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Timber Resource Statistics for Eastern Washington

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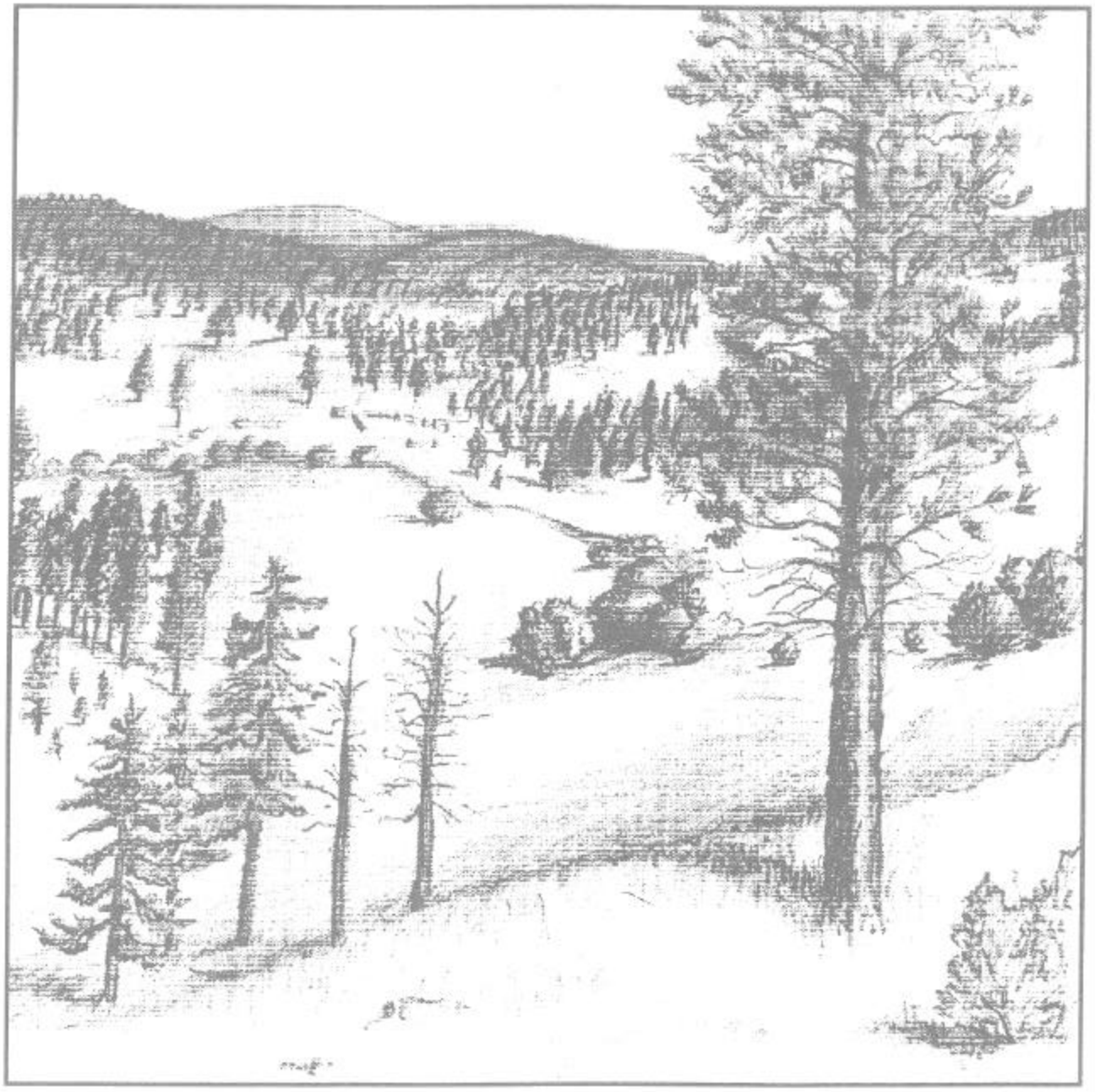

In the original issue of Resource Bulletin PNW-RB-201, July 1994, statistics for sawtimber volume on timberland outside National Forests were based on Scribner 32-foot rule.

This document is reissued as **PNW-RB-201 (revised), February 1995**, with statistics for sawtimber volume on timberland outside National Forests based on **Scribner 16-foot rule**.

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Abstract

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This report summarizes a 1990-91 timber resource inventory of Washington east of the crest of the Cascade Range. The inventory was conducted on all private and public lands except National Forests. Timber resource statistics from National Forest inventories also are presented. Detailed tables provide estimates of forest area, timber volume, growth, mortality, and harvest.

Keywords: Forest surveys, forest inventory, statistics (forest), timber resources, resources (forest), eastern Washington, central Washington.

Summary

Eastern Washington has a total land area of 26,743,000 acres. Forest land out side National Forests is an estimated 5,014,000 acres, and forest land in National Forests reported in this paper is an estimated 4,004,000 acres. Forest land classified as timberland is an estimated 4,008,000 acres outside National Forests and an estimated 2,494,000 acres in the National Forests. On timberland outside National Forests, growing-stock volume is an estimated 9.3 billion cubic feet; 22 percent of this volume is owned by forest industry, 54 percent by nonindustrial private owners, and 24 percent by public owners other than National Forests. In the National Forests, growing-stock volume on timberland is an estimated 6.6 billion cubic feet.

Preface

Forest Inventory and Analysis (FIA) 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, Development and Application Program of the Pacific Northwest Research Station at Portland, Oregon, is responsible for FIA inventories in Alaska, California, Hawaii, Oregon, and Washington.

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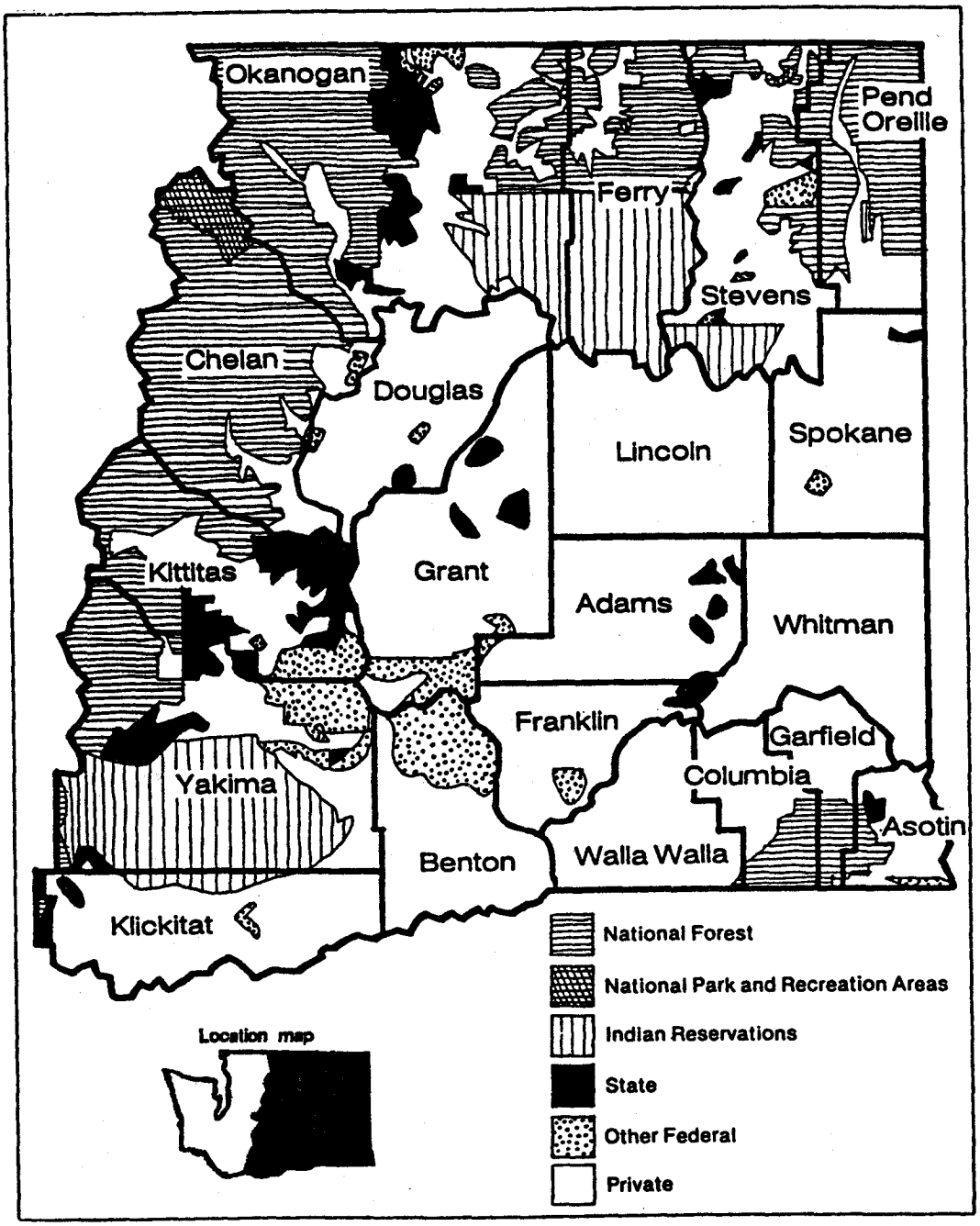
Map of Eastern Washington



