	84	--	487
Nonstocked ^b	--	--	--	78	78
All types	1,594	371	925	78	2,967

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 74--Number of live trees on timberland by species and diameter class, Olympic Peninsula, Washington, January 1, 1991*

Species	Diameter class (inches at breast height)																	All classes
	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+			
Thousand trees																		
Softwoods:																		
Alaska-cedar	445	313	130	59	75	84	47	55	69	16	20	26	19	2	26	1,386		
Douglas-fir	84,291	44,046	31,480	25,745	18,653	13,797	11,882	8,269	6,000	4,235	3,668	2,609	1,843	1,295	2,919	260,732		
Grand fir	1,518	121	275	263	287	135	60	14	95	59	46	29	7	24	3	2,935		
Pacific silver fir	6,886	4,279	1,481	1,851	1,236	792	568	474	351	269	167	216	144	130	791	19,633		
Subalpine fir	1,436	562	483	293	80	106	83	24	43	8	6	--	--	2	5	3,130		
Mountain hemlock	492	324	67	127	81	44	78	28	29	39	27	11	13	9	51	1,421		
Western hemlock	174,353	70,490	37,381	30,188	23,260	17,097	10,841	8,573	5,949	3,823	2,690	1,829	1,367	931	2,695	390,864		
Lodgepole pine	5,113	2,197	1,386	728	937	556	467	258	93	--	--	--	--	--	4	11,738		
Western white pine	425	865	793	218	200	43	42	26	--	8	--	2	8	--	1	2,631		
Western redcedar	53,298	24,038	10,350	8,018	3,525	2,885	2,337	1,553	1,224	1,053	673	500	542	380	1,178	111,555		
Engelmann spruce	--	--	--	74	--	--	24	20	16	--	--	--	--	7	--	141		
Sitka spruce	11,259	6,805	3,027	2,158	1,673	1,036	867	518	429	336	183	199	97	116	370	29,071		
Pacific yew	1,052	587	261	45	13	--	24	12	--	--	--	--	--	--	--	2,015		
Total	340,566	154,628	87,134	69,768	50,019	36,575	27,320	19,823	13,700	9,845	7,479	5,420	4,048	2,887	8,042	837,253		
Hardwoods:																		
Red alder	50,281	27,527	15,838	16,631	14,792	10,968	6,398	3,146	1,666	748	385	182	74	20	90	148,746		
Oregon ash	--	415	606	328	295	98	226	43	54	55	19	--	--	--	--	2,140		
Bitter cherry	2,689	675	648	835	277	44	28	--	--	10	--	7	--	--	--	5,213		
Black cottonwood	--	491	175	43	149	90	43	96	40	71	42	38	31	38	36	1,382		
Pacific madrone	315	326	560	305	237	129	54	47	16	11	8	14	--	--	--	2,022		
Bigleaf maple	826	3,313	2,678	3,225	2,504	1,248	999	438	387	279	190	112	179	63	183	16,624		
Oregon white oak	--	315	79	310	225	89	--	9	--	--	6	--	--	--	--	1,034		
Willow	--	56	--	--	--	--	--	--	--	--	--	--	--	--	--	56		
Other trees	1,385	1,067	1,354	450	443	176	19	70	16	9	--	--	--	10	5	5,003		
Total	55,496	34,185	21,939	22,126	18,922	12,842	7,766	3,850	2,178	1,183	649	353	284	131	313	182,219		
All species	396,064	188,813	109,073	91,894	68,942	49,417	35,086	23,673	15,878	11,028	8,128	5,772	4,331	3,017	8,355	1,019,472		

-- = none found or less than 500 trees.

* Totals may be off because of rounding; data subject to sampling error.

Table 75--Number of growing stock trees on timberland by species and diameter class, Olympic Peninsula, Washington, January 1, 1991^a

Species	Diameter class (inches at breast height)																	All classes
	1.0- 2.9	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+ classes			
<i>Thousand trees</i>																		
Softwoods:																		
Alaska-cedar	446	292	130	59	53	84	47	55	69	16	20	26	19	2	25	1,343		
Douglas-fir	74,491	40,515	31,390	25,599	18,500	13,737	11,845	8,257	5,987	4,235	3,651	2,590	1,843	1,287	2,910	246,836		
Grand fir	1,518	121	275	263	287	135	60	14	95	59	46	29	7	24	3	2,935		
Pacific silver fir	5,811	3,473	1,486	1,851	1,225	770	556	474	351	269	167	216	144	130	786	17,707		
Subalpine fir	1,152	484	484	293	80	106	83	24	43	8	6	--	--	2	5	2,768		
Mountain hemlock	492	257	67	127	81	44	78	28	29	39	27	11	13	9	49	1,351		
Western hemlock	150,893	64,090	37,314	30,009	23,033	17,028	10,800	8,552	5,329	3,797	2,676	1,829	1,345	913	2,665	360,273		
Lodgepole pine	5,113	2,197	1,224	728	894	556	467	258	93	--	--	--	--	--	4	11,532		
Western white pine	425	865	793	218	200	43	42	26	--	8	--	2	8	--	--	2,630		
Western redcedar	47,797	22,555	10,172	7,856	3,378	2,818	2,251	1,477	1,187	1,010	633	471	497	344	1,053	103,498		
Engelmann spruce	--	--	--	74	--	--	24	20	16	--	--	--	7	--	--	141		
Sitka spruce	9,690	5,481	3,027	2,158	1,641	1,036	867	518	429	336	180	199	97	116	370	26,145		
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Total	297,827	140,330	86,362	69,235	49,371	36,357	27,120	19,702	13,629	9,775	7,406	5,371	3,981	2,826	7,869	777,161		
Hardwoods:																		
Red alder	46,144	24,635	15,736	16,266	14,688	10,858	6,348	3,073	1,642	694	365	182	74	20	81	140,805		
Oregon ash	--	415	606	328	295	45	226	43	54	55	19	--	--	--	--	2,087		
Bitter cherry	2,689	675	560	696	277	44	28	--	--	10	--	7	--	--	--	4,986		
Black cottonwood	--	491	175	43	149	90	43	96	40	71	42	38	31	38	28	1,375		
Pacific madrone	315	326	560	203	237	129	54	34	16	11	8	14	--	--	--	1,906		
Bigleaf maple	826	3,257	2,678	3,225	2,504	1,212	927	393	299	279	190	112	178	63	145	16,288		
Oregon white oak	--	315	79	310	225	89	--	9	--	--	6	--	--	--	--	1,034		
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Total	49,975	30,114	20,395	21,071	18,376	12,466	7,626	3,648	2,051	1,121	629	353	282	121	254	168,480		
All species	347,803	170,444	106,756	90,306	67,747	48,823	34,746	23,350	15,679	10,896	8,036	5,724	4,263	2,947	8,123	945,642		

-- = none found or less than 500 trees.

^a Totals may be off because of rounding; data subject to sampling error.

Table 76--Net volume of growing stock on timberland by species and diameter class, Olympic Peninsula, Washington, January 1, 1991^a

Species	Diameter class (inches at breast height)																All classes
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+				
	Million cubic feet																
Softwoods:																	
Alaska-cedar	--	--	--	2	1	2	3	1	1	2	2	--	6	20			
Douglas-fir	115	185	256	309	407	391	379	347	374	317	263	213	797	4,352			
Grand fir	1	2	3	3	2	1	6	4	5	3	1	5	1	37			
Pacific silver fir	18	12	13	16	19	20	22	23	16	29	21	23	270	501			
Subalpine fir	3	2	1	1	2	--	1	--	--	--	--	--	1	12			
Mountain hemlock	--	1	1	1	2	1	1	2	2	1	1	1	10	23			
Western hemlock	162	241	344	418	404	450	372	335	293	244	208	165	811	4,447			
Lodgepole pine	3	6	12	12	13	11	5	--	--	--	--	--	--	61			
Western white pine	2	2	3	1	1	1	--	--	--	--	1	--	--	12			
Western redcedar	29	47	37	51	57	52	55	58	46	40	52	41	264	829			
Engelmann spruce	--	1	--	--	1	1	1	--	--	--	1	--	--	5			
Sitka spruce	10	14	19	20	26	23	23	24	18	24	13	22	162	395			
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Total	342	512	689	832	934	953	869	795	754	660	564	469	2,322	10,695			
Hardwoods:																	
Red alder	57	153	242	277	240	151	101	52	35	19	8	2	15	1,352			
Oregon ash	2	3	5	1	7	2	3	3	1	--	--	--	--	27			
Bitter cherry	2	6	5	1	1	--	--	1	--	1	--	--	--	16			
Black cottonwood	1	--	2	3	2	5	3	7	5	5	5	6	8	52			
Pacific madrone	2	1	3	2	2	1	1	1	1	1	--	--	--	15			
Bigleaf maple	10	27	36	29	32	19	20	20	18	12	22	8	26	276			
Oregon white oak	--	3	2	2	--	--	--	--	--	--	--	--	--	8			
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Total	72	192	294	314	284	179	128	84	60	38	36	16	48	1,747			
All species	414	705	984	1,147	1,218	1,132	997	878	814	698	599	485	2,371	12,441			

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

Table 77--Net volume of sawtimber on timberland by species and diameter class, Olympic Peninsula, Washington, January 1, 1991^{a,b}

Species	Diameter class (inches at breast height)											All classes
	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+	
<i>Million board feet, Scribner rule</i>												
Softwoods:												
Alaska-cedar	1	5	4	5	9	3	4	10	8	1	31	81
Douglas-fir	673	1,045	1,585	1,659	1,701	1,625	1,818	1,578	1,335	1,101	4,485	18,606
Grand fir	7	10	8	4	27	19	22	17	7	26	9	156
Pacific silver fir	29	50	74	84	99	108	79	147	111	120	1,588	2,488
Subalpine fir	1	3	4	1	5	2	2	--	--	1	4	23
Mountain hemlock	1	1	6	3	4	9	8	4	7	4	55	103
Western hemlock	958	1,446	1,593	1,922	1,676	1,582	1,421	1,226	1,072	875	4,708	18,480
Lodgepole pine	31	36	43	40	20	--	--	--	--	--	1	172
Western white pine	8	3	2	6	--	2	--	1	5	--	--	28
Western redcedar	83	142	176	174	200	212	177	150	212	168	1,211	2,905
Engelmann spruce	--	--	5	3	5	--	--	--	7	--	--	20
Sitka spruce	44	60	89	90	92	104	81	112	64	114	940	1,789
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--
Total	1,836	2,801	3,590	3,991	3,838	3,666	3,613	3,246	2,829	2,409	13,033	44,854
Hardwoods:												
Red alder	5	1,034	1,104	751	522	271	187	97	45	12	77	4,106
Oregon ash	--	4	32	11	14	16	5	--	--	--	--	82
Bitter cherry	--	3	4	--	--	4	--	4	--	--	--	16
Black cottonwood	--	12	10	28	20	39	28	28	32	32	44	273
Pacific madrone	1	9	8	6	3	5	2	7	--	--	--	40
Bigleaf maple	--	106	145	91	103	98	94	59	117	42	130	986
Oregon white oak	--	6	--	3	--	--	2	--	--	--	--	11
Willow	--	--	--	--	--	--	--	--	--	--	--	--
Other trees	--	--	--	--	--	--	--	--	--	--	--	--
Total	6	1,175	1,303	890	662	433	318	195	194	86	251	5,513
All species	1,842	3,976	4,892	4,881	4,501	4,100	3,931	3,441	3,023	2,495	13,284	50,366

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 78--Net volume of growing stock on timberland by species and owner, Olympic Peninsula, Washington, January 1, 1991^{a b}

Species	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Softwoods:					
Alaska-cedar	17	--	2	--	20
Douglas-fir	786	1,249	1,716	601	4,352
Grand fir	2	1	13	21	37
Pacific silver fir	350	84	46	22	501
Subalpine fir	12	--	--	--	12
Mountain hemlock	23	--	--	--	23
Western hemlock	999	1,173	1,836	438	4,447
Lodgepole pine	--	1	21	40	61
Western white pine	2	3	1	5	12
Western redcedar	124	138	257	310	829
Engelmann spruce	--	--	5	--	5
Sitka spruce	45	120	167	62	395
Pacific yew	--	--	--	--	--
Total	2,361	2,770	4,064	1,500	10,695
Hardwoods:					
Red alder	15	343	673	321	1,352
Oregon ash	--	4	11	12	27
Bitter cherry	--	6	7	3	16
Black cottonwood	--	2	29	21	52
Pacific madrone	1	3	--	12	15
Bigleaf maple	5	26	109	136	276
Oregon white oak	--	--	--	8	8
Willow	--	--	--	--	--
Other trees	--	--	--	--	--
Total	22	384	829	512	1,747
All species	2,382	3,154	4,893	2,012	12,441

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes trees 5 inches in d.b.h. and larger.