Introduction

This report presents timber resource statistics from a 1990-91 inventory of forest resources of the 16 forested counties in Washington east of the crest of the Cascade Range.[1] The inventory sampled all private and public lands except for lands administered by the National Forest System. The inventory was conducted by the Inventory and Economics Research, Development and Application Program of the Pacific North west Research Station. The program previously has inventoried eastern Washington in 1935, 1953-61, 1967-68, and 1980. Five northeastern Washington counties also were inventoried in 1947.

The report also presents timber resource statistics for National Forest lands. These data cover all lands within Washington proclaimed to the Colville, Idaho Panhandle, Okanogan, Umatilla, and Wenatchee National Forests. The statistics are based on inventories conducted by the National Forest System from 1973 through 1981.

The statistical tables presented in this report differ in format from those appearing in earlier inventory reports (Arbogast 1974, Bassett and Oswald 1983, Howard 1973). Tables 1 through 32 provide timber resource statistics for ownerships other than National Forest, and tables 34 through 42, for the National Forests. Table 33 contains timber harvest data for all ownerships. The western core tables (tables 1 through 22) are standard tables designed to provide consistent resource data for all Western States. The supplemental tables (tables 23 through 33) provide information presented in previous reports but omitted from the core tables and new information requested by the users of our inventory data. Tables 30 through 32 present statistics on changes in timberland area and volume for ownerships other than National Forests for the period between the 1980 and 1990-91 inventories.

See "Names of Trees" for scientific nomenclature of all species mentioned in this report. See "Terminology" for definitions of terms used.

Inventory Procedures on Lands Outside National Forests

For lands outside National Forests, the sampling design was double sampling for stratification (Cochran 1977). The primary sample was a grid of 19,961 photo plots established in 1980 and reexamined in 1990-91. At each photo plot, photo-interpreters identified owner group and major land class (timberland, other forest, nonforest). On forested photo plots, stage of development, major type, and broad stocking class were interpreted.

The secondary sample was a grid of 1,246 field plots that subsampled the primary grid at about every 16th photo point. During the 1967-68 inventory, permanent plots were established at every timberland location on the field plot grid. Each plot consisted of 10 subplots distributed across 1 acre. At each subplot, trees 5 inches in diameter at breast height (d.b.h.) and larger were selected by using variable-radius sampling, and trees less than 5 inches in d.b.h. were selected with fixed-radius plots. In 1980, 5 of the 10 subplots were remeasured on each timberland plot, and nonpermanent plots were measured at other forest grid locations.

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[1]The 16 forested counties are Asotin, Chelan, Columbia. Douglas, Ferry, Garifield, Kitittas, Klickitat, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman, and Yakima. Forest resources in Adams, Benton, Franklin, and Grant Counties were not inventoried.

In 1990-91, the five-subplot clusters still timberland were remeasured, and the data combined with new classifications on the 19,961 photo plots to provide current estimates of timber volume, growth, mortality, removals, and area attributes such as forest type, stand-size, and site class. Permanent plots consisting of five subplots were established at all other forest grid locations and at timberland grid locations that had shifted from National Forest ownership since the 1980 inventory. Tree selection procedures on remeasured and new five-subplot clusters were, with minor exceptions, identical to those described for the 1967-68 inventory.

National Forest Data

National Forest statistics presented in this report are for land within Washington proclaimed to the Colville, Idaho Panhandle, Okanogan, Wenatchee, and Umatilla National Forests. These statistics do not include National Forest land proclaimed to the Mount Baker-Snoqualmie National Forest in Skagit and Whatcom Counties but administered by the Okanogan National Forest (197,000 acres) or National Forest land proclaimed to the Mount Baker-Snoqualmie National Forest in Kittitas and Yakima Counties but administered by the Wenatchee National Forest (523,000 acres); these lands, reported in the previous inventory (Bassett and Oswald 1983), are excluded because data are not available. This report also does not include 47,000 acres of the Gifford Pinchot National Forest that are in Klickitat and Yakima Counties; these lands were reported as part of recent western Washington report (MacLean and others 1992). Statistics for area change and volume change between inventories are not available for National Forest lands.

The statistics for National Forest lands were based on inventory data submitted by the National Forest System for the 1989 Resource Planning Act assessment (Haynes 1990, Waddell and others 1989). The inventories were conducted in 1973 for the Colville National Forest, in 1976 for the Idaho Panhandle National Forest, in 1977 for the Okanogan and Wenatchee National Forests, and in 1981 for the Umatilla National Forest. If the inventories no longer represented current forest conditions, National Forest personnel updated the data submitted for the 1989 RPA assessment. Data were updated to 1987.

Further information about National Forest inventories and updating procedures for the Colville, Okanogan, Wenatchee, and Umatilla National Forests may be obtained from the USDA Forest Service, Pacific Northwest Region, Division of Timber Management, P.O. Box 3623, Portland, OR 97208-3623. For the Idaho Panhandle National Forest, contact USDA Forest Service, Northern Region, Division of Timber, Cooperative Forestry and Pest Management, P.O. Box 7669, Missoula, MT 59807-7669.

Changes Since the Previous Inventory on Lands Outside National Forests

Tables 30, 31, and 32 present information on timberland changes in area and volume that have occurred on ownerships other than National Forests in the period between the 1980 and 1990-91 inventories. Between 1980 and 1991, the Wenatchee National Forest gained an estimated net 43,000 acres of timberland from other landowners, and the Colville National Forest gained an estimated net 42,000 acres of timberland from other landowners. Withdrawals of timberland area from timber production after 1980 reduced available timberland area by an estimated 63,000 acres within the Yakima Indian Reservation and an estimated 24,000 acres within the Colville Indian Reservation. These estimates of changes in ownership or availability are reflected in tables 30, 31, and 32. The statistics, estimated directly from the sample-based inventory, are subject to sampling error.

Comparisons of statistics from this report with those presented by Bassett and Oswald (1983) are unreliable because we altered some inventory procedures and definitions after 1980. Specifically:

1. The accuracy of the 1990-91 (current) inventory statistics was improved in 1990 by photo-interpreting the latest available aerial photographs. With this information, new stratum weights were calculated to expand the field plots. 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 1980 inventory, a difference that is not real change.

2. We improved our database during the 1990-91 inventory. On some plots, better site trees were obtained in the 1990-91 inventory, thereby improving our estimate of site capability. For Douglas-fir sites, we adopted site curves (Curtis and others 1974) that improved estimates of productivity and forest land class. After careful examination, the classification of ownership or land class was revised for some plots. These changes reflect new information or reevaluation, not resource change.

3. Ownership definitions have been revised since the 1980 inventory. In 1980, forest industry lands were defined as lands belonging to companies or individuals operating wood-using plants. Because this definition no longer identifies all industrial timber growers, we broadened the definition to include all companies holding land for timber production whether or not they operated a wood processing facility. Also, Native American lands are now classified as "other private" at the request of the owners; these lands were included in "other public" ownership in 1980.

Tables 30, 31, and 32 provide reliable estimates of change because the 1980 inventory was recompiled by using the same procedures and definitions applied to the 1990-91 inventory. For both inventories, each field plot represented the same (current) number of acres, site capability was based only on the latest information, and only current definitions for classifying ownership were used.

Reliability of Inventory Data

Estimates of sampling errors for National Forest statistics are not available because National Forest inventories were updated to 1987 by using projection techniques. All area and volume statistics for ownerships other than National Forest are based on sampling and are subject to sampling error. Confidence intervals (68-percent probability) for the estimated timberland area, cubic-foot volume, and net annual cubic-foot growth by owner class follow:

Owner	Timberland area	Net volume	Net annual growth
	Thousand acres	----- *Million cubic feet* -----	
Other public	764±35	2,223±178	39±3
Forest industry	878±34	2,032±135	47±5
Other private	2,366±57	5,039±199	119±5
All owners	4,008±72	9,294±295	205±8

Confidence intervals are quantitative expressions of the reliability of the statistics for timberland area, volume, and growth. The above tabulation indicates, for instance, a two-in-three (68-percent) chance that the timberland area for all non-National Forest owners is within the range of 3,936,000 to 4,080,000 acres.

Confidence intervals vary by both size of the estimate and variance of the statistic 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 estimates of various sizes in this report. These confidence bounds are valid only for estimates that are not based, in any part, on National Forest data.

Timberland area	Confidence interval: By owner	Confidence interval: By type or class
Thousand acres		
2,000	±51	±99
1,500	±45	±87
1,000	±39	±72
800	±35	±65
600	±32	±56
400	±27	±47
200	±20	±35
100	±16	±25
50	±11	±18
25	±9	±13
15	±7	±11
10	±6	±9

Growing stock volume	Confidence interval: By species	Confidence interval: By type
Million cubic feet		
6,000	±244	±341
4,000	±205	±288
2,000	±150	±213
1,000	±108	±156
800	±97	±141
600	±84	±123
400	±69	±101
200	±47	±71
100	±32	±48
50	±21	±32
25	±13	±21
15	±9	±14
10	±7	±10
5	±3	±6

Net growth	Confidence interval: By species	Confidence interval: By type
Thousand cubic feet		
100,000	±5,963	±7,367
50,000	±4,152	±5,249
25,000	±2,857	±3,699
15,000	±2,152	±2,836
10,000	±1,709	±2,285
5,000	±1,138	±1,561
1,000	±413	±605
500	±258	±388
100	±76	±125
10	±9	±16

Annual removals	Confidence interval
Million cubic feet	
100	±12
50	±8
25	±5
15	±4
10	±3
5	±2
3	±2
1	±1

Actual confidence intervals have been calculated for the tabular data in this report and are available on request from the Inventory and Economics Research, Development and Application Program, Forestry Sciences Laboratory, P.O. Box 3890, Portland, 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, and live trees of commercial species that are more than 75 percent defective. Noncommercial species are western juniper, Pacific yew, white alder, Pacific dogwood, apple, and willow.

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

Farmer-owned lands-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.

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 the top of a stump 12 inches tall to a minimum 4-inch top (of central stem) outside the bark. Net volume is gross volume less deductions for rot and missing bole sections.

Growth, current net annual, growing-stock-The increase in growing-stock volume during the last year in the period between the previous and current inventories. Components of current net annual growth for growing-stock volume include (a) the increment in net volume of poletimber and sawtimber growing-stock trees alive at the beginning of the year and surviving to year end; plus (b) ingrowth, the net volume of growing-stock trees reaching poletimber or sawtimber size during the year; minus (c) mortality, the net volume of poletimber and sawtimber growing-stock trees that died during the year.

Growth, current net annual, sawtimber-The increase in sawtimber volume during the last year in the period between the previous and current inventories. Components of current net annual growth for sawtimber volume include (a) the increment in net volume of sawtimber trees alive at the beginning of the year and surviving to year end; plus (b) ingrowth, the net volume of trees reaching sawtimber size during the year; minus (c) mortality, the net volume of sawtimber trees that died during the year.

Growth, periodic gross, growing-stock-The increase in growing-stock volume between the previous and current inventories that is attributable to increasing tree size. Periodic gross growth includes (a) the increment in net volume of poletimber and sawtimber growing-stock trees alive at the both the previous and current inventories; (b) the increment in net volume of poletimber and sawtimber growing stock trees alive at the previous inventory and harvested between inventories; and (c) ingrowth, the net volume of growing-stock trees reaching poletimber or sawtimber size between inventories.

Growth, periodic gross, sawtimber-The increase in sawtimber volume between the previous and current inventories that is attributable to increasing tree size. Periodic gross growth includes (a) the increment in. net volume of sawtimber trees alive at the both the previous and current inventories; (b) the increment in net volume of sawtimber trees alive at the previous inventory and harvested between inventories; and (c) ingrowth, the net volume of trees reaching sawtimber size between inventories.

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 1983). 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 of a 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 expressed as 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.

Miscellaneous Federal lands-Federal lands other than lands administered by the Forest Service.

Miscellaneous private owners-All private owners not otherwise classified.

Mortality, average annual, growing-stock-The annual net volume of poletimber and sawtimber growing-stock trees that died between the previous and current inventories.

Mortality, average annual, sawtimber-The annual net volume of sawtimber trees that died between the previous and current inventories.

Mortality, periodic, growing-stock-The net volume of poletimber and sawtimber growing-stock trees that died between the previous and current inventories.

Mortality, periodic, sawtimber-The net volume of sawtimber trees that died between the previous and current 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 lands.

Net volume-Gross volume less deductions for sound and rotten defects. Growingstock net volume is gross cubic-foot volume less deductions for, rot and missing bole sections on poletimber and sawtimber growing-stock trees. Sawtimber net volume is gross board-foot volume less deductions for rot, sweep, crook, missing bole sections and other defects that affect the use of sawtimber trees for lumber.

Noncommercial species-A tree species not suitable for industrial wood products: western juniper, Pacific yew, white alder, Pacific dogwood, apple, and willow.

Nonforest land-Land that has never supported forests or formerly was forested and currently is 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 live trees. Recent clearcuts are classified as nonstocked area.

Other forest land-Forest land incapable of growing 20 cubic feet per acre per year (mean annual increment at culmination in fully stocked natural stands) of industrial wood because of adverse conditions such as sterile soils, dry climate, poor drainage, subalpine sites, steepness, or rockiness.