Table 79—Net volume of sawtimber on timberland by species and owner, Olympic Peninsula, Washington, January 1, 1991^{a b}

Species	National Forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwoods:					
Alaska-cedar	72	--	9	--	81
Douglas-fir	3,718	5,221	7,377	2,290	18,606
Grand fir	3	7	60	86	156
Pacific silver fir	1,776	414	198	100	2,488
Subalpine fir	23	--	--	--	23
Mountain hemlock	103	--	--	--	103
Western hemlock	4,437	5,249	7,196	1,598	18,480
Lodgepole pine	--	3	59	109	172
Western white pine	7	9	2	9	28
Western redcedar	581	508	831	984	2,905
Engelmann spruce	--	--	20	--	20
Sitka spruce	279	567	641	302	1,789
Pacific yew	--	--	--	--	--
Total	11,001	11,979	16,393	5,480	44,854
Hardwoods:					
Red alder	29	1,039	2,141	896	4,106
Oregon ash	--	19	22	42	82
Bitter cherry	--	--	4	11	16
Black cottonwood	--	9	153	111	273
Pacific madrone	1	10	--	29	40
Bigleaf maple	17	102	355	512	986
Oregon white oak	--	--	--	11	11
Willow	--	--	--	--	--
Other trees	--	--	--	--	--
Total	47	1,179	2,675	1,612	5,513
All species	11,048	13,158	19,068	7,092	50,366

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 80—Net volume of growing stock on timberland by forest type and stand-size class, Olympic Peninsula, Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Million cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	3,486	197	30	--	3,713
Douglas-fir/red alder	642	--	12	--	654
Douglas-fir/other hardwood	50	16	8	--	74
Total	4,178	213	51	--	4,442
Fir-spruce--					
Pacific silver fir	394	18	15	--	426
Subalpine fir	4	7	--	--	12
Mountain hemlock	12	--	--	--	12
Total	409	25	15	--	449
Hemlock-Sitka spruce--					
Western hemlock	4,220	166	96	--	4,483
Western hemlock/red alder	338	25	2	--	365
Sitka spruce	50	10	--	--	60
Sitka spruce/red alder	--	5	--	--	5
Total	4,608	206	98	--	4,912
Lodgepole pine	46	--	3	--	49
Other softwood types--					
Western redcedar	360	8	10	--	377
Western redcedar/red alder	202	--	--	--	202
Western redcedar/other hardwood	27	--	--	--	27
Alaska-cedar	15	--	--	--	15
Unclassified softwood types ^c	--	3	--	--	3
Total	604	11	10	--	624
Total, softwood types	9,845	455	176	--	10,476
Hardwood types:					
Western hardwoods--					
Red alder	572	293	13	--	877
Red alder/conifer	647	66	22	--	734
Bigleaf maple	89	28	--	--	117
Bigleaf maple/conifer	83	44	1	--	129
Black cottonwood	41	--	--	--	41
Pacific madrone/conifer	11	--	--	--	11
Oregon ash	29	--	2	--	31
Other hardwood types	--	9	--	--	9
Other hardwood types/conifer	10	--	--	--	10
Total, hardwood types	1,482	439	38	--	1,959
Nonstocked ^b	--	--	--	7	7
All types	11,327	893	214	7	12,441

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 81--Net volume of sawtimber on timberland, by forest type and stand-size class, Olympic Peninsula, Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Million board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	14,717	256	85	--	15,057
Douglas-fir/red alder	2,726	--	34	--	2,760
Douglas-fir/other hardwood	170	34	17	--	221
Total	17,613	289	136	--	18,038
Fir-spruce--					
Pacific silver fir	2,100	--	82	--	2,182
Subalpine fir	23	15	--	--	38
Mountain hemlock	49	--	--	--	49
Total	2,172	15	82	--	2,269
Hemlock-Sitka spruce--					
Western hemlock	18,779	172	314	--	19,265
Western hemlock/red alder	1,351	28	--	--	1,379
Sitka spruce	236	16	--	--	252
Sitka spruce/red alder	--	3	--	--	3
Total	20,366	219	314	--	20,898
Lodgepole pine	114	--	7	--	121
Other softwood types--					
Western redcedar	1,254	11	13	--	1,278
Western redcedar/red alder	841	--	--	--	841
Western redcedar/other hardwood	105	--	--	--	105
Alaska-cedar	65	--	--	--	65
Unclassified softwood types ^c	--	--	--	--	--
Total	2,265	11	13	--	2,289
Total, softwood types	42,531	534	551	--	43,616
Hardwood types:					
Western hardwoods--					
Red alder	2,125	672	40	--	2,837
Red alder/conifer	2,446	196	50	--	2,692
Bigleaf maple	312	83	--	--	395
Bigleaf maple/conifer	308	131	2	--	441
Black cottonwood	171	--	--	--	171
Pacific madrone/conifer	35	--	--	--	35
Oregon ash	100	--	8	--	107
Other hardwood types	--	8	--	--	8
Other hardwood types/conifer	47	--	--	--	47
Total, hardwood types	5,544	1,090	99	--	6,733
Nonstocked ^b	--	--	--	18	18
All types	48,075	1,623	650	18	50,366

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

^c Information on forest type unavailable.

Table 82--Net volume of growing stock on timberland, by forest type and owner, Olympic Peninsula, Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	748	1,103	1,417	445	3,713
Douglas-fir/red alder	--	156	379	119	654
Douglas-fir/other hardwood	--	15	33	26	74
Total	748	1,274	1,830	590	4,442
Fir-spruce--					
Pacific silver fir	350	76	--	--	426
Subalpine fir	12	--	--	--	12
Mountain hemlock	12	--	--	--	12
Total	373	76	--	--	449
Hemlock-Sitka spruce--					
Western hemlock	1,184	1,159	1,743	396	4,483
Western hemlock/red alder	--	119	225	21	365
Sitka spruce	17	--	43	--	60
Sitka spruce/red alder	--	--	5	--	5
Total	1,202	1,278	2,015	417	4,912
Lodgepole pine	--	--	21	28	49
Other softwood types--					
Western redcedar	26	50	61	241	377
Western redcedar/red alder	--	60	51	91	202
Western redcedar/other hardwood	--	--	27	--	27
Alaska-cedar	15	--	--	--	15
Unclassified softwood types ^b	3	--	--	--	3
Total	44	110	138	332	624
Total, softwood types	2,366	2,739	4,005	1,367	10,476
Hardwood types:					
Western hardwoods--					
Red alder	11	154	469	243	877
Red alder/conifer	--	261	336	137	734
Bigleaf maple	3	--	7	106	117
Bigleaf maple/conifer	--	--	21	107	129
Black cottonwood	--	--	22	20	41
Pacific madrone/conifer	--	--	--	11	11
Oregon ash	--	--	21	10	31
Other hardwood types	3	--	--	6	9
Other hardwood types/conifer	--	--	10	--	10
Total, hardwood types	17	415	887	640	1,959
Nonstocked ^c	--	--	1	6	7
All types	2,382	3,154	4,893	2,012	12,441

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 83--Net volume of sawtimber on timberland, by forest type and owner, Olympic Peninsula, Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	3,143	4,362	5,923	1,629	15,057
Douglas-fir/red alder	--	662	1,667	411	2,760
Douglas-fir/other hardwood	--	61	93	67	221
Total	3,143	5,085	7,703	2,107	18,038
Fir-spruce--					
Pacific silver fir	1,805	378	--	--	2,182
Subalpine fir	38	--	--	--	38
Mountain hemlock	49	--	--	--	49
Total	1,891	378	--	--	2,269
Hemlock-Sitka spruce--					
Western hemlock	5,664	5,306	6,739	1,556	19,265
Western hemlock/red alder	--	503	836	40	1,379
Sitka spruce	114	--	138	--	252
Sitka spruce/red alder	--	--	3	--	3
Total	5,778	5,809	7,716	1,595	20,898
Lodgepole pine	--	--	54	67	121
Other softwood types--					
Western redcedar	130	177	182	789	1,278
Western redcedar/red alder	--	240	246	355	841
Western redcedar/other hardwood	--	--	105	--	105
Alaska-cedar	65	--	--	--	65
Unclassified softwood types ^b	--	--	--	--	--
Total	195	418	533	1,143	2,289
Total, softwood types	11,008	11,689	16,006	4,912	43,616
Hardwood types:					
Western hardwoods--					
Red alder	30	380	1,673	753	2,837
Red alder/conifer	--	1,089	1,087	516	2,692
Bigleaf maple	10	--	30	355	395
Bigleaf maple/conifer	--	--	58	383	441
Black cottonwood	--	--	95	77	171
Pacific madrone/conifer	--	--	--	35	35
Oregon ash	--	--	72	35	107
Other hardwood types	--	--	--	8	8
Other hardwood types/conifer	--	--	47	--	47
Total, hardwood types	40	1,469	3,062	2,162	6,733
Nonstocked ^c	--	--	--	18	18
All types	11,048	13,158	19,068	7,092	50,366

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 84—Net volume of timber on timberland by class of timber and species group, Olympic Peninsula, Washington, January 1, 1991^a

Class of timber	Softwoods	Hardwoods	All species
<i>Million cubic feet</i>			
Growing-stock trees:			
Sawtimber trees			
Saw-log portion ^b	7,458	1,032	8,490
Upper-stem portion ^b	231	143	374
Total ^c	9,841	1,187	11,028
Poletimber	854	560	1,413
Total growing-stock trees	10,695	1,747	12,441
Cull trees:			
Sound cull	6	20	25
Rotten cull	32	12	44
Total cull trees	38	32	69
Salvable dead trees	228	3	231
All timber	10,961	1,782	12,742

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Volume distribution by saw-log portion and upper-stem portion is unavailable for Olympic National Forest ownership.

^c Includes total volume for Olympic National Forest ownership.

Table 85--Current net annual growth of growing stock on timberland by forest type and owner, Olympic Peninsula, Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet^b</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	10,211	36,703	53,208	14,825	114,948
Douglas-fir/red alder	--	4,358	10,297	4,630	19,285
Douglas-fir/other hardwood	--	411	1,341	1,431	3,182
Total	10,211	41,472	64,846	20,886	137,415
Fir-spruce--					
Pacific silver fir	874	474	--	--	1,347
Subalpine fir	145	--	--	--	145
Mountain hemlock	95	--	--	--	95
Total	1,113	474	--	--	1,587
Hemlock-Sitka spruce--					
Western hemlock	7,580	25,793	68,795	12,852	115,020
Western hemlock/red alder	--	4,083	8,071	1,959	14,114
Sitka spruce	85	--	2,203	--	2,288
Sitka spruce/red alder	--	--	729	--	729
Total	7,664	29,876	79,799	14,811	132,150
Lodgepole pine	--	--	-83	524	441
Other softwood types--					
Western redcedar	212	1,299	3,081	6,732	11,324
Western redcedar/red alder	--	1,729	1,275	3,021	6,024
Western redcedar/other hardwood	--	--	828	--	828
Alaska-cedar	191	--	--	--	191
Unclassified softwood types ^c	1	--	--	--	1
Total	403	3,028	5,184	9,754	18,368
Total, softwood types	19,392	74,850	149,745	45,974	289,961
Hardwood types:					
Western hardwoods--					
Red alder	519	3,920	12,756	10,111	27,306
Red alder/conifer	--	7,089	12,276	4,803	24,168
Bigleaf maple	66	--	287	2,918	3,271
Bigleaf maple/conifer	--	--	970	3,512	4,482
Black cottonwood	--	--	1,060	1,151	2,211
Pacific madrone/conifer	--	--	--	220	220
Oregon ash	--	--	388	305	693
Other hardwood types	1	--	--	141	142
Other hardwood types/conifer	--	--	388	--	388
Total, hardwood types	587	11,009	28,125	23,161	62,881
Nonstocked ^d	--	--	125	157	282
All types	19,977	85,859	177,995	69,292	353,123

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative net annual growth is the result of annual mortality exceeding gross annual growth.

^c Information on forest type unavailable.