Other private lands-Private lands not owned by forest industry. Native American lands, farmer-owned lands, and miscellaneous private lands are included.

Other public lands-Lands administered by public agencies other than the U.S. Department of Agriculture, Forest Service. Other public lands do not include Native American lands, which are included with other private. lands.

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

Poletimber trees-Live growing-stock trees of commercial species that are 5.0 inches in d.b.h. or larger but smaller than sawtimber size.

Removals, average annual, growing stock-The annual net volume of poletimber and sawtimber growing-stock trees removed by cutting, bulldozing, girdling, or poisoning between the previous and current inventories. Includes timber removed by harvesting, silvicultural activities, and land clearing.

Removals, average annual, sawtimber-The annual net volume of sawtimber trees removed by cutting, bulldozing, girdling, or poisoning between the previous and current inventories. Includes timber removed by harvesting, silvicultural activities, and land clearing.

Removals, periodic, growing stock-The net volume of poletimber and sawtimber growing-stock trees removed by cutting, bulldozing, girdling, or poisoning between the previous and current inventories. Includes timber removed by harvesting, silvicultural activities, and land clearing.

Removals, periodic, sawtimber-The net volume of sawtimber trees removed by cutting, bulldozing, girdling, or poisoning between the previous and current inventories. Includes timber removed by harvesting, silvicultural activities, and land clearing.

Reserved other forest-Forest land incapable of growing 20 cubic feet per acre per year (mean annual increment at culmination) of industrial wood and withdrawn from timber utilization through statute, ordinance, or administrative order.

Reserved timberland-Forest land capable of growing 20 cubic feet or more per acre per year (mean annual increment at culmination) of industrial wood and withdrawn from timber utilization through statute, ordinance, or administrative order.

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

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

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

Saw-log portion-The bole of sawtimber trees between the stump and the saw-log top. Saw-log top is 7.0 inches in diameter outside bark on conifers and 9.0 inches in diameter outside bark on hardwoods.

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

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 7 inches outside bark; hardwood trees must contain at least one 8-foot saw log with a top diameter of not less than 9 inches outside 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 sawtimber. Scribner volume is estimated in terms of 16-foot logs for both conifers and hardwoods.

Site class-A classification of the potential productivity of forest land expressed as mean annual increment at culmination in fully stocked natural stands.

Site Index-A measure of the productivity of forest land expressed as 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 stand" and "uneven-aged stand" for additional information.

Stand-size class-A classification of stands based on tree size. Stand-size classes are sawtimber, poletimber, and sapling-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 harvest statistics reported in table 33 were collected by the State of Washington, Department of Natural Resources. Periodic removals shown in tables 31 and 32 are based on trees sampled as live during the previous inventory but harvested or killed in a cultural operation before the current inventory.

Timber volume-Includes the net volume in cubic feet of poletimber and sawtimber trees and salvable dead sawtimber trees, the net volume in cubic feet of cull trees of commercial species, and gross volume of noncommercial species. Volume is measured from the top of a stump 12 inches tall to a minimum 4-inch top outside bark.

Timberland-Forest land capable of growing 20 cubic feet or more per acre per year (mean annual increment at culmination in fully stocked natural stands) of industrial wood and not withdrawn from timber utilization by statute, ordinance, or administrative order. Timberland not withdrawn from timber utilization is called available timberland in table 34.

Uneven-aged stands-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 bark for softwoods and 9.0 inches outside bark for hardwoods--to a minimum top diameter of 4.0 inches outside bark, or to the point where the central stem divides into limbs.

Names of Trees

Common name	Scientific name[2]
Softwoods:	
Douglas-fir	*Pseudotsuga menziesii* (Mirb.) Franco
Engelmann spruce	*Picea engelmannii* Parry ex Engelm.
Grand fir	*Abies grandis* (Dougl. ex D. Don) Lindl.
Lodgepole pine	*Pinus contorta* Dougl. ex Loud. var. *latifolia* Engelm.
Mountain hemlock	*Tsuga mertensiana* (Bong.) Carr.
Noble fir	*Abies procera* Rehd.
Pacific silver fir	*Abies amabilis* Dougl. ex Forbes
Pacific yew	*Taxus brevifolia* Nutt.
Ponderosa pine	*Pinus ponderosa* Dougl. ex Laws.
Subalpine fir	*Abies lasiocarpa* (Hook.) Nutt.
Western hemlock	*Tsuga heterophylla* (Raf.) Sarg.
Western juniper	*Juniperus occidentalis* Hook.
Western larch	*Larix occidentalis* Nutt.
Western redcedar	*Thuja plicata* Donn ex D. Don
Western white pine	*Pinus monticola* Dougl. ex D. Don
Whitebark pine	*Pinus albicaulis* Engelm.
Hardwoods:	
Apple	*Malus* spp.
Bigleaf maple	*Acer macrophyllum* Pursh
Bitter cherry	*Prunus emarginata* Dougl. ex Eaton
Black cottonwood	*Populus trichocarpa* Torr. & Gray
Oregon white oak	*Quercus garryana* Dougl. ex Hook.
Pacific dogwood	*Cornus nuttallii* Audubon
Red alder	*Alnus rubra* Bong.
Western paper birch	*Betula papyrifera* var. *commutata* (Regel) Fern.
White alder	*Alnus rhombifolia* Nutt.
Willow	*Salix* spp.

[2] Per Little 1979.

Tables

Table 1—Area outside National Forests, by county and land class, eastern Washington, January 1, 1992[a]

County	Forest land					Nonforest land[c]	All land[d]
	Timberland	Reserved timberland[b]	Other forest	Reserved other forest	Total		
	Thousand acres						
Adams	–	–	–	–	–	1,230	1,230
Asotin	26	–	–	–	26	327	353
Benton	–	–	–	–	–	1,097	1,097
Chelan	102	30	81	–	213	351	564
Columbia	49	–	2	–	51	343	394
Douglas	–	–	–	–	–	1,163	1,163
Ferry	582	14	168	–	763	171	934
Franklin	–	–	–	–	–	795	795
Garfield	9	–	–	–	9	348	357
Grant	–	–	–	–	–	1,702	1,702
Kittitas	315	–	43	–	358	707	1,065
Klickitat	353	14	127	1	495	699	1,194
Lincoln	37	2	28	–	67	1,411	1,478
Okanogan	554	10	190	–	754	1,126	1,880
Pend Oreille	279	1	9	–	289	92	381
Spokane	281	22	67	–	369	759	1,128
Stevens	926	5	44	–	975	381	1,356
Walla Walla	18	–	–	–	18	787	805
Whitman	9	–	5	–	15	1,362	1,377
Yakima	469	94	41	8	611	1,628	2,239
All counties	4,008	193	805	8	5,014	16,479	21,491

– = none found or less than 500 acres.
[a] Totals may be off because of rounding; data subject to sampling error.
[b] May include forest land incapable of growing 20 or more cubic feet of wood per acre per year (mean annual increment at culmination in fully stocked natural stands).
[c] 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 Census as land.
[d] Source: U.S. Department of Commerce 1983.

Table 2—Area of reserved timberland and other forest land outside National Forests, by forest type, eastern Washington, January 1, 1992[a]

Forest type	Reserved timberland[b]	Other forest		Total
		Available	Reserved	
	Thousand acres			
Softwood types:				
Douglas-fir	22	210	–	232
Ponderosa pine	38	408	–	446
Lodgepole pine	27	–	–	27
Western hemlock[c]	7	–	–	7
Fir-spruce	60	23	–	83
Other softwood types	–	5	7	11
Total	153	646	7	806
Hardwood types:				
Western hardwoods	1	68	2	70
Unclassified[d]	39	91	–	130
All types	193	805	8	1,006

– = none found or less than 500 acres.
[a] Totals may be off because of rounding; data subject to sampling error.
[b] May include forest land incapable of growing 20 or more cubic feet of wood per acre per year (mean annual increment at culmination in fully stocked natural stands).
[c] Western redcedar or western hemlock.
[d] Information on forest type unavailable.