^d Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 86--Current net annual growth of sawtimber on timberland by forest type and owner, Olympic Peninsula, Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	45,370	189,511	256,030	74,234	565,146
Douglas-fir/red alder	--	23,999	67,398	22,337	113,734
Douglas-fir/other hardwood	--	2,022	3,645	5,223	10,890
Total	45,370	215,532	327,074	101,795	689,770
Fir-spruce--					
Pacific silver fir	6,394	2,919	--	--	9,314
Subalpine fir	239	--	--	--	239
Mountain hemlock	435	--	--	--	435
Total	7,068	2,919	--	--	9,988
Hemlock-Sitka spruce--					
Western hemlock	32,571	134,751	314,778	57,081	539,181
Western hemlock/red alder	--	18,254	33,777	4,179	56,210
Sitka spruce	575	--	10,166	--	10,741
Sitka spruce/red alder	--	--	470	--	470
Total	33,147	153,005	359,191	61,260	606,603
Lodgepole pine	--	--	54	1,544	1,598
Other softwood types--					
Western redcedar	1,287	5,622	9,820	26,331	43,060
Western redcedar/red alder	--	10,297	7,979	13,301	31,578
Western redcedar/other hardwood	--	--	3,642	--	3,642
Alaska-cedar	905	--	--	--	905
Unclassified softwood types ^b	--	--	--	--	--
Total	2,192	15,919	21,441	39,632	79,184
Total, softwood types	87,776	387,375	707,760	204,231	1,387,142
Hardwood types:					
Western hardwoods--					
Red alder	2,205	26,664	88,548	36,854	154,271
Red alder/conifer	--	41,185	56,907	29,297	127,390
Bigleaf maple	284	--	1,405	17,702	19,390
Bigleaf maple/conifer	--	--	3,552	14,910	18,462
Black cottonwood	--	--	5,657	5,676	11,333
Pacific madrone/conifer	--	--	--	961	961
Oregon ash	--	--	1,331	774	2,105
Other hardwood types	--	--	--	479	479
Other hardwood types/conifer	--	--	2,210	--	2,210
Total, hardwood types	2,489	67,849	159,610	106,654	336,603
Nonstocked ^c	--	--	--	554	554
All types	90,265	455,224	867,370	311,440	1,724,299

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 87--Average annual mortality of growing stock on timberland by forest type and owner, Olympic Peninsula, Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	782	7,825	7,631	2,963	19,202
Douglas-fir/red alder	--	1,578	2,142	756	4,476
Douglas-fir/other hardwood	--	73	216	158	447
Total	782	9,476	9,989	3,878	24,124
Fir-spruce--					
Pacific silver fir	1,909	346	--	--	2,255
Subalpine fir	--	--	--	--	--
Mountain hemlock	--	--	--	--	--
Total	1,909	346	--	--	2,255
Hemlock-Sitka spruce--					
Western hemlock	5,288	8,559	11,829	3,103	28,779
Western hemlock/red alder	--	834	2,264	213	3,311
Sitka spruce	--	--	448	--	448
Sitka spruce/red alder	--	--	37	--	37
Total	5,288	9,393	14,578	3,316	32,575
Lodgepole pine	--	--	311	338	648
Other softwood types--					
Western redcedar	22	249	246	1,162	1,680
Western redcedar/red alder	--	377	349	412	1,138
Western redcedar/other hardwood	--	--	96	--	96
Alaska-cedar	--	--	--	--	--
Unclassified softwood types ^b	--	--	--	--	--
Total	22	627	691	1,574	2,913
Total, softwood types	8,001	19,841	25,568	9,105	62,515
Hardwood types:					
Western hardwoods--					
Red alder	--	2,120	5,226	2,441	9,786
Red alder/conifer	--	2,343	3,480	1,112	6,936
Bigleaf maple	--	--	33	903	936
Bigleaf maple/conifer	--	--	138	861	999
Black cottonwood	--	--	130	142	273
Pacific madrone/conifer	--	--	--	49	49
Oregon ash	--	--	248	59	308
Other hardwood types	--	--	--	88	88
Other hardwood types/conifer	--	--	42	--	42
Total, hardwood types	--	4,463	9,298	5,656	19,417
Nonstocked ^c	--	--	7	29	36
All types	8,001	24,304	34,873	14,790	81,968

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 88--Average annual mortality of sawtimber on timberland by forest type and owner, Olympic Peninsula, Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	4,306	24,220	25,093	8,318	61,937
Douglas-fir/red alder	--	5,569	7,710	1,924	15,204
Douglas-fir/other hardwood	--	226	452	202	880
Total	4,306	30,015	33,255	10,445	78,021
Fir-spruce--					
Pacific silver fir	7,688	1,673	--	--	9,360
Subalpine fir	--	--	--	--	--
Mountain hemlock	--	--	--	--	--
Total	7,688	1,673	--	--	9,360
Hemlock-Sitka spruce--					
Western hemlock	33,985	35,069	39,341	9,909	118,304
Western hemlock/red alder	--	2,674	5,733	164	8,572
Sitka spruce	--	--	1,211	--	1,211
Sitka spruce/red alder	--	--	16	--	16
Total	33,985	37,744	46,302	10,073	128,104
Lodgepole pine	--	--	788	838	1,626
Other softwood types--					
Western redcedar	66	794	512	2,960	4,333
Western redcedar/red alder	--	1,108	1,626	1,346	4,080
Western redcedar/other hardwood	--	--	389	--	389
Alaska-cedar	--	--	--	--	--
Unclassified softwood types ^b	--	--	--	--	--
Total	66	1,902	2,528	4,306	8,803
Total, softwood types	46,046	71,333	82,873	25,662	225,914
Hardwood types:					
Western hardwoods--					
Red alder	--	2,567	13,890	4,919	21,376
Red alder/conifer	--	7,631	7,312	3,513	18,457
Bigleaf maple	--	--	138	2,347	2,485
Bigleaf maple/conifer	--	--	250	2,187	2,437
Black cottonwood	--	--	497	358	855
Pacific madrone/conifer	--	--	--	160	160
Oregon ash	--	--	451	199	651
Other hardwood types	--	--	--	28	28
Other hardwood types/conifer	--	--	189	--	189
Total, hardwood types	--	10,198	22,726	13,712	46,636
Nonstocked ^c	--	--	--	91	91
All types	46,046	81,531	105,599	39,465	272,641

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 89--Area by county and land class, Olympic Peninsula, Washington, January 1, 1991^a

County	Forest land				Total	Nonforest land ^b	All land ^c
	Timberland	Reserved timberland	Other forest	Reserved other forest			
<i>Thousand hectares</i>							
Clallam	266	74	4	42	385	61	446
Grays Harbor	430	9	5	1	445	53	499
Jefferson	200	139	3	62	404	68	472
Mason	191	12	4	7	213	35	248
Thurston	115	--	2	--	117	72	189
All counties	1,201	234	18	111	1,564	290	1,854

-- = none found or less than 500 hectares.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes cropland, pasture and range, swampland, industrial and urban areas, powerline clearings, railroads, and all improved roads and highways; and water as classified by Forest Inventory and Analysis standards but defined by the Bureau of the Census as land.

^c Source: U.S. Department of Commerce 1983.

Table 90—Area of reserved timberland and other forest land by land class, forest type and owner, Olympic Peninsula, Washington, January 1, 1991^a

Land class and forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand acres</i>					
Reserved timberland:					
Douglas-fir	28	170	--	--	198
Fir-spruce	19	108	--	--	127
Hemlock-Sitka spruce	7	237	--	--	244
Other softwoods	--	2	--	--	2
Western hardwoods	--	5	--	--	5
Total	55	524	--	--	579
Reserved other forest:					
Douglas-fir	10	--	--	--	10
Fir-spruce	4	13	--	--	17
Hemlock-Sitka spruce	2	--	--	--	2
Unclassified ^b	--	246	--	--	246
Total	15	260	--	--	274
All reserved	70	784	--	--	854
Unreserved other forest:					
Douglas-fir	4	--	--	--	4
Fir-spruce	5	--	--	--	5
Hemlock-Sitka spruce	1	--	--	--	1
Unclassified ^b	--	7	3	24	34
Total	10	7	3	24	44

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

Table 91—Area of timberland by owner and stand-size class, Olympic Peninsula, Washington, January 1, 1991^a

Owner	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Thousand hectares</i>					
National Forest	105	33	65	--	202
Other public	140	20	72	6	238
Forest industry	264	59	168	18	510
Other private	137	38	69	7	251
All owners	645	150	374	32	1,201

-- = none found or less than 500 hectares.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 93—Net volume of growing stock and sawtimber on timberland by county and owner, Olympic Peninsula, Washington, January 1, 1991^a

County	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Growing stock:					
Clallam	907	873	747	301	2,828
Grays Harbor	491	816	2,433	827	4,567
Jefferson	574	687	498	196	1,955
Mason	410	292	905	292	1,899
Thurston	—	487	310	397	1,194
All counties	2,382	3,154	4,893	2,012	12,441
<i>Million board feet, Scribner rule</i>					
Sawtimber:					
Clallam	4,130	3,512	2,467	1,084	11,193
Grays Harbor	2,368	3,561	9,809	2,862	18,600
Jefferson	2,686	3,063	1,911	678	8,338
Mason	1,865	961	3,615	1,051	7,492
Thurston	—	2,062	1,264	1,417	4,743
All counties	11,048	13,158	19,068	7,092	50,366
<i>Million cubic meters</i>					
Growing stock:					
Clallam	26	25	21	9	80
Grays Harbor	14	23	69	23	129
Jefferson	16	19	14	6	55
Mason	12	8	26	8	54
Thurston	—	14	9	11	34
All counties	67	89	138	57	352

— = none found or less than 500,000 cubic feet, 500,000 board feet, or 500,000 cubic meters.

^a Totals may be off because of rounding; data subject to sampling error.

Table 94--Current net annual growth, average annual mortality, and average annual removals of growing stock on timberland by species and owner, Olympic Peninsula, Washington, 1990^a

Species	National Forest ^b			Other public			Forest industry			Other private			All owners ^c	
	Current net annual growth	Average annual mortality	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	
<i>Thousand cubic feet</i>														
Softwoods:														
Alaska-cedar	136	64	--	--	--	72	9	240	--	--	--	208	73	
Douglas-fir	7,785	1,476	41,221	7,678	24,186	63,712	8,215	50,943	22,794	3,432	22,463	135,513	20,801	
Grand fir	44	7	30	6	--	996	46	--	1,083	122	455	2,154	180	
Pacific silver fir	2,215	1,685	1,021	464	4,697	1,420	220	1,201	485	129	--	5,141	2,498	
Subalpine fir	140	4	--	--	--	--	--	--	--	--	--	140	4	
Mountain hemlock	84	86	--	--	--	--	--	--	--	--	--	84	86	
Western hemlock	7,713	4,065	27,479	9,179	47,843	70,498	12,987	164,995	14,100	3,562	37,055	119,790	29,793	
Lodgepole pine	--	--	27	4	--	119	312	--	520	424	--	666	741	
Western white pine	12	3	10	184	--	71	57	--	77	284	--	170	528	
Western redcedar	751	448	3,453	242	7,519	9,550	534	6,390	11,225	590	3,272	24,979	1,814	
Engelmann spruce	--	--	--	--	--	229	44	--	--	--	--	229	44	
Sitka spruce	267	129	3,030	757	781	8,683	1,159	25,794	2,246	396	180	14,226	2,441	
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	19,149	7,967	76,271	18,514	85,026	155,350	23,583	249,564	52,531	8,939	63,425	303,302	59,003	
Hardwoods:														
Red alder	695	24	8,584	5,250	4,919	18,016	9,691	35,039	10,748	3,959	16,795	38,042	18,924	
Oregon ash	--	--	70	25	--	254	175	321	350	113	223	675	313	
Bitter cherry	--	--	56	152	--	249	137	127	149	34	--	453	322	
Black cottonwood	--	--	65	17	--	819	180	--	1,128	145	253	2,012	342	
Pacific madrone	23	1	38	49	--	--	--	117	262	170	163	323	220	
Bigleaf maple	112	9	775	298	352	3,307	1,107	3,863	3,899	1,356	1,150	8,093	2,770	
Oregon white oak	--	--	--	--	--	--	--	--	225	74	--	225	74	
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	
Other trees														
Total	829	34	9,588	5,791	5,271	22,645	11,290	39,488	16,761	5,851	18,585	49,822	22,966	
All species	19,977	8,001	85,859	24,304	90,296	177,995	34,873	289,052	69,292	14,790	82,009	353,123	81,968	

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Removals not available for National Forest data.

^c Removals not available for all owners.

Table 96—Changes in timberland area on private and other public timberland, by owner, Olympic Peninsula, Washington, 1979 to 1989^a

Description	Other public	Forest industry	Other private	All owners
	<i>Thousand acres^b</i>			
Timberland area in 1979	597	1,333	630	2,560
Area change due to:				
Changes in land class--				
Timberland to rights-of-way	--	-16	-13	-29
Timberland to urban	--	--	-13	-13
Net change	--	-16	-26	-42
Changes in inventory area--				
From National Forest	--	--	17	17
Changes in ownership--				
From other public	-27	27	--	--
From forest industry	36	-70	34	--
From other private	--	9	-9	--
Net change	9	-34	25	--
Timberland area in 1989	606	1,283	646	2,535

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of timberland and positive values are gains of timberland. Losses are shown by the 1979 owner and gains are shown by the 1989 owner.

Table 97--Changes in volume of growing stock on private and other public timberland, by species group and owner, Olympic Peninsula, Washington, 1979 to 1989^a

Description	Other public	Forest industry	Other private	All owners
<i>Million cubic feet^b</i>				
Softwoods:				
Total volume in 1979	3,071	5,142	1,284	9,496
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-84	-24	-109
Changes in inventory area--				
From National Forest	--	--	84	84
Changes in ownership--				
From other public	-118	118	--	--
From forest industry	36	-185	149	--
From other private	--	4	-4	--
Net change	-83	-62	145	--
Growth, mortality and harvest--				
Periodic gross growth	1,006	1,975	628	3,610
Periodic mortality	-111	-128	-55	-294
Periodic removals	-850	-2,496	-640	-3,985
Net change	45	-649	-66	-670
Total volume in 1989	3,033	4,346	1,423	8,802
Hardwoods:				
Total volume in 1979	326	1,160	563	2,048
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	--	-35	-35
Changes in inventory area--				
From National Forest	--	--	--	--
Changes in ownership--				
From other public	-32	32	--	--
From forest industry	97	-100	3	--
From other private	--	1	-1	--
Net change	65	-67	2	--
Growth, mortality and harvest--				
Periodic gross growth	144	373	242	758
Periodic mortality	-33	-80	-44	-157
Periodic removals	-53	-395	-186	-634
Net change	58	-103	12	-32
Total volume in 1989	450	991	542	1,982

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of volume and positive values are gains of volume. Losses are shown by the 1979 owner and gains are shown by the 1989 owner.

Table 98--Changes in volume of sawtimber on private and other public timberland, by species group and owner, Olympic Peninsula, Washington, 1979 to 1989^a

Description	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule^b</i>				
Softwoods:				
Total volume in 1979	12,968	21,114	4,398	38,480
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-319	-66	-386
Changes in inventory area--				
From National Forest	--	--	429	429
Changes in ownership--				
From other public	-464	464	--	--
From forest industry	149	-688	539	--
From other private	--	9	-9	--
Net change	-315	-215	530	--
Growth, mortality and harvest--				
Periodic gross growth	4,999	9,028	2,684	16,711
Periodic mortality	-331	-344	-192	-867
Periodic removals	-4,299	-12,189	-2,698	-19,186
Net change	370	-3,506	-206	-3,341
Total volume in 1989	13,023	17,073	5,085	35,182
Hardwoods:				
Total volume in 1979	831	3,207	1,576	5,614
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	--	-55	-55
Changes in inventory area--				
From National Forest	--	--	--	--
Changes in ownership--				
From other public	-49	49	--	--
From forest industry	106	-121	14	--
From other private	--	--	--	--
Net change	58	-72	14	--
Growth, mortality and harvest--				
Periodic gross growth	662	1,674	888	3,224
Periodic mortality	-66	-137	-107	-311
Periodic removals	-172	-1,505	-634	-2,311
Net change	424	32	147	603
Total volume in 1989	1,312	3,172	1,676	6,161

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of volume and positive values are gains of volume. Losses are shown by the 1979 owner and gains are shown by the 1989 owner.

Table 99--Timber harvest by owner, Olympic Peninsula, Washington, 1955-90

Year	National Forest	Other public	Private	All owners
<i>Thousand board feet, Scribner rule</i>				
1955	250,179	154,022	752,784	1,156,985
1956	267,300	141,597	772,290	1,181,187
1957	249,964	78,021	604,311	932,296
1958	268,928	84,039	527,598	880,565
1959	322,299	81,817	773,286	1,177,402
1960	250,929	95,319	802,742	1,148,990
1961	219,890	101,070	728,326	1,049,286
1962	273,300	117,172	687,754	1,078,226
1963	361,400	156,940	779,922	1,298,262
1964	403,800	174,171	966,062	1,544,033
1965	369,800	269,276	900,160	1,539,236
1966	300,214	198,568	998,121	1,496,903
1967	291,500	243,218	905,368	1,440,086
1968	351,414	339,096	1,013,645	1,704,155
1969	248,339	361,924	1,162,721	1,772,984
1970	253,947	326,409	977,677	1,558,033
1971	274,459	373,141	844,728	1,492,328
1972	275,794	546,140	978,623	1,800,557
1973	296,838	506,836	1,301,694	2,105,368
1974	273,389	422,827	1,182,611	1,878,827
1975	242,217	303,647	1,002,195	1,548,059
1976	296,075	446,595	1,120,676	1,863,346
1977	332,446	419,760	984,194	1,736,400
1978	303,283	468,974	1,044,006	1,816,263
1979	307,734	693,650	1,072,461	2,073,845
1980	276,674	506,707	798,198	1,581,579
1981	182,258	252,436	643,299	1,077,993
1982	149,064	219,369	983,039	1,351,472
1983	278,798	274,773	1,333,999	1,887,570
1984	270,469	415,054	1,122,834	1,808,357
1985	249,563	565,177	1,222,615	2,037,355
1986	247,345	512,124	1,279,820	2,039,289
1987	232,237	422,595	1,596,290	2,251,122
1988	274,755	335,848	1,632,509	2,243,112
1989	153,782	307,942	1,548,401	2,010,125
1990	102,839	278,068	1,214,873	1,595,780

Source: State of Washington 1955-90.

Table 100--Area by county and land class, Puget Sound area, Washington, January 1, 1991^a

County	Forest land				Total	Nonforest land ^b	All land ^c
	Timberland	Reserved timberland	Other forest	Reserved other forest			
<i>Thousand acres</i>							
Island	75	1	5	1	82	53	135
King	679	60	37	45	821	534	1,355
Kitsap	158	1	5	--	164	90	254
Pierce	572	110	18	74	774	303	1,077
San Juan	67	3	--	3	73	41	114
Skagit	584	82	22	56	743	370	1,114
Snohomish	658	139	48	59	904	445	1,349
Whatcom	410	158	24	146	737	598	1,335
All counties	3,202	554	159	384	4,299	2,434	6,733

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes cropland, pasture and range, swampland, industrial and urban areas, powerline clearings, railroads, and all improved roads and highways; and water as classified by Forest Inventory and Analysis standards but defined by the Bureau of the Census as land.

^c Source: U.S. Department of Commerce 1983.

Table 101--Area of reserved timberland and other forest land by forest type, Puget Sound area, Washington, January 1, 1991^a

Forest type	Reserved timberland	Other forest		Total
		Available	Reserved	
<i>Thousand acres</i>				
Softwoods:				
Douglas-fir	164	16	30	210
Fir-spruce	202	32	61	295
Hemlock-Sitka spruce	163	29	58	250
Lodgepole pine	1	--	--	1
Cedar	10	2	4	16
Total	540	80	153	773
Hardwood types:				
Western hardwoods	13	2	2	17
Unclassified ^b	1	77	228	306
All types	554	159	384	1,097

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

Table 102--Area of timberland by county and owner, Puget Sound area, Washington, January 1, 1991*

County	Public										Private					All owners
	Other public					Total public	Other private					Total private				
	National Forest	Miscellaneous Federal	State	County and municipal	Forest industry		Farmer	Native American	Miscellaneous							
Island	--	2	10	1	13	2	3	--	57	62	75					
King	114	4	61	90	269	272	--	--	138	410	679					
Kitsap	--	8	21	13	42	29	--	8	79	116	158					
Pierce	94	37	35	7	173	243	9	--	147	399	572					
San Juan	--	1	3	--	4	--	--	--	63	63	67					
Skagit	172	1	128	3	304	180	6	2	92	280	584					
Snohomish	248	4	108	7	367	134	9	5	143	291	658					
Whatcom	142	--	85	2	229	77	13	2	89	181	410					
All counties	769	57	451	123	1,401	938	40	17	807	1,801	3,202					

Thousand acres

-- = none found or less than 500 acres.

* Totals may be off because of rounding; data subject to sampling error.

Table 103--Area of timberland by forest type and owner, Puget Sound area, Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand acres</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	188	239	268	217	912
Douglas-fir/red alder	--	45	57	52	154
Douglas-fir/other hardwood	--	7	17	25	50
Total	188	292	342	293	1,115
Fir-spruce--					
Grand fir	--	3	7	8	18
Noble fir	--	2	23	--	24
Noble fir/red alder	--	4	--	--	4
Pacific silver fir	239	55	69	9	372
Pacific silver fir/red alder	--	2	--	--	2
Subalpine fir	8	--	--	--	8
Mountain hemlock	26	4	10	--	39
Total	273	69	108	16	466
Hemlock-Sitka spruce--					
Western hemlock	261	129	267	15	671
Western hemlock/red alder	--	7	4	8	19
Western hemlock/other hardwood	--	4	4	--	8
Total	261	139	275	22	698
Lodgepole pine	--	2	--	3	6
Other softwood types--					
Western redcedar	16	10	28	21	76
Western redcedar/red alder	--	--	8	7	14
Western redcedar/other hardwood	--	--	--	10	10
Alaska-cedar	3	--	--	--	3
Total	20	10	36	39	104
Total, softwood types	742	513	761	373	2,389
Hardwood types:					
Western hardwoods--					
Red alder	7	33	64	219	324
Red alder/conifer	--	55	58	103	217
Bigleaf maple	10	6	7	64	87
Bigleaf maple/conifer	--	4	18	14	36
Black cottonwood	--	7	7	26	40
Black cottonwood/conifer	--	7	--	12	19
Pacific madrone	--	--	--	7	7
Pacific madrone/conifer	--	--	--	4	4
Oregon ash	--	--	--	7	7
Bitter cherry	--	--	--	3	3
Bitter cherry/conifer	--	--	--	3	3
Other hardwood types	--	--	8	15	23
Other hardwood types/conifer	--	--	--	4	4
Total, hardwood types	18	112	161	482	773
Nonstocked ^b	10	7	15	8	40
All types	769	631	938	864	3,202

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 104--Area of timberland by owner and stand-size class, Puget Sound area, Washington, January 1, 1991^a

Owner	Sawtimber	Poletimber	Seedling-sapling		All classes
			Nonstocked ^b		
<i>Thousand acres</i>					
National Forest	579	27	153	10	769
Other public	425	66	134	7	631
Forest industry	449	178	295	15	938
Other private	597	128	131	8	864
All owners	2,050	399	713	40	3,202

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 105--Area of timberland by owner and site class, Puget Sound area, Washington, January 1, 1991^a

Owner	Site class ^b						All classes
	≥225	165-224	120-164	85-119	50-84	20-49	
<i>Thousand acres</i>							
National Forest	10	156	235	191	158	8	758
Other public	29	217	242	97	20	19	624
Forest industry	114	344	302	94	58	18	930
Other private	24	196	392	172	55	16	854
All owners	178	913	1,171	553	291	60	3,166

^a Totals may be off because of rounding; data subject to sampling error.

^b Mean annual cubic-foot growth per acre at culmination, in fully stocked natural stands. Excludes 36,000 acres of included nonforest land less than 1 acre.

Table 106--Area of timberland by forest type and stand-size class, Puget Sound area, Washington, January 1, 1991^b

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Thousand acres</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	643	105	164	--	912
Douglas-fir/red alder	115	10	28	--	154
Douglas-fir/other hardwood	36	10	4	--	50
Total	794	125	195	--	1,115
Fir-spruce--					
Grand fir	8	--	10	--	18
Noble fir	--	--	24	--	24
Noble fir/red alder	--	--	4	--	4
Pacific silver fir	185	24	163	--	372
Pacific silver fir/red alder	--	--	2	--	2
Subalpine fir	4	3	1	--	8
Mountain hemlock	25	3	11	--	39
Total	222	30	215	--	466
Hemlock-Sitka spruce--					
Western hemlock	468	65	138	--	671
Western hemlock/red alder	15	4	--	--	19
Western hemlock/other hardwood	8	--	--	--	8
Total	491	69	138	--	698
Lodgepole pine	--	2	3	--	6
Other softwood types--					
Western redcedar	60	7	10	--	76
Western redcedar/red alder	14	--	--	--	14
Western redcedar/other hardwood	10	--	--	--	10
Alaska-cedar	2	--	1	--	3
Total	87	7	11	--	104
Total, softwood types	1,594	233	562	--	2,389
Hardwood types:					
Western hardwoods--					
Red alder	194	70	60	--	324
Red alder/conifer	115	57	45	--	217
Bigleaf maple	76	10	1	--	87
Bigleaf maple/conifer	33	--	3	--	36
Black cottonwood	17	--	22	--	40
Black cottonwood/conifer	--	8	11	--	19
Pacific madrone	3	3	--	--	7
Pacific madrone/conifer	4	--	--	--	4
Oregon ash	3	3	--	--	7
Bitter cherry	3	--	--	--	3
Bitter cherry/conifer	--	3	--	--	3
Other hardwood types	4	11	8	--	23
Other hardwood types/conifer	4	--	--	--	4
Total, hardwood types	456	166	151	--	773
Nonstocked ^b	--	--	--	40	40
All types	2,050	399	713	40	3,202

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 107--Number of live trees on timberland by species and diameter class, Puget Sound area, Washington, January 1, 1991^a

Species	Diameter class (inches at breast height)																	All classes
	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+			
Thousand trees																		
Softwoods:																		
Alaska-cedar	1,275	958	688	436	235	236	129	104	62	51	33	29	31	34	141	4,443		
Douglas-fir	70,401	46,607	36,104	30,785	24,029	20,353	14,025	11,205	7,738	5,702	4,083	2,829	2,146	1,258	2,975	280,238		
Grand fir	2,629	1,947	1,448	517	497	352	405	181	174	112	46	67	20	23	39	8,457		
Noble fir	--	--	268	155	64	--	54	46	65	44	29	55	37	27	78	924		
Pacific silver fir	78,276	41,084	15,420	11,026	6,604	3,731	2,530	2,035	1,363	1,259	921	802	730	565	1,557	167,904		
Subalpine fir	1,071	1,056	555	367	75	139	20	32	22	50	10	4	11	3	2	3,417		
Mountain hemlock	7,916	2,357	450	895	530	533	621	483	473	435	431	288	137	157	583	16,289		
Western hemlock	152,433	84,514	54,414	43,179	27,786	16,915	11,889	7,895	4,598	2,857	1,658	1,043	828	528	2,489	413,025		
Lodgepole pine	--	--	725	563	232	175	68	24	--	--	--	--	--	--	--	1,787		
Western white pine	--	423	83	64	53	107	103	20	--	6	16	7	--	--	4	887		
Western redcedar	47,713	26,630	15,764	12,227	7,027	5,184	3,622	2,400	1,774	1,226	1,161	727	599	434	1,851	128,338		
Engelmann spruce	--	--	--	--	--	--	--	29	--	--	15	--	--	--	--	44		
Sitka spruce	--	309	378	160	226	196	160	65	50	--	31	6	11	11	32	1,635		
Pacific yew	2,683	1,349	596	--	123	31	20	--	--	--	--	--	--	--	--	4,802		
Total	364,397	207,233	126,892	100,374	67,480	47,952	33,646	24,520	16,319	11,741	8,435	5,858	4,549	3,041	9,751	1,032,188		
Hardwoods:																		
Red alder	52,928	27,107	18,385	15,588	15,929	12,896	7,568	5,156	2,515	1,129	552	214	97	31	57	160,152		
Oregon ash	309	617	389	259	92	271	108	78	68	--	20	9	6	7	3	2,237		
Quaking aspen	1,544	--	--	144	116	28	--	14	--	--	--	--	--	--	--	1,846		
Western paper birch	846	309	1,103	1,498	1,216	551	213	98	--	10	6	--	--	--	--	5,850		
Bitter cherry	3,120	2,250	949	697	358	139	--	31	--	--	--	--	--	--	--	7,544		
Black cottonwood	1,544	1,029	808	677	897	535	358	162	549	274	233	230	193	119	176	7,783		
Pacific dogwood	845	--	81	--	--	--	--	--	--	--	--	--	--	--	--	926		
Pacific madrone	1,404	1,181	883	613	630	444	324	189	75	104	18	32	--	6	--	5,904		
Bigleaf maple	5,937	5,258	5,535	4,903	2,874	3,049	1,535	1,538	1,197	616	379	223	179	164	392	33,779		
Oregon white oak	335	--	189	--	--	--	--	--	--	--	--	9	7	--	--	540		
Willow	86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	86		
Other trees	3,675	4,952	1,990	665	447	217	129	17	--	10	20	--	--	--	--	12,122		
Total	72,573	42,703	30,312	25,045	22,559	18,131	10,235	7,283	4,403	2,144	1,228	717	483	326	628	238,769		
All species	436,969	249,936	157,204	125,419	90,039	66,083	43,880	31,803	20,722	13,885	9,664	6,576	5,032	3,367	10,378	1,270,958		

-- = none found or less than 500 trees.