Table 3—Area of timberland outside National Forests, by county and owner, eastern Washington, January 1, 1992[a]

County	Other public				Private					
						Other private				
	Miscellaneous Federal	State	County and municipal	Total public	Forest industry	Farmer	Native American	Miscel-laneous	Total private	All owners
	Thousand acres									
Asotin	--	--	--	--	--	26	--	--	26	26
Chelan	--	13	--	13	30	33	--	26	89	102
Columbia	--	9	--	9	16	24	--	--	40	49
Douglas	--	--	--	--	--	--	--	--	--	--
Ferry	4	21	--	25	54	50	407	46	557	582
Garfield	--	--	--	--	--	9	--	--	9	9
Kittitas	--	82	--	82	193	39	--	--	233	315
Klickitat	13	64	7	85	169	55	24	21	268	353
Lincoln	--	--	--	--	--	22	--	15	37	37
Okanogan	10	163	--	174	39	72	224	46	381	554
Pend Oreille	--	34	--	34	97	15	--	133	245	279
Spokane	13	19	--	32	26	38	--	185	249	281
Stevens	69	162	--	231	206	171	78	240	695	926
Walla Walla	--	--	--	--	--	18	--	--	18	18
Whitman	--	--	--	--	--	9	--	--	9	9
Yakima	--	81	--	81	46	--	342	--	388	469
All counties	110	647	7	764	878	582	1,074	710	3,244	4,008

-- = none sampled or less than 500 acres.
[a] Totals may be off because of rounding; data subject to sampling error.

Table 4—Area of timberland outside National Forests, by forest type and owner, eastern Washington, January 1, 1992[a]

Forest type	Other public	Forest industry	Other private	All owners
		Thousand acres		
Softwood types:				
Douglas-fir--				
Douglas-fir	339	434	906	1,679
Douglas-fir/hardwood	13	--	41	54
Total	352	434	947	1,733
Ponderosa pine--				
Ponderosa pine	205	210	877	1,292
Ponderosa pine/hardwood	--	7	7	15
Total	205	217	884	1,306
Fir-spruce--				
Grand fir	6	78	106	189
Grand fir/hardwood	--	--	21	21
Pacific silver fir	--	8	--	8
Subalpine fir	15	16	--	31
Engelmann spruce	31	14	12	58
Engelmann spruce/hardwood	--	--	7	7
Total	51	116	146	313
Western hemlock--				
Western hemlock	--	6	7	12
Western larch--				
Western larch	31	12	47	90
Western larch/hardwood	--	6	--	6
Total	31	18	47	96
Lodgepole pine--				
Lodgepole pine	59	19	176	254
Lodgepole pine/hardwood	--	--	13	13
Total	59	19	189	267
Other softwood types--				
Western redcedar	7	39	13	59
Western redcedar/hardwood	7	--	--	7
Pacific yew	--	7	--	7
Total	13	47	13	73
Total, softwood types	710	857	2,233	3,800
Hardwood types:				
Western hardwoods--				
Red alder	9	--	--	9
White alder	--	--	8	8
Quaking aspen	5	--	16	21
Quaking aspen/conifer	--	6	16	22
Black cottonwood	6	--	24	29
Oregon white oak/conifer	--	--	5	5
Western paper birch/conifer	--	--	7	7
Other hardwood/conifer	6	--	--	6
Total, hardwood types	25	6	76	108
Nonstocked[b]	29	14	57	100
Total, all types	764	878	2,366	4,008

-- = 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 5—Area of timberland outside National Forests, by owner and stand-size class, eastern Washington, January 1, 1992[a]

Owner	Sawtimber	Poletimber	Seedling-sapling	Nonstocked[b]	All classes
			Thousand acres		
Other public	581	90	65	29	764
Forest industry	585	119	160	14	878
Other private	1,710	355	244	57	2,366
All owners	2,876	564	468	100	4,008

[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 outside National Forests, by owner and site class, eastern Washington, January 1, 1992[a]

	Site class[b]						
Owner	≥225	165-224	120-164	85-119	50-84	20-49	All classes
			Thousand acres				
Other public	—	—	51	195	212	306	764
Forest industry	—	—	91	188	317	282	878
Other private	—	16	197	498	847	810	2,366
All owners	—	16	338	881	1,375	1,398	4,008

— = none found or less than 500 acres.
[a] Totals may be off because of rounding; data subject to sampling error.
[b] Mean annual increment cubic-foot growth per acre at culmination in fully stocked natural stands.

Table 7—Area of timberland outside National Forests, by forest type and stand-size class, eastern Washington, January 1, 1992[a]

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked[b]	All classes
			Thousand acres		
Softwood types:					
Douglas-fir--					
Douglas-fir	1,222	220	237	--	1,679
Douglas-fir/hardwood	45	--	9	--	54
Total	1,267	220	246	--	1,733
Ponderosa pine--					
Ponderosa pine	1,033	128	131	--	1,292
Ponderosa pine/hardwood	15	--	--	--	15
Total	1,047	128	131	--	1,306
Fir-spruce--					
Grand fir	163	6	20	--	189
Grand fir/hardwood	21	--	--	--	21
Pacific silver fir	8	--	--	--	8
Subalpine fir	22	--	9	--	31
Engelmann spruce	52	6	--	--	58
Engelmann spruce/hardwood	7	--	--	--	7
Total	272	12	29	--	313
Western hemlock--					
Western hemlock	12	--	--	--	12
Western larch--					
Western larch	58	32	--	--	90
Western larch/hardwood	--	6	--	--	6
Total	58	38	--	--	96
Lodgepole pine--					
Lodgepole pine	129	103	22	--	254
Lodgepole pine/hardwood	7	7	--	--	13
Total	136	110	22	--	267
Other softwood types--					
Western redcedar	31	15	13	--	59
Western redcedar/hardwood	--	7	--	--	7
Pacific yew	--	--	7	--	7
Total	31	22	20	--	73
Total, softwood types	2,823	529	448	--	3,800
Hardwood types:					
Western hardwoods--					
Red alder	9	--	--	--	9
White alder	--	--	8	--	8
Quaking aspen	8	8	5	--	21
Quaking aspen/conifer	15	--	7	--	22
Black cottonwood	21	8	--	--	29
Oregon white oak/conifer	--	5	--	--	5
Western paper birch/conifer	--	7	--	--	7
Other hardwood/conifer	--	6	--	--	6
Total, hardwood types	53	35	20	--	108
Nonstocked[b]	--	--	--	100	100
Total, all types	2,876	564	468	100	4,008

-- = 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 8—Number of live trees on timberland outside National Forests, by species and diameter class, eastern Washington, January 1, 1992[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:																
Pacific silver fir	3,056	3,048	1,748	1,128	272	473	119	50	55	85	--	82	35	12	--	10,164
Grand fir	99,740	31,399	12,916	11,709	6,276	4,640	2,591	1,732	1,467	864	671	231	208	107	316	174,867
Subalpine fir	14,045	5,855	2,430	1,608	1,039	840	232	278	266	54	52	79	32	--	--	26,811
Noble fir	502	--	--	--	--	--	--	--	--	--	--	--	--	--	--	502
Western juniper	--	--	--	188	--	--	--	--	--	--	--	--	--	--	--	188
Western larch	17,389	12,318	12,382	8,094	7,086	3,944	2,232	1,152	1,214	617	298	253	144	143	182	67,449
Engelmann spruce	14,935	5,561	2,323	1,148	1,393	1,524	629	515	347	265	178	94	26	28	108	29,074
Whitebark pine	--	--	--	--	--	--	--	--	--	--	28	--	--	--	--	28
Lodgepole pine	57,383	28,727	25,295	20,242	11,367	4,799	2,622	1,042	521	250	26	--	21	12	15	152,321
Western white pine	768	1,626	591	270	433	218	40	90	131	57	17	--	38	--	7	4,285
Ponderosa pine	86,420	51,582	38,637	25,937	21,137	14,736	10,551	7,651	4,798	3,827	1,941	1,519	1,103	566	1,173	271,576
Douglas-fir	168,264	83,649	56,282	44,947	30,278	23,657	16,600	11,349	6,214	4,620	2,345	1,553	1,026	574	1,612	452,969
Pacific yew	1,544	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,544
Western redcedar	55,816	18,441	6,876	3,978	2,411	915	572	703	277	306	302	85	54	24	131	90,889
Western hemlock	9,066	2,400	973	1,069	382	206	205	--	80	--	47	47	19	--	--	14,493
Mountain hemlock	474	--	--	--	92	--	49	--	--	--	--	--	--	--	--	615
Total	529,401	244,605	160,454	120,319	82,165	55,952	36,443	24,561	15,372	10,944	5,904	3,943	2,707	1,465	3,542	1,297,776
Hardwoods:																
Bigleaf maple	4,876	465	--	--	388	104	--	46	--	--	--	--	--	--	--	5,877
Red alder	--	--	278	226	249	--	114	52	37	30	--	21	--	--	15	1,023
White alder	6,554	2,353	656	574	373	--	--	--	--	--	--	--	--	--	--	10,511
Western paper birch	6,390	3,243	3,676	1,197	509	259	165	--	--	--	--	--	--	--	--	15,439
Pacific dogwood	502	1,487	--	--	--	--	--	--	--	--	--	--	--	--	--	1,989
Apple	--	--	--	--	--	80	--	--	--	--	--	--	--	--	--	80
Quaking aspen	6,105	2,432	862	1,179	1,706	869	455	548	131	23	21	--	--	--	--	14,331
Black cottonwood	870	--	1,069	563	442	750	175	215	95	344	95	60	14	66	30	4,789
Cherry	463	2,402	1,197	172	--	--	--	--	--	--	--	--	--	--	--	4,233
Oregon white oak	14,377	8,000	3,249	517	412	126	--	45	24	--	44	--	--	11	9	26,814
Other hardwoods	2,705	1,884	281	302	507	148	--	36	--	--	--	--	--	--	--	5,863
Total	42,842	22,265	11,269	4,731	4,586	2,335	909	942	287	398	160	81	14	77	55	90,951
All species	572,242	266,870	171,722	125,049	86,751	58,287	37,352	25,504	15,659	11,343	6,064	4,024	2,720	1,542	3,597	1,388,726

-- = none found or less than 500 trees.

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

Table 9—Number of growing stock trees on timberland outside National Forests, by species and diameter class, eastern Washington, January 1, 1992[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:																
Pacific silver fir	2,034	2,639	1,748	1,128	272	473	119	50	55	85	–	82	35	12	–	8,734
Grand fir	81,902	27,428	12,916	11,596	5,897	4,640	2,591	1,732	1,432	800	651	231	208	107	308	152,439
Subalpine fir	11,915	5,004	2,430	1,608	1,039	840	232	278	266	54	52	79	32	–	–	23,830
Noble fir	502	–	–	–	–	–	–	–	–	–	–	–	–	–	–	502
Western larch	14,140	12,318	12,382	8,094	7,086	3,944	2,232	1,152	1,179	617	298	253	144	143	182	64,165
Engelmann spruce	12,789	5,176	2,323	1,148	1,393	1,524	629	515	347	265	178	94	26	28	108	26,543
Whitebark pine	–	–	–	–	–	–	–	–	–	–	28	–	–	–	–	28
Lodgepole pine	51,223	22,014	24,965	19,799	11,367	4,799	2,622	1,007	521	250	26	–	21	12	15	138,640
Western white pine	768	1,626	591	270	433	218	40	90	131	57	17	–	38	–	7	4,285
Ponderosa pine	69,113	41,306	36,769	25,095	21,013	14,531	10,551	7,651	4,761	3,827	1,941	1,519	1,103	566	1,173	240,919
Douglas-fir	130,690	71,312	55,680	44,129	30,278	23,592	16,489	11,315	6,214	4,586	2,345	1,553	1,026	574	1,590	401,371
Western redcedar	49,359	16,668	6,876	3,978	2,411	915	572	703	277	306	285	85	54	24	131	82,642
Western hemlock	6,323	1,371	688	925	382	206	205	–	80	–	17	–	–	–	–	10,197
Mountain hemlock	474	–	–	–	92	–	49	–	–	–	–	–	–	–	–	615
Total	431,233	206,863	157,368	117,769	81,663	55,681	36,331	24,493	15,264	10,847	5,837	3,896	2,688	1,465	3,512	1,154,909
Hardwoods:																
Bigleaf maple	4,413	465	–	–	388	104	–	–	–	–	–	–	–	–	–	5,369
Red alder	–	–	278	226	–	–	53	52	37	30	–	21	–	–	15	713
Western paper birch	6,390	3,243	3,676	1,197	509	259	165	–	–	–	–	–	–	–	–	15,439
Quaking aspen	5,594	2,432	862	1,179	1,706	869	455	510	131	23	21	–	–	–	–	13,782
Black cottonwood	870	–	1,069	563	442	750	175	215	69	344	95	60	14	66	30	4,764
Cherry	463	1,939	1,197	172	–	–	–	–	–	–	–	–	–	–	–	3,770
Oregon white oak	5,459	5,609	3,249	517	412	68	–	45	24	–	44	–	–	–	–	15,425
Total	23,188	13,687	10,332	3,854	3,456	2,049	848	823	262	398	160	81	14	66	46	59,263
All species	454,421	220,550	167,700	121,623	85,119	57,730	37,179	25,316	15,526	11,245	5,997	3,977	2,701	1,531	3,558	1,214,172

– = none found or less than 500 trees.
[a] Totals may be off because of rounding; data subject to sampling error.

Continued

Table 10—Net volume of growing stock on timberland outside National Forests, by species and diameter class, eastern Washington, January 1, 1992[a b]

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:														
Pacific silver fir	2	7	3	10	4	2	3	7	–	11	5	2	–	56
Grand fir	33	76	80	99	84	76	88	60	64	26	28	19	79	811
Subalpine fir	6	12	12	15	7	13	17	4	4	8	4	–	–	102
Western larch	35	66	96	83	70	54	70	49	29	29	20	24	38	665
Engelmann spruce	7	9	22	37	23	24	22	22	18	13	5	4	30	236
Whitebark pine	–	–	–	–	–	–	–	–	3	–	–	–	–	3
Lodgepole pine	83	168	167	106	84	43	29	18	3	–	3	1	3	709
Western white pine	1	2	6	5	2	4	9	3	3	–	6	–	2	42
Ponderosa pine	63	120	197	235	272	270	235	246	161	155	137	86	286	2,462
Douglas-fir	124	265	333	423	446	427	314	300	199	160	128	84	460	3,663
Western redcedar	16	27	30	16	16	27	14	20	19	7	7	3	32	233
Western hemlock	2	7	5	5	7	–	6	–	2	–	–	–	–	34
Mountain hemlock	–	–	1	–	1	–	–	–	–	–	–	–	–	2
Total	372	760	952	1,034	1,016	939	807	728	504	408	343	223	930	9,018
Hardwoods:														
Bigleaf maple	–	–	5	2	–	–	–	–	–	–	–	–	–	7
Red alder	1	1	–	–	2	2	2	1	–	2	–	–	1	11
Western paper birch	10	8	7	5	4	–	–	–	–	–	–	–	–	34
Quaking aspen	3	12	28	19	14	20	7	2	2	–	–	–	–	106
Black cottonwood	3	5	7	15	5	10	3	22	10	6	2	8	6	101
Cherry	2	1	–	–	–	–	–	–	–	–	–	–	–	3
Oregon white oak	6	3	4	1	–	1	1	–	1	–	–	–	–	16
Total	25	29	50	42	24	32	13	25	12	7	2	8	7	277
All species	397	789	1,003	1,076	1,041	971	820	753	516	416	344	231	938	9,294