^a Totals may be off because of rounding; data subject to sampling error.

Table 108--Number of growing stock trees on timberland by species and diameter class, Puget Sound area, Washington, January 1, 1991^a

Species	Diameter class (inches at breast height)																All classes
	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
Thousand trees																	
Softwoods:																	
Alaska-cedar	1,540	1,088	480	436	203	236	110	104	51	51	33	29	15	34	128	4,538	
Douglas-fir	67,855	44,478	35,649	30,499	23,677	19,932	13,694	11,152	7,668	5,680	4,031	2,814	2,106	1,233	2,919	273,386	
Grand fir	2,629	1,235	1,448	517	497	352	405	181	174	112	46	67	20	23	39	7,744	
Noble fir	--	--	268	155	64	--	54	46	65	44	29	55	32	27	78	918	
Pacific silver fir	73,745	42,799	14,183	10,836	6,245	3,643	2,492	2,007	1,320	1,251	900	796	719	557	1,530	163,023	
Subalpine fir	885	1,240	555	367	75	139	20	32	22	41	10	4	7	3	2	3,403	
Mountain hemlock	8,461	2,259	381	895	530	482	608	483	473	418	417	288	127	157	550	16,529	
Western hemlock	140,282	79,541	51,871	41,522	26,937	16,547	11,571	7,769	4,568	2,793	1,582	1,020	782	515	2,333	389,630	
Lodgepole pine	--	--	725	563	232	175	68	24	--	--	--	--	--	--	--	1,787	
Western white pine	--	--	83	64	53	107	103	20	--	6	16	7	--	--	4	464	
Western redcedar	41,764	24,267	15,065	11,692	6,907	4,986	3,498	2,322	1,709	1,226	1,129	707	587	410	1,782	118,052	
Engelmann spruce	--	--	--	--	--	--	--	29	--	--	15	--	--	--	--	44	
Sitka spruce	--	309	378	160	226	196	160	65	50	--	31	6	11	11	32	1,635	
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	337,160	197,215	121,086	97,706	65,646	46,795	32,782	24,235	16,100	11,621	8,239	5,793	4,406	2,970	9,397	981,153	
Hardwoods:																	
Red alder	47,383	25,884	18,385	15,394	15,561	12,810	7,361	5,053	2,479	1,113	525	199	97	31	51	152,329	
Oregon ash	309	309	311	259	92	271	108	78	68	--	20	9	6	7	3	1,851	
Quaking aspen	1,544	--	--	144	116	28	--	14	--	--	--	--	--	--	--	1,846	
Western paper birch	846	309	1,002	1,498	1,216	551	213	54	--	10	6	--	--	--	--	5,705	
Bitter cherry	2,699	1,942	949	697	358	139	--	31	--	--	--	--	--	--	--	6,814	
Black cottonwood	1,544	1,029	597	677	863	535	297	162	549	274	233	230	188	119	176	7,472	
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pacific madrone	1,404	1,181	883	613	525	392	235	172	75	94	18	25	--	6	--	5,623	
Bigleaf maple	5,290	4,263	4,270	4,903	2,834	2,859	1,457	1,470	1,153	587	362	193	159	149	332	30,279	
Oregon white oak	335	--	189	--	--	--	--	--	--	--	--	9	--	--	--	533	
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	61,353	34,916	26,587	24,187	21,565	17,586	9,670	7,035	4,324	2,078	1,164	665	452	312	562	212,453	
All species	398,513	232,131	147,673	121,892	87,211	64,381	42,453	31,269	20,424	13,699	9,403	6,458	4,858	3,282	9,959	1,193,606	

-- = none found or less than 500 trees.

^a Totals may be off because of rounding; data subject to sampling error.

Table 109--Net volume of growing stock on timberland by species and diameter class, Puget Sound area, Washington, January 1, 1991^a

Species	Diameter class (inches at breast height)														All classes
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
Million cubic feet															
Softwoods:															
Alaska-cedar	1	2	2	4	2	3	2	3	2	2	1	3	24	51	
Douglas-fir	102	224	327	451	472	538	477	460	411	344	301	208	835	5,150	
Grand fir	4	4	9	9	16	9	12	10	4	9	3	5	13	106	
Noble fir	1	1	1	--	2	2	4	4	3	7	5	5	24	57	
Pacific silver fir	38	70	76	73	78	86	82	96	88	93	100	93	444	1,415	
Subalpine fir	2	2	1	3	--	1	1	3	1	--	1	--	--	15	
Mountain hemlock	1	4	6	9	13	16	21	23	27	23	13	18	104	277	
Western hemlock	155	309	402	399	414	376	285	218	142	116	97	77	582	3,572	
Lodgepole pine	2	4	3	4	2	1	--	--	--	--	--	--	--	16	
Western white pine	--	1	1	3	4	1	--	--	1	1	--	--	1	15	
Western redcedar	41	74	82	94	92	86	83	76	87	63	62	50	447	1,339	
Engelmann spruce	--	--	--	--	--	1	--	--	1	--	--	--	--	2	
Sitka spruce	1	1	3	5	6	3	3	--	3	1	2	1	11	38	
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	347	697	912	1,052	1,101	1,124	969	891	770	659	585	460	2,485	12,052	
Hardwoods:															
Red alder	63	129	250	334	268	247	154	86	47	22	12	4	10	1,626	
Oregon ash	1	2	2	7	4	4	4	--	2	1	1	1	1	30	
Quaking aspen	--	2	2	1	--	1	--	--	--	--	--	--	--	4	
Western paper birch	4	14	21	13	7	3	--	1	--	--	--	--	--	62	
Bitter cherry	3	6	6	3	--	1	--	--	--	--	--	--	--	20	
Black cottonwood	2	6	14	13	14	9	41	26	28	32	28	22	42	277	
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pacific madrone	2	4	7	8	6	7	3	5	1	2	--	1	--	45	
Bigleaf maple	16	37	42	67	53	69	66	44	31	21	19	20	63	549	
Oregon white oak	--	--	--	--	--	--	--	--	--	1	--	--	--	1	
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	92	200	343	445	351	341	268	161	109	79	60	48	116	2,614	
All species	439	897	1,255	1,497	1,453	1,465	1,237	1,052	880	738	644	508	2,601	14,666	

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

Table 110--Net volume of sawtimber on timberland by species and diameter class, Puget Sound area, Washington, January 1, 1991^{a, b}

Species	Diameter class (inches at breast height)											All classes
	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+	
<i>Million board feet, Scribner rule</i>												
Softwoods:												
Alaska-cedar	3	10	7	12	5	12	9	9	7	16	126	215
Douglas-fir	853	1,483	1,774	2,175	2,022	2,041	1,912	1,640	1,462	1,027	4,165	20,553
Grand fir	25	31	62	39	53	46	20	42	14	28	75	435
Noble fir	4	--	8	7	18	17	15	33	24	25	135	287
Pacific silver fir	175	226	284	348	369	448	433	471	524	513	2,625	6,416
Subalpine fir	1	8	2	5	4	10	3	1	3	1	1	40
Mountain hemlock	12	24	41	60	83	96	115	106	64	92	579	1,272
Western hemlock	1,084	1,325	1,511	1,455	1,173	924	605	548	471	399	3,776	13,272
Lodgepole pine	8	11	4	4	--	--	--	--	--	--	--	27
Western white pine	3	10	17	4	--	2	7	7	--	--	8	57
Western redcedar	189	273	299	301	315	300	353	260	258	215	2,259	5,023
Engelmann spruce	--	--	--	3	--	--	4	--	--	--	--	6
Sitka spruce	8	15	22	12	10	--	11	4	9	5	55	151
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--
Total	2,366	3,415	4,031	4,426	4,052	3,895	3,486	3,122	2,835	2,321	13,804	47,754
Hardwoods:												
Red alder	28	1,263	1,211	1,214	781	454	249	116	65	23	51	5,455
Oregon ash	--	27	16	19	22	--	10	7	5	6	5	117
Quaking aspen	--	2	--	4	--	--	--	--	--	--	--	6
Western paper birch	--	44	30	14	--	4	1	--	--	--	--	92
Bitter cherry	--	13	--	3	--	--	--	--	--	--	--	16
Black cottonwood	--	46	66	49	224	144	166	192	164	129	248	1,429
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--
Pacific madrone	--	26	28	32	14	21	6	11	--	2	--	140
Bigleaf maple	14	247	245	335	323	224	155	112	93	110	322	2,179
Oregon white oak	--	--	--	--	--	--	--	2	--	--	--	2
Willow	--	--	--	--	--	--	--	--	--	--	--	--
Other trees	--	--	--	--	--	--	--	--	--	--	--	--
Total	43	1,669	1,596	1,670	1,365	846	587	440	326	270	626	9,437
All species	2,409	5,083	5,627	6,096	5,417	4,742	4,073	3,562	3,162	2,591	14,430	57,191

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 111—Net volume of growing stock on timberland by species and owner, Puget Sound area, Washington, January 1, 1991^{a,b}

Species	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Softwoods:					
Alaska-cedar	46	4	--	1	51
Douglas-fir	1,152	1,696	1,036	1,266	5,150
Grand fir	5	23	18	61	106
Noble fir	57	--	--	--	57
Pacific silver fir	1,125	150	140	--	1,415
Subalpine fir	15	--	--	--	15
Mountain hemlock	260	14	3	--	277
Western hemlock	1,228	814	1,235	295	3,572
Lodgepole pine	--	1	2	14	16
Western white pine	2	1	2	9	15
Western redcedar	384	250	288	416	1,339
Engelmann spruce	2	--	--	--	2
Sitka spruce	1	9	17	12	38
Pacific yew	--	--	--	--	--
Total	4,277	2,961	2,741	2,073	12,052
Hardwoods:					
Red alder	69	338	411	807	1,626
Oregon ash	--	--	--	30	30
Quaking aspen	--	--	--	4	4
Western paper birch	--	7	23	32	62
Bitter cherry	--	4	5	11	20
Black cottonwood	13	55	70	138	277
Pacific dogwood	--	--	--	--	--
Pacific madrone	--	8	--	37	45
Bigleaf maple	25	103	97	323	549
Oregon white oak	--	--	--	1	1
Willow	--	--	--	--	--
Other trees	--	--	--	--	--
Total	108	516	607	1,383	2,614
All species	4,385	3,477	3,348	3,456	14,666

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes trees 5 inches in d.b.h. and larger.

Table 112--Net volume of sawtimber on timberland by species and owner, Puget Sound area, Washington, January 1, 1991^{a, b}

Species	National Forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwoods:					
Alaska-cedar	197	16	--	3	215
Douglas-fir	4,457	7,362	3,946	4,788	20,553
Grand fir	30	95	60	250	435
Noble fir	287	--	--	--	287
Pacific silver fir	5,418	590	408	1	6,416
Subalpine fir	40	--	--	--	40
Mountain hemlock	1,209	53	10	--	1,272
Western hemlock	5,551	2,679	3,973	1,069	13,272
Lodgepole pine	--	--	4	23	27
Western white pine	13	3	9	32	57
Western redcedar	1,815	824	920	1,465	5,023
Engelmann spruce	6	--	--	--	6
Sitka spruce	3	31	68	50	151
Pacific yew	--	--	--	--	--
Total	19,027	11,652	9,396	7,680	47,754
Hardwoods:					
Red alder	209	1,262	1,334	2,650	5,455
Oregon ash	--	--	--	117	117
Quaking aspen	--	--	--	6	6
Western paper birch	--	7	25	61	92
Bitter cherry	--	1	--	15	16
Black cottonwood	64	279	349	737	1,429
Pacific dogwood	--	--	--	--	--
Pacific madrone	--	15	--	125	140
Bigleaf maple	61	391	364	1,363	2,179
Oregon white oak	--	--	--	2	2
Willow	--	--	--	--	--
Other trees	--	--	--	--	--
Total	334	1,955	2,071	5,077	9,437
All species	19,361	13,606	11,467	12,756	57,191

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes softwood trees 9.0 inches in d.b.h. and larger and hardwood trees 11.0 inches in d.b.h. and larger. National Forest data include hardwood trees 9.0 inches in d.b.h. and larger.