– = none found or less than 500,000 cubic feet.
[a] Totals may be off because of rounding; data subject to sampling error.
[b] Includes growing-stock trees 5.0 inches in d.b.h. and larger.

Table 11--Net volume of sawtimber on timberland outside National Forests, by species and diameter class, eastern Washington, January 1, 1992[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+	
	Million board feet, Scribner rule											
Softwoods:												
Pacific silver fir	9	39	19	10	17	40	--	57	28	11	--	229
Grand fir	271	403	385	367	459	304	350	144	156	106	448	3,394
Subalpine fir	35	61	29	57	79	21	18	44	19	--	--	363
Western larch	321	338	321	270	361	266	159	151	109	134	207	2,637
Engelmann spruce	78	159	106	119	113	118	95	75	25	24	174	1,086
Whitebark pine	--	--	--	--	--	--	14	--	--	--	--	14
Lodgepole pine	569	438	388	210	150	99	16	--	19	7	13	1,910
Western white pine	18	19	12	18	46	13	16	--	33	--	16	190
Ponderosa pine	590	891	1,183	1,261	1,166	1,271	863	852	770	496	1,738	11,080
Douglas-fir	1,048	1,656	1,967	2,012	1,558	1,548	1,069	881	713	474	2,759	15,686
Western redcedar	96	59	67	121	67	99	87	36	38	15	172	858
Western hemlock	17	23	33	--	29	--	10	--	--	--	--	112
Mountain hemlock	3	--	5	--	--	--	--	--	--	--	--	8
Total	3,054	4,086	4,515	4,445	4,044	3,780	2,698	2,240	1,910	1,268	5,527	37,566
Hardwoods:												
Bigleaf maple	--	5	--	--	--	--	--	--	--	--	--	5
Red alder	--	--	8	7	9	2	--	7	--	--	6	39
Western paper birch	--	19	14	--	--	--	--	--	--	--	--	33
Quaking aspen	--	67	62	92	31	8	9	--	--	--	--	269
Black cottonwood	--	54	19	48	13	106	53	31	9	44	35	412
Oregon white oak	--	2	--	4	2	--	4	--	--	--	--	12
Total	--	147	103	151	55	116	66	38	9	44	40	770
All species	3,054	4,233	4,618	4,597	4,099	3,896	2,763	2,279	1,918	1,312	5,567	38,337

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

[a] Totals may be off because of rounding, data subject to sampling error.

[b] Includes sawtimber softwood trees 9.0 inches in d.b.h. and larger and sawtimber hardwood trees 11.0 inches in d.b.h. and larger.

Table 12—Net volume of growing stock on timberland outside National Forests, by species and owner, eastern Washington, January 1, 1992[a] [b]

Species	Other public	Forest industry	Other private	All owners
		Million cubic feet		
Softwoods:				
Pacific silver fir	13	28	15	57
Grand fir	130	272	409	811
Subalpine fir	41	36	25	102
Western larch	171	134	360	665
Engelmann spruce	150	30	55	236
Whitebark pine	3	–	–	3
Lodgepole pine	172	64	472	709
Western white pine	9	20	13	42
Ponderosa pine	414	378	1,670	2,462
Douglas-fir	956	940	1,767	3,663
Western redcedar	90	83	60	233
Western hemlock	6	18	9	34
Mountain hemlock	–	–	2	2
Total	2,155	2,005	4,858	9,018
Hardwoods:				
Bigleaf maple	7	-	–	7
Red alder	7	4	–	11
Western paper brich	7	6	20	34
Quaking aspen	22	12	72	106
Black cottonwood	23	–	78	101
Cherry	2	–	2	3
Oregon white oak	1	5	10	16
Total	68	27	182	277
All species	2,223	2,032	5,039	9,294

– = none found or less than 500,000 cubic feet.
[a] Totals may be off because of rounding; data subject to sampling error.
[b] Includes growing-stock trees 5.0 inches in d.b.h. and larger.

Table 13—Net volume of sawtimber on timberland outside National Forests, by species and owner, eastern Washington, January 1, 1992[a] [b]

Species	Other public	Forest industry	Other private	All owners
	Million board feet, Scribner rule			
Softwoods:				
Pacific silver fir	25	141	63	229
Grand fir	537	1,025	1,832	3,394
Subalpine fir	153	145	65	363
Western larch	644	506	1,487	2,637
Engelmann spruce	676	166	245	1,086
Whitebark pine	14	--	--	14
Lodgepole pine	389	190	1,331	1,910
Western white pine	39	91	60	190
Ponderosa pine	1,915	1,680	7,485	11,080
Douglas-fir	4,497	4,154	7,034	15,686
Western redcedar	368	308	182	858
Western hemlock	28	67	18	112
Mountain hemlock	--	--	8	8
Total	9,284	8,473	19,810	37,566
Hardwoods:				
Bigleaf maple	5	--	--	5
Red alder	22	18	--	39
Western paper birch	12	3	18	33
Quaking aspen	70	37	161	269
Black cottonwood	112	--	300	412
Oregon white oak	--	4	8	12
Total	221	62	488	770
All species	9,504	8,535	20,298	38,337

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

[a] Totals may be off because of rounding, data subject to sampling error.

[b] Includes sawtimber softwood trees 9.0 inches in d.b.h. and larger and sawtimber hardwood trees 11.0 inches in d.b.h. and larger.

Table 14—Net volume of growing stock on timberland outside National Forests, by forest type and stand-size class, eastern Washington, January 1, 1992[a b]

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked[c]	All classes
			Million cubic feet		
Softwood types:					
Douglas-fir:					
Douglas-fir	3,613	394	100	--	4,108
Douglas-fir/hardwood	123	--	3	--	126
Total	3,736	394	104	--	4,234
Ponderosa pine--					
Ponderosa pine	2,244	109	63	--	2,415
Ponderosa pine/hardwood	33	--	--	--	33
Total	2,277	109	63	--	2,448
Fir-spruce--					
Grand fir	547	6	15	--	569
Grand fir/hardwood	67	--	--	--	67
Pacific silver fir	50	--	--	--	50
Subalpine fir	86	--	--	--	86
Engelmann spruce	233	13	--	--	246
Engelmann spruce/hardwood	28	--	--	--	28
Total	1,010	20	15	--	1,045
Western hemlock--					
Western hemlock	50	--	--	--	50
Western larch--					
Western larch	239	73	--	--	312
Western larch/hardwood	--	15	--	--	15
Total	239	88	--	--	327
Lodgepole pine--					
Lodgepole pine	445	280	3	--	728
Lodgepole pine/hardwood	13	16	--	--	29
Total	458	296	3	--	757
Other softwood types--					
Western redcedar	126	26	6	--	159
Western redcedar/hardwood	--	16	--	--	16
Pacific yew	--	--	--	--	--
Total	126	41	6	--	174
Total, softwood types	7,897	948	191	--	9,035
Hardwood types:					
Western hardwoods:					
Red alder	10	--	--	--	10
White alder	--	--	7	--	7
Quaking aspen	14	34	12	--	59
Quaking aspen/conifer	38	--	4	--	41
Black cottonwood	63	13	--	--	76
Oregon white oak/conifer	--	8	--	--	8
Western paper birch/conifer	--	22	--	--	22
Other hardwood/conifer	--	15	--	--	15
Total, hardwood types	125	92	22	--	238
Nonstocked[c]	--	--	--	21	21
Total, all types	8,021	1,040	212	21	9,294