Table 113—Net volume of growing stock on timberland by forest type and stand-size class, Puget Sound area, Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Million cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	4,463	198	23	--	4,684
Douglas-fir/red alder	712	33	7	--	753
Douglas-fir/other hardwood	184	17	--	--	202
Total	5,360	249	30	--	5,638
Fir-spruce--					
Grand fir	45	--	1	--	46
Noble fir	--	--	1	--	1
Noble fir/red alder	--	--	9	--	9
Pacific silver fir	1,480	42	74	--	1,597
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	17	4	--	--	20
Mountain hemlock	170	3	2	--	176
Total	1,712	49	88	--	1,849
Hemlock-Sitka spruce--					
Western hemlock	3,167	188	43	--	3,398
Western hemlock/red alder	102	6	--	--	108
Western hemlock/other hardwood	62	--	--	--	62
Total	3,331	194	43	--	3,568
Lodgepole pine	--	1	14	--	15
Other softwood types--					
Western redcedar	452	14	10	--	477
Western redcedar/red alder	50	--	--	--	50
Western redcedar/other hardwood	50	--	--	--	50
Alaska-cedar	11	--	--	--	11
Total	564	14	10	--	589
Total, softwood types	10,967	508	184	--	11,659
Hardwood types:					
Western hardwoods--					
Red alder	971	209	31	--	1,211
Red alder/conifer	730	178	5	--	913
Bigleaf maple	335	47	--	--	382
Bigleaf maple/conifer	170	--	6	--	176
Black cottonwood	112	--	4	--	116
Black cottonwood/conifer	--	10	3	--	12
Pacific madrone	15	6	--	--	21
Pacific madrone/conifer	12	--	--	--	12
Oregon ash	18	14	--	--	32
Bitter cherry	9	--	--	--	9
Bitter cherry/conifer	--	10	--	--	10
Other hardwood types	18	44	7	--	68
Other hardwood types/conifer	18	--	--	--	18
Total, hardwood types	2,406	518	56	--	2,980
Nonstocked ^b	--	--	--	28	28
All types	13,373	1,025	240	28	14,666

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 114--Net volume of sawtimber on timberland by forest type and stand-size class, Puget Sound area, Washington, January 1, 1991^a

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Million board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	17,375	323	44	--	17,742
Douglas-fir/red alder	2,727	58	24	--	2,809
Douglas-fir/other hardwood	719	25	--	--	744
Total	20,821	407	68	--	21,296
Fir-spruce--					
Grand fir	184	--	--	--	184
Noble fir	--	--	1	--	1
Noble fir/red alder	--	--	35	--	35
Pacific silver fir	7,559	67	392	--	8,018
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	52	1	--	--	53
Mountain hemlock	674	4	8	--	686
Total	8,469	72	436	--	8,978
Hemlock-Sitka spruce--					
Western hemlock	12,395	272	152	--	12,820
Western hemlock/red alder	421	5	--	--	426
Western hemlock/other hardwood	211	--	--	--	211
Total	13,027	276	152	--	13,456
Lodgepole pine	--	1	42	--	43
Other softwood types--					
Western redcedar	1,768	28	31	--	1,827
Western redcedar/red alder	149	--	--	--	149
Western redcedar/other hardwood	185	--	--	--	185
Alaska-cedar	39	--	--	--	39
Total	2,141	28	31	--	2,200
Total, softwood types	44,458	785	730	--	45,972
Hardwood types:					
Western hardwoods--					
Red alder	3,885	491	90	--	4,465
Red alder/conifer	2,893	461	4	--	3,358
Bigleaf maple	1,394	146	--	--	1,540
Bigleaf maple/conifer	627	--	25	--	652
Black cottonwood	526	--	7	--	533
Black cottonwood/conifer	--	10	--	--	10
Pacific madrone	50	15	--	--	65
Pacific madrone/conifer	51	--	--	--	51
Oregon ash	78	39	--	--	117
Bitter cherry	25	--	--	--	25
Bitter cherry/conifer	--	27	--	--	27
Other hardwood types	55	110	23	--	189
Other hardwood types/conifer	72	--	--	--	72
Total, hardwood types	9,657	1,299	149	--	11,104
Nonstocked ^b	--	--	--	114	114
All types	54,115	2,083	878	114	57,191

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 115—Net volume of growing stock on timberland, by forest type and owner, Puget Sound area, Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	1,200	1,624	845	1,015	4,684
Douglas-fir/red alder	--	333	231	189	753
Douglas-fir/other hardwood	--	43	41	118	202
Total	1,200	2,000	1,116	1,322	5,638
Fir-spruce--					
Grand fir	--	--	1	45	46
Noble fir	--	--	1	--	1
Noble fir/red alder	--	9	--	--	9
Pacific silver fir	1,474	94	28	1	1,597
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	20	--	--	--	20
Mountain hemlock	153	18	5	--	176
Total	1,647	121	35	46	1,849
Hemlock-Sitka spruce--					
Western hemlock	1,367	735	1,254	41	3,398
Western hemlock/red alder	--	35	30	43	108
Western hemlock/other hardwood	--	35	27	--	62
Total	1,367	806	1,311	84	3,568
Lodgepole pine	--	1	--	14	15
Other softwood types--					
Western redcedar	90	77	190	120	477
Western redcedar/red alder	--	--	25	26	50
Western redcedar/other hardwood	--	--	--	50	50
Alaska-cedar	11	--	--	--	11
Total	101	77	215	196	589
Total, softwood types	4,316	3,004	2,677	1,662	11,659
Hardwood types:					
Western hardwoods--					
Red alder	42	155	248	767	1,211
Red alder/conifer	--	233	247	432	913
Bigleaf maple	28	27	40	287	382
Bigleaf maple/conifer	--	10	84	81	176
Black cottonwood	--	47	--	69	116
Black cottonwood/conifer	--	--	--	12	12
Pacific madrone	--	--	--	21	21
Pacific madrone/conifer	--	--	--	12	12
Oregon ash	--	--	--	32	32
Bitter cherry	--	--	--	9	9
Bitter cherry/conifer	--	--	--	10	10
Other hardwood types	--	--	34	34	68
Other hardwood types/conifer	--	--	--	18	18
Total, hardwood types	70	472	654	1,783	2,980
Nonstocked ^b	--	1	16	11	28
All types	4,385	3,477	3,348	3,456	14,666

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 116—Net volume of sawtimber on timberland by forest type and owner, Puget Sound area, Washington, January 1, 1991^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	4,373	6,694	2,987	3,688	17,742
Douglas-fir/red alder	--	1,335	779	696	2,809
Douglas-fir/other hardwood	--	168	120	456	744
Total	4,373	8,198	3,885	4,840	21,296
Fir-spruce--					
Grand fir	--	--	--	184	184
Noble fir	--	--	1	--	1
Noble fir/red alder	--	35	--	--	35
Pacific silver fir	7,624	361	32	1	8,018
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	53	--	--	--	53
Mountain hemlock	607	66	12	--	686
Total	8,284	463	46	185	8,978
Hemlock-Sitka spruce--					
Western hemlock	6,037	2,528	4,111	144	12,820
Western hemlock/red alder	--	129	122	174	426
Western hemlock/other hardwood	--	120	90	--	211
Total	6,037	2,777	4,323	318	13,456
Lodgepole pine	--	1	--	42	43
Other softwood types--					
Western redcedar	372	293	697	465	1,827
Western redcedar/red alder	--	--	54	95	149
Western redcedar/other hardwood	--	--	--	185	185
Alaska-cedar	39	--	--	--	39
Total	410	293	752	745	2,200
Total, softwood types	19,104	11,731	9,006	6,131	45,972
Hardwood types:					
Western hardwoods--					
Red alder	163	601	962	2,740	4,465
Red alder/conifer	--	946	854	1,558	3,358
Bigleaf maple	94	106	164	1,175	1,540
Bigleaf maple/conifer	--	38	322	293	652
Black cottonwood	--	182	--	351	533
Black cottonwood/conifer	--	--	--	10	10
Pacific madrone	--	--	--	65	65
Pacific madrone/conifer	--	--	--	51	51
Oregon ash	--	--	--	117	117
Bitter cherry	--	--	--	25	25
Bitter cherry/conifer	--	--	--	27	27
Other hardwood types	--	--	93	96	189
Other hardwood types/conifer	--	--	--	72	72
Total, hardwood types	257	1,872	2,395	6,580	11,104
Nonstocked ^b	--	3	66	45	114
All types	19,361	13,606	11,467	12,756	57,191

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 117--Net volume of timber on timberland by class of timber and species group, Puget Sound area, Washington, January 1, 1991^a

Class of timber	Softwoods	Hardwoods	All species
<i>Million cubic feet</i>			
Growing-stock trees:			
Sawtimber trees--			
Saw-log portion ^b	6,687	1,703	8,390
Upper-stem portion ^b	258	199	457
Total ^c	11,008	1,979	12,987
Poletimber	1,044	635	1,679
Total growing-stock trees	12,052	2,614	14,666
Cull trees:			
Sound cull	20	34	54
Rotten cull	65	29	94
Total cull trees	85	63	148
Salvable dead trees	282	5	287
All timber	12,419	2,682	15,101

^a Totals may be off because of rounding; data subject to sampling error.

^b Volume distribution by saw-log portion and upper-stem portion is unavailable for Mount Baker-Snoqualmie National Forest.

^c Includes total volume for Mount Baker-Snoqualmie National Forest.

Table 118—Current net annual growth of growing stock on timberland by forest type and owner, Puget Sound area, Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	13,005	46,429	37,122	30,723	127,280
Douglas-fir/red alder	--	11,615	9,584	6,907	28,105
Douglas-fir/other hardwood	--	1,432	2,907	4,081	8,420
Total	13,005	59,476	49,613	41,711	163,805
Fir-spruce--					
Grand fir	--	--	186	1,551	1,736
Noble fir	--	--	210	--	210
Noble fir/red alder	--	689	--	--	689
Pacific silver fir	3,481	3,382	2,657	54	9,574
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	143	--	--	--	143
Mountain hemlock	801	24	506	--	1,332
Total	4,426	4,096	3,560	1,604	13,686
Hemlock-Sitka spruce--					
Western hemlock	7,501	27,155	58,599	1,162	94,418
Western hemlock/red alder	--	1,443	1,189	1,688	4,319
Western hemlock/other hardwood	--	1,368	1,329	--	2,698
Total	7,501	29,966	61,117	2,850	101,435
Lodgepole pine	--	107	--	395	502
Other softwood types--					
Western redcedar	480	2,047	5,744	4,273	12,543
Western redcedar/red alder	--	--	1,743	988	2,730
Western redcedar/other hardwood	--	--	--	1,743	1,743
Alaska-cedar	175	--	--	--	175
Total	655	2,047	7,487	7,003	17,192
Total, softwood types	25,588	95,691	121,777	53,563	296,619
Hardwood types:					
Western hardwoods--					
Red alder	498	4,209	6,104	27,569	38,380
Red alder/conifer	--	6,554	9,337	15,451	31,342
Bigleaf maple	475	797	1,157	8,467	10,896
Bigleaf maple/conifer	--	165	2,502	2,802	5,469
Black cottonwood	--	2,146	--	2,585	4,731
Black cottonwood/conifer	--	--	--	1,015	1,015
Pacific madrone	--	--	--	735	735
Pacific madrone/conifer	--	--	--	477	477
Oregon ash	--	--	--	743	743
Bitter cherry	--	--	--	246	246
Bitter cherry/conifer	--	--	--	778	778
Other hardwood types	--	--	1,545	1,967	3,512
Other hardwood types/conifer	--	--	--	753	753
Total, hardwood types	973	13,872	20,645	63,588	99,078
Nonstocked ^b	--	11	237	389	637
All types	26,561	109,574	142,659	117,541	396,334

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 119--Current net annual growth of sawtimber on timberland by forest type and owner, Puget Sound area, Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand board feet, Scribner rule^b</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	63,382	243,510	174,398	150,881	632,171
Douglas-fir/red alder	--	55,343	47,257	33,111	135,710
Douglas-fir/other hardwood	--	6,311	12,820	22,254	41,386
Total	63,382	305,164	234,475	206,247	809,267
Fir-spruce--					
Grand fir	--	--	--	8,044	8,044
Noble fir	--	--	98	--	98
Noble fir/red alder	--	2,150	--	--	2,150
Pacific silver fir	22,101	9,720	2,807	51	34,679
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	-31	--	--	--	-31
Mountain hemlock	6,812	200	392	--	7,404
Total	28,881	12,070	3,296	8,095	52,343
Hemlock-Sitka spruce--					
Western hemlock	48,073	120,036	264,130	5,076	437,315
Western hemlock/red alder	--	5,758	6,151	9,842	21,750
Western hemlock/other hardwood	--	5,357	5,469	--	10,826
Total	48,073	131,150	275,751	14,918	469,891
Lodgepole pine	--	145	--	1,347	1,491
Other softwood types--					
Western redcedar	3,811	9,985	26,998	19,738	60,532
Western redcedar/red alder	--	--	7,277	4,947	12,224
Western redcedar/other hardwood	--	--	--	7,914	7,914
Alaska-cedar	329	--	--	--	329
Total	4,140	9,985	34,275	32,600	81,000
Total, softwood types	144,476	458,513	547,797	263,207	1,413,993
Hardwood types:					
Western hardwoods--					
Red alder	863	25,320	36,561	131,286	194,030
Red alder/conifer	--	36,730	50,532	70,612	157,875
Bigleaf maple	1,770	6,957	5,611	62,428	76,765
Bigleaf maple/conifer	--	714	11,486	14,064	26,264
Black cottonwood	--	9,315	--	15,735	25,050
Black cottonwood/conifer	--	--	--	2,108	2,108
Pacific madrone	--	--	--	4,841	4,841
Pacific madrone/conifer	--	--	--	2,460	2,460
Oregon ash	--	--	--	2,660	2,660
Bitter cherry	--	--	--	984	984
Bitter cherry/conifer	--	--	--	2,975	2,975
Other hardwood types	--	--	7,250	7,335	14,585
Other hardwood types/conifer	--	--	--	4,245	4,245
Total, hardwood types	2,633	79,035	111,440	321,733	514,841
Nonstocked ^c	--	74	1,420	2,027	3,521
All types	147,109	537,623	660,658	586,967	1,932,356

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative net annual growth is the result of annual mortality exceeding gross annual growth.

^c Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 120--Average annual mortality of growing stock on timberland by forest type and owner, Puget Sound area, Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	6,311	9,138	5,211	8,317	28,977
Douglas-fir/red alder	--	2,471	1,782	1,266	5,518
Douglas-fir/other hardwood	--	314	302	715	1,331
Total	6,311	11,922	7,295	10,298	35,826
Fir-spruce--					
Grand fir	--	--	6	242	247
Noble fir	--	--	6	--	6
Noble fir/red alder	--	12	--	--	12
Pacific silver fir	8,689	430	141	3	9,263
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	292	--	--	--	292
Mountain hemlock	503	75	30	--	609
Total	9,484	518	182	245	10,429
Hemlock-Sitka spruce--					
Western hemlock	7,506	5,495	9,582	419	23,002
Western hemlock/red alder	--	138	119	247	504
Western hemlock/other hardwood	--	408	173	--	581
Total	7,506	6,041	9,874	666	24,087
Lodgepole pine	--	3	--	160	163
Other softwood types--					
Western redcedar	403	352	1,258	323	2,336
Western redcedar/red alder	--	--	96	113	209
Western redcedar/other hardwood	--	--	--	233	233
Alaska-cedar	66	--	--	--	66
Total	470	352	1,354	668	2,844
Total, softwood types	23,771	18,837	18,705	12,037	73,350
Hardwood types:					
Western hardwoods--					
Red alder	198	1,233	2,865	6,977	11,273
Red alder/conifer	--	1,877	2,385	3,055	7,317
Bigleaf maple	86	361	436	2,274	3,157
Bigleaf maple/conifer	--	61	599	700	1,360
Black cottonwood	--	474	--	491	965
Black cottonwood/conifer	--	--	--	135	135
Pacific madrone	--	--	--	304	304
Pacific madrone/conifer	--	--	--	44	44
Oregon ash	--	--	--	292	292
Bitter cherry	--	--	--	44	44
Bitter cherry/conifer	--	--	--	99	99
Other hardwood types	--	--	353	283	637
Other hardwood types/conifer	--	--	--	177	177
Total, hardwood types	284	4,007	6,638	14,876	25,805
Nonstocked ^b	--	5	160	54	218
All types	24,055	22,849	25,503	26,966	99,373

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 121--Average annual mortality of sawtimber on timberland by forest type and owner, Puget Sound area, Washington, 1990^a

Forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand board feet, Scribner rule</i>					
Softwood types:					
Douglas-fir--					
Douglas-fir	20,636	29,002	14,131	23,166	86,935
Douglas-fir/red alder	--	7,818	3,503	3,239	14,560
Douglas-fir/other hardwood	--	691	705	1,960	3,356
Total	20,636	37,512	18,339	28,364	104,851
Fir-spruce--					
Grand fir	--	--	--	786	786
Noble fir	--	--	2	--	2
Noble fir/red alder	--	26	--	--	26
Pacific silver fir	45,094	1,506	168	4	46,771
Pacific silver fir/red alder	--	--	--	--	--
Subalpine fir	809	--	--	--	809
Mountain hemlock	1,890	280	110	--	2,279
Total	47,793	1,811	280	790	50,673
Hemlock-Sitka spruce--					
Western hemlock	31,186	13,629	21,981	1,059	67,855
Western hemlock/red alder	--	474	476	872	1,821
Western hemlock/other hardwood	--	818	185	--	1,003
Total	31,186	14,921	22,642	1,931	70,679
Lodgepole pine	--	3	--	368	370
Other softwood types--					
Western redcedar	1,455	1,092	3,120	1,120	6,787
Western redcedar/red alder	--	--	122	267	389
Western redcedar/other hardwood	--	--	--	830	830
Alaska-cedar	289	--	--	--	289
Total	1,744	1,092	3,242	2,217	8,294
Total, softwood types	101,358	55,338	44,503	33,669	234,868
Hardwood types:					
Western hardwoods--					
Red alder	738	3,976	9,771	18,718	33,204
Red alder/conifer	--	6,558	5,571	7,830	19,959
Bigleaf maple	219	1,013	1,496	7,572	10,299
Bigleaf maple/conifer	--	221	1,848	1,872	3,941
Black cottonwood	--	1,367	--	2,284	3,651
Black cottonwood/conifer	--	--	--	34	34
Pacific madrone	--	--	--	701	701
Pacific madrone/conifer	--	--	--	149	149
Oregon ash	--	--	--	885	885
Bitter cherry	--	--	--	119	119
Bitter cherry/conifer	--	--	--	59	59
Other hardwood types	--	--	438	454	892
Other hardwood types/conifer	--	--	--	604	604
Total, hardwood types	957	13,135	19,124	41,281	74,497
Nonstocked ^b	--	21	585	201	807
All types	102,315	68,495	64,211	75,152	310,172

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 122--Area by county and land class, Puget Sound area, Washington, January 1, 1991^a

County	Forest land				Total	Nonforest land ^b	All land ^c
	Timberland	Reserved timberland	Other forest	Reserved other forest			
<i>Thousand hectares</i>							
Island	30	--	2	--	33	21	55
King	275	24	15	18	332	216	548
Kitsap	64	--	2	--	66	36	103
Pierce	231	45	7	30	313	123	436
San Juan	27	1	--	1	30	17	46
Skagit	236	33	9	23	301	150	451
Snohomish	266	56	19	24	366	180	546
Whatcom	166	64	8	59	298	242	540
All counties	1,296	224	64	155	1,740	985	2,725

-- = none found or less than 500 hectares.

^a Totals may be off because of rounding; data subject to sampling error.

^b Includes cropland, pasture and range, swampland, industrial and urban areas, powerline clearings, railroads, and all improved roads and highways; and water as classified by Forest Inventory and Analysis standards but defined by the Bureau of the Census as land.

^c Source: U.S. Department of Commerce 1983.

Table 123--Area of reserved timberland and other forest land by land class, forest type and owner, Puget Sound area, Washington, January 1, 1991^a

Land class and forest type	National Forest	Other public	Forest industry	Other private	All owners
<i>Thousand acres</i>					
Reserved timberland:					
Douglas-fir	56	108	--	--	164
Fir-spruce	112	90	--	--	202
Hemlock-Sitka spruce	108	55	--	--	163
Lodgepole pine	--	1	--	--	1
Cedar	7	3	--	--	10
Western hardwoods	4	9	--	--	13
Unclassified ^b	1	--	--	--	1
Total	288	266	--	--	554
Reserved other forest:					
Douglas-fir	30	--	--	--	30
Fir-spruce	61	--	--	--	61
Hemlock-Sitka spruce	58	--	--	--	58
Cedar	4	--	--	--	4
Western hardwoods	2	--	--	--	2
Unclassified ^b	--	228	--	--	228
Total	155	228	--	--	384
All reserved	443	495	--	--	938
Unreserved other forest:					
Douglas-fir	16	--	--	--	16
Fir-spruce	32	--	--	--	32
Hemlock-Sitka spruce	29	--	--	--	29
Cedar	2	--	--	--	2
Western hardwoods	2	--	--	--	2
Unclassified ^b	--	29	33	14	77
Total	82	29	33	14	159

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Information on forest type unavailable.

Table 124--Area of timberland by owner and stand-size class, Puget Sound area, Washington, January 1, 1991^a

Owner	Sawtimber	Poletimber	Seedling-sapling	Nonstocked ^b	All classes
<i>Thousand hectares</i>					
National Forest	234	11	62	4	311
Other public	172	27	54	3	255
Forest industry	182	72	119	6	380
Other private	242	52	53	3	350
All owners	830	161	289	16	1,296

^a Totals may be off because of rounding; data subject to sampling error.

^b Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 126--Net volume of growing stock and sawtimber on timberland by county and owner, Puget Sound area, Washington, January 1, 1991^a

County	National Forest	Other public	Forest industry	Other private	All owners
<i>Million cubic feet</i>					
Growing stock:					
Island	--	62	--	210	272
King	571	774	935	569	2,849
Kitsap	--	201	101	331	633
Pierce	405	449	790	486	2,130
San Juan	--	28	--	321	349
Skagit	993	769	638	412	2,812
Snohomish	1,471	677	576	644	3,368
Whatcom	947	518	309	483	2,257
All counties	4,385	3,477	3,348	3,456	14,666
<i>Million board feet, Scribner rule</i>					
Sawtimber:					
Island	--	249	--	685	934
King	2,420	2,843	3,341	2,084	10,688
Kitsap	--	718	366	1,222	2,306
Pierce	1,600	1,865	2,645	1,774	7,884
San Juan	--	127	--	1,168	1,295
Skagit	4,543	3,051	2,094	1,441	11,129
Snohomish	6,398	2,801	2,070	2,434	13,703
Whatcom	4,401	1,952	951	1,948	9,252
All counties	19,361	13,606	11,467	12,756	57,191
<i>Million cubic meters</i>					
Growing stock:					
Island	--	2	--	6	8
King	16	22	26	16	81
Kitsap	--	6	3	9	18
Pierce	11	13	22	14	60
San Juan	--	1	--	9	10
Skagit	28	22	18	12	80
Snohomish	42	19	16	18	95
Whatcom	27	15	9	14	64
All counties	124	98	95	98	415

-- = none found or less than 500,000 cubic feet, 500,000 board feet, or 500,000 cubic meters.

^a Totals may be off because of rounding; data subject to sampling error.

Table 127--Current net annual growth, average annual mortality, and average annual removals of growing stock on timberland by species and owner, Puget Sound area, Washington, 1990^a

Species	National Forest ^b			Other public			Forest industry			Other private			All owners ^c			
	Current net annual growth	Average annual mortality	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality
Thousand cubic feet ^d																
Softwoods:																
Alaska-cedar	354	28	4	30	2,418	--	--	--	--	24	3	--	--	382	61	
Douglas-fir	9,358	6,085	49,739	8,261	18,137	47,747	4,958	41,386	42,906	8,397	36,625	149,751	27,702			
Grand fir	37	--	978	131	--	829	132	373	2,213	491	208	4,057	753			
Noble fir	561	48	--	--	--	--	--	--	--	--	--	561	48			
Pacific silver fir	3,924	8,245	5,437	776	5,317	8,192	795	19,395	15	2	2,870	17,569	9,817			
Subalpine fir	-2	290	--	--	--	--	--	--	--	--	--	-2	290			
Mountain hemlock	1,069	205	46	48	257	200	24	9,560	--	--	--	1,315	277			
Western hemlock	7,114	7,159	29,701	6,749	14,116	56,196	10,432	48,646	11,041	1,852	13,604	104,052	26,191			
Lodgepole pine	--	--	80	3	--	24	7	--	200	248	80	304	259			
Western white pine	-171	183	-1	63	--	-74	116	--	-158	500	--	-404	862			
Western redcedar	2,723	1,305	8,428	762	4,317	11,388	914	10,494	15,556	454	4,720	38,096	3,435			
Engelmann spruce	24	--	538	--	--	--	--	--	--	--	--	24	--			
Sitka spruce	6	--	--	46	--	351	193	275	384	48	--	1,279	288			
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total	24,999	23,548	94,949	16,869	44,563	124,853	17,571	130,130	72,183	11,996	58,108	316,984	69,983			
Hardwoods:																
Red alder	1,117	471	9,295	4,033	2,163	11,022	5,683	14,596	26,421	9,650	18,858	47,654	19,837			
Oregon ash	--	--	--	--	--	26	10	360	551	290	--	577	300			
Quaking aspen	--	--	--	--	--	--	--	--	169	43	--	169	43			
Western paper birch	--	--	63	152	200	652	438	--	1,233	461	--	1,947	1,051			
Bitter cherry	--	--	121	100	103	311	99	--	486	234	328	919	433			
Black cottonwood	184	--	2,091	503	421	3,082	675	--	5,807	957	188	11,164	2,135			
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pacific madrone	--	--	171	146	--	--	--	--	812	554	--	983	700			
Bigleaf maple	261	36	2,877	1,033	1,822	2,714	1,027	1,739	9,877	2,777	1,900	15,729	4,874			
Oregon white oak	--	--	7	12	--	--	--	--	3	3	--	10	16			
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Other trees																
Total	1,562	507	14,625	5,980	4,709	17,806	7,933	16,695	45,358	14,971	21,274	79,351	29,390			
All species	26,561	24,055	109,574	22,849	49,272	142,659	25,503	146,825	117,541	26,966	79,381	396,334	99,373			

-- = none found or less than 500 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Removals not available for National Forest.

^c Removals not available for all owners.

^d Negative net annual growth is the result of annual mortality exceeding gross annual growth.

Table 128--Current net annual growth, average annual mortality, and average annual removals of sawtimber on timberland by species and owner, Puget Sound area, Washington, 1990^a

Species	National Forest ^b			Other public			Forest industry			Other private			All owners ^c		
	Current net annual growth	Average annual mortality	Average annual growth	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals	Current net annual growth	Average annual mortality	Average annual removals
<i>Thousand board feet, Scribner rule^d</i>															
Softwoods:															
Alaska-cedar	981	106	60	106	8,718	--	--	--	130	12	--	--	1,171	12	--
Douglas-fir	51,941	20,682	272,115	28,398	89,814	226,745	14,224	170,397	209,318	23,405	148,869	760,119	760,119	23,405	148,869
Grand fir	132	--	5,151	500	--	3,717	353	1,824	12,229	1,455	959	21,230	21,230	1,455	959
Noble fir	2,406	209	--	--	--	--	--	--	--	--	--	2,406	2,406	--	--
Pacific silver fir	27,905	41,014	20,383	2,829	24,890	26,129	1,871	92,116	51	4	13,966	74,468	74,468	4	13,966
Subalpine fir	-427	849	--	--	--	--	--	--	--	--	--	-427	-427	--	--
Mountain hemlock	7,476	568	221	182	1,080	216	106	47,993	--	--	--	7,913	7,913	--	--
Western hemlock	36,970	31,366	124,953	16,299	53,712	266,608	23,613	194,457	57,782	5,233	56,725	486,313	486,313	5,233	56,725
Lodgepole pine	--	--	77	2	--	89	17	--	595	307	--	761	761	307	--
Western white pine	-837	911	4	200	--	-317	533	--	-247	1,745	--	-1,397	-1,397	1,745	--
Western redcedar	17,624	5,155	33,692	1,586	15,360	48,484	1,739	32,051	67,271	1,224	15,050	167,071	167,071	1,224	15,050
Engelmann spruce	99	--	--	--	--	--	--	--	--	--	--	99	99	--	--
Sitka spruce	39	--	1,206	123	--	1,932	670	1,348	1,925	205	--	5,101	5,101	205	--
Pacific yew	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	144,307	100,861	457,861	50,224	193,574	573,603	43,127	540,185	349,055	33,589	235,569	1,524,827	1,524,827	33,589	235,569
Hardwoods:															
Red alder	764	1,453	52,250	13,064	9,032	52,334	14,656	59,038	125,432	23,423	63,009	230,780	230,780	23,423	63,009
Oregon ash	--	--	--	--	--	--	--	927	2,686	1,034	--	2,686	2,686	1,034	--
Quaking aspen	--	--	--	--	--	--	--	--	273	41	--	273	273	41	--
Western paper birch	--	--	275	68	838	1,218	262	--	3,898	721	--	5,391	5,391	721	--
Bitter cherry	--	--	22	10	--	--	--	--	820	189	--	841	841	189	--
Black cottonwood	972	--	11,935	2,040	2,418	21,812	2,929	--	34,270	4,685	--	68,989	68,989	4,685	--
Pacific dogwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pacific madrone	--	--	247	195	--	--	--	--	8,543	1,481	--	8,790	8,790	1,481	--
Bigleaf maple	1,065	--	15,033	2,894	8,528	11,690	3,238	7,891	61,975	9,975	8,348	89,763	89,763	9,975	8,348
Oregon white oak	--	--	--	--	--	--	--	--	15	15	--	15	15	15	--
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other trees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	2,802	1,453	79,762	18,270	20,815	87,054	21,084	67,856	237,912	41,563	72,179	407,530	407,530	41,563	72,179
All species	147,109	102,315	537,623	68,495	214,389	660,658	64,211	608,041	586,967	75,152	307,748	1,932,356	1,932,356	75,152	307,748

-- = none found or less than 500 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Removals not available for National Forest.

^c Removals not available for all owners.

^d Negative net annual growth is the result of annual mortality exceeding gross annual growth.

Table 129--Changes in timberland area on private and other public timberland, by owner, Puget Sound area, Washington, 1979 to 1989^a

Description	Other public	Forest industry	Other private	All owners
	<i>Thousand acres^b</i>			
Timberland area in 1979	604	1,055	908	2,568
Area change due to:				
Changes in land class--				
Timberland to right of way	--	-25	-35	-60
Timberland to urban	--	-7	-43	-49
Timberland to agricultural	--	--	-33	-33
Agricultural to timberland	--	--	12	12
Christmas tree farm to timberland	--	6	--	6
Net change	--	-25	-99	-124
Changes in inventory area--				
To National Forest	--	-24	--	-24
From National Forest	--	22	--	22
To reserved timberland	-5	--	--	-5
Net change	-5	-1	--	-6
Changes in ownership--				
From other public	-17	17	--	--
From forest industry	44	-117	73	--
From other private	--	14	-14	--
Net change	27	-87	60	--
Timberland area in 1989	626	942	869	2,438

-- = none found or less than 500 acres.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of timberland and positive values are gains of timberland. Losses are shown by the 1979 owner and gains are shown by the 1989 owner.

Table 130—Changes in volume of growing stock on private and other public timberland, by species group and owner, Puget Sound area, Washington, 1979 to 1989^a

Description	Other public	Forest industry	Other private	All owners
<i>Million cubic feet^b</i>				
Softwoods:				
Total volume in 1979	2,312	3,390	1,839	7,542
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-211	-238	-449
Nonforest to timberland	--	--	33	33
Net change	--	-210	-206	-416
Changes in inventory area--				
To National Forest	--	-113	--	-113
From National Forest	--	4	--	4
To reserved timberland	-16	--	--	-16
Net change	-16	-110	--	-126
Changes in ownership--				
From other public	-33	33	--	--
From forest industry	192	-493	301	--
From other private	--	58	-58	--
Net change	159	-402	243	--
Growth, mortality and harvest--				
Periodic gross growth	972	1,318	873	3,162
Periodic mortality	-94	-89	-56	-238
Periodic removals	-446	-1,301	-581	-2,328
Net change	432	-72	236	596
Total volume in 1989	2,886	2,598	2,116	7,600
Hardwoods:				
Total volume in 1979	387	673	1,230	2,290
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	--	--	--
Nonforest to timberland	--	-7	-138	-145
Net change	--	-7	-138	-145
Changes in inventory area--				
To National Forest	--	-2	--	-2
From National Forest	--	--	--	--
To reserved timberland	--	7	--	7
Net change	--	5	--	5
Changes in ownership--				
From other public	--	--	--	--
From forest industry	34	-123	89	--
From other private	--	4	-4	--
Net change	34	-119	85	--
Growth, mortality and harvest--				
Periodic gross grow	157	227	530	914
Periodic mortality	-27	-23	-77	-128
Periodic removals	-47	-167	-213	-427
Net change	82	37	240	360
Total volume in 1989	503	589	1,417	2,509

-- = none found or less than 500,000 cubic feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of volume and positive values are gains of volume. Losses are shown by the 1979 owner and gains are shown by the 1989 owner.

Table 131--Changes in volume of sawtimber on private and other public timberland, by species group and owner, Puget Sound area, Washington, 1979 to 1989^a

Description	Other public	Forest industry	Other private	All owners
<i>Million board feet, Scribner rule^b</i>				
Softwoods:				
Total volume in 1979	8,456	12,118	6,113	26,686
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	-947	-838	-1,785
Nonforest to timberland	--	--	85	85
Net change	--	-947	-753	-1,700
Changes in inventory area--				
To National Forest	--	-494	--	-494
From National Forest	--	--	--	--
To reserved timberland	-58	--	--	-58
Net change	-58	-494	--	-552
Changes in ownership--				
From other public	-67	67	--	--
From forest industry	725	-1,872	1,148	--
From other private	--	177	-177	--
Net change	658	-1,628	970	--
Growth, mortality and harvest--				
Periodic gross growth	4,489	5,285	3,820	13,593
Periodic mortality	-248	-217	-155	-621
Periodic removals	-1,936	-5,402	-2,356	-9,693
Net change	2,305	-334	1,309	3,280
Total volume in 1989	11,360	8,715	7,638	27,714
Hardwoods:				
Total volume in 1979	1,222	2,065	3,719	7,006
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	--	--	--
Nonforest to timberland	--	-15	-488	-503
Net change	--	-15	-488	-503
Changes in inventory area--				
To National Forest	--	-5	--	-5
From National Forest	--	--	--	--
To reserved timberland	--	13	--	13
Net change	--	8	--	8
Changes in ownership--				
From other public	--	--	--	--
From forest industry	124	-382	259	--
From other private	--	11	-11	--
Net change	124	-372	248	--
Growth, mortality and harvest--				
Periodic gross growth	761	966	2,515	4,242
Periodic mortality	-55	-40	-127	-222
Periodic removals	-208	-679	-722	-1,608
Net change	497	247	1,667	2,411
Total volume in 1989	1,843	1,933	5,146	8,922

-- = none found or less than 500,000 board feet.

^a Totals may be off because of rounding; data subject to sampling error.

^b Negative values are losses of volume and positive values are gains of volume. Losses are shown by the 1979 owner and gains are shown by the 1989 owner.

Table 132--Timber harvest by owner, Puget Sound area, Washington, 1955-90

Year	National Forest	Other public	Private	All owners
<i>Thousand board feet, Scribner rule</i>				
1955	202,126	126,266	709,648	1,038,040
1956	207,000	161,273	797,281	1,165,554
1957	237,605	83,414	580,268	901,287
1958	232,436	18,254	532,893	783,583
1959	337,381	86,355	696,161	1,119,897
1960	272,794	61,343	804,257	1,138,394
1961	277,886	56,560	647,240	981,686
1962	342,200	79,608	710,599	1,132,407
1963	345,800	185,940	676,995	1,208,735
1964	402,800	135,401	824,866	1,363,067
1965	393,500	141,332	838,497	1,373,329
1966	318,750	147,859	776,923	1,243,532
1967	333,400	122,021	834,730	1,290,151
1968	323,187	174,294	856,445	1,353,926
1969	313,478	151,110	1,236,835	1,701,423
1970	315,100	132,299	1,074,215	1,521,614
1971	242,655	187,490	1,010,579	1,440,724
1972	326,944	206,641	1,058,422	1,592,007
1973	380,232	133,810	1,146,151	1,660,193
1974	241,709	185,996	1,096,971	1,524,676
1975	168,989	159,475	958,205	1,286,669
1976	233,581	153,556	970,550	1,357,687
1977	217,298	177,824	841,727	1,236,849
1978	254,653	262,141	714,029	1,230,823
1979	274,115	235,609	796,995	1,306,719
1980	217,039	143,255	680,189	1,040,483
1981	150,896	81,940	652,111	884,947
1982	124,181	92,465	759,444	976,090
1983	226,368	117,925	758,777	1,103,070
1984	232,555	177,595	705,107	1,115,257
1985	224,599	240,665	736,076	1,201,340
1986	250,754	236,955	856,258	1,343,967
1987	299,704	253,028	844,860	1,397,592
1988	248,957	221,704	837,457	1,308,118
1989	163,177	221,078	907,574	1,291,829
1990	135,367	161,974	1,074,114	1,371,455

Source: State of Washington 1955-90.

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1,000 acres = 404.7 hectares

1,000 cubic feet = 28.3 cubic meters

1 cubic foot per acre = 0.07 cubic meter per hectare

1 foot = 0.3048 meter

1 inch = 2.54 centimeters

1 mile = 1.609 kilometers

Metric Equivalents

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This report summarizes a 1988-90 timber resource inventory of 19 counties in western Washington: Clallam, Clark, Cowlitz, Grays Harbor, Island, Jefferson, King, Kitsap, Lewis, Mason, Pacific, Pierce, San Juan, Skagit, Skamania, Snohomish, Thurston, Wahkiakum, and Whatcom. Detailed tables of forest area, timber volume, growth, mortality, and harvest are presented.

Keywords: Forest surveys, forest inventory, statistics (forest), timber resources, resources (forest), Olympic Peninsula, Washington (western), Puget Sound area, southwest Washington.

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Pacific Northwest Research Station
333 S.W. First Avenue P.O. Box
3890 Portland. Oregon 97208-3890

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Pacific Northwest Research Station
333 S.W. First Avenue
P.O. Box 3890
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