-- = none found or less than 500,000 cubic feet.
[a] Totals may be off because of rounding; data subject to sampling error.
[b] Includes growing-stock trees 5.0 inches in d.b.h. and larger.
[c] Nonstocked areas are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 15--Net volume of sawtimber on timberland outside National Forests by forest type and stand-size class, eastern Washington, January 1, 1992[a] [b]

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked[c]	All classes
	Million board feet, Scribner rule				
Softwood types:					
Douglas-fir--					
Douglas-fir	16,228	924	351	--	17,504
Douglas-fir/hardwood	539	--	18	--	557
Total	16,768	924	369	--	18,061
Ponderosa pine--					
Ponderosa pine	9,970	255	247	--	10,471
Ponderosa pine/hardwood	128	--	--	--	128
Total	10,098	255	247	--	10,600
Fir-spruce--					
Grand fir	2,414	18	50	--	2,482
Grand fir/hardwood	311	--	--	--	311
Pacific silver fir	271	--	--	--	271
Subalpine fir	396	--	--	--	396
Engelmann spruce	1,023	38	--	--	1,062
Engelmann spruce/hardwood	96	--	--	--	96
Total	4,511	57	50	--	4,618
Western hemlock--					
Western hemlock	189	--	--	--	189
Western larch--					
Western larch	944	114	--	--	1,058
Western larch/hardwood	--	27	--	--	27
Total	944	140	--	--	1,085
Lodgepole pine--					
Lodgepole pine	1,770	419	9	--	2,207
Lodgepole pine/hardwood	40	34	--	--	75
Total	1,819	453	9	--	2,282
Other softwood types--					
Western redcedar	515	49	3	--	568
Western redcedar/hardwood	--	24	--	--	24
Pacific yew	--	--	--	--	--
Total	515	73	3	--	592
Total, softwood types	34,844	1,903	679	--	37,425
Hardwood types:					
Western hardwoods--					
Red alder	47	--	--	--	47
White alder	--	--	26	--	26
Quaking aspen	53	68	54	--	174
Quaking aspen/conifer	142	--	20	--	162
Black cottonwood	284	--	--	--	284
Oregon white oak/conifer	--	19	--	--	19
Western paper birch/conifer	--	45	--	--	45
Other hardwood/conifer	--	61	--	--	61
Total, hardwood types	526	194	100	--	820
Nonstocked[c]	--	--	--	--	91
Total, all types	35,370	2,096	779	91	38,337

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

[a] Totals may be off because of rounding, data subject to sampling error.

[b] Includes sawtimber softwood trees 9.0 inches in d.b.h. and larger and sawtimber hardwood trees 11.0 inches in d.b.h. and larger.

[c] Nonstocked area are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 16—Net volume of growing stock on timberland outside National Forests, by forest type and owner, eastern Washington, January 1, 1992[a b]

Forest type	Other public	Forest industry	Other private	All owners
		Million cubic feet		
Softwood types:				
Douglas-fir--				
Douglas-fir	1,153	1,023	1,932	4,108
Douglas-fir/hardwood	53	--	73	126
Total	1,206	1,023	2,005	4,234
Ponderosa pine--				
Ponderosa pine	404	359	1,652	2,415
Ponderosa pine/hardwood	--	23	9	33
Total	404	383	1,661	2,448
Fir-spruce--				
Grand fir	15	244	310	569
Grand fir/hardwood	--	--	67	67
Pacific silver fir	--	50	--	50
Subalpine fir	48	38	--	86
Engelmann spruce	154	44	49	246
Engelmann spruce/hardwood	--	--	28	28
Total	217	375	453	1,045
Western hemlock--				
Western hemlock	--	30	19	50
Western larch--				
Western larch	109	47	155	312
Western larch/hardwood	--	15	--	15
Total	109	62	155	327
Lodgepole pine--				
Lodgepole pine	173	57	498	728
Lodgepole pine/hardwood	--	--	29	29
Total	173	57	527	757
Other softwood types--				
Western redcedar	35	84	40	159
Western redcedar/hardwood	16	--	--	16
Pacific yew	--	--	--	--
Total	50	84	40	174
Total, softwood types	2,160	2,015	4,861	9,035
Hardwood types:				
Western hardwood--				
Red alder	10	--	--	10
White alder	--	--	7	7
Quaking aspen	12	--	48	59
Quaking aspen/conifer	--	18	24	41
Black cottonwood	24	--	52	76
Oregon white oak/conifer	--	--	8	8
Western paper birch/conifer	--	--	22	22
Other hardwood/conifer	15	--	--	15
Total, hardwood types	60	18	160	238
Nonstocked[c]	3	--	18	21
Total, all types	2,223	2,032	5,039	9,294

-- = none found or less than 500,000 cubic feet.
[a] Totals may be off because of rounding; data subject to sampling error.
[b] Includes growing-stock trees 5.0 inches in d.b.h. and larger.
[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 outside National Forests, by forest type and owner, eastern Washington, January 1, 1992[a] [b]

Forest type	Other public	Forest industry	Other private	All owners
	Million board feet, Scribner rule			
Softwood types:				
Douglas-fir--				
Douglas-fir	5,296	4,438	7,769	17,504
Douglas-fir/hardwood	270	--	287	557
Total	5,567	4,438	8,057	18,061
Ponderosa pine--				
Ponderosa pine	1,745	1,548	7,179	10,471
Ponderosa pine/hardwood	--	82	46	128
Total	1,745	1,629	7,225	10,600
Fir-spruce--				
Grand fir	71	1,050	1,360	2,482
Grand fir/hardwood	--	--	311	311
Pacific silver fir	--	271	--	271
Subalpine fir	213	182	--	396
Engelmann spruce	667	231	163	1,062
Engelmann spruce/hardwood	--	--	96	96
Total	952	1,735	1,931	4,618
Western hemlock--				
Western hemlock	--	138	52	189
Western larch--				
Western larch	305	93	659	1,058
Western larch/hardwood	--	27	--	27
Total	305	120	659	1,085
Lodgepole pine--				
Lodgepole pine	467	135	1,604	2,207
Lodgepole pine/hardwood	--	--	75	75
Total	467	135	1,679	2,282
Other softwood types--				
Western redcedar	151	271	145	568
Western redcedar/hardwood	24	--	--	24
Pacific yew	--	--	--	--
Total	175	271	145	592
Total, softwood types	9,212	8,466	19,748	37,425
Hardwood types:				
Western hardwood--				
Red alder	47	--	--	47
White alder	--	--	26	26
Quaking aspen	54	--	121	174
Quaking aspen/conifer	--	69	93	162
Black cottonwood	119	--	166	284
Oregon white oak/conifer	--	--	19	19
Western paper birch/conifer	--	--	45	45
Other hardwood/conifer	61	--	--	61
Total, hardwood types	280	69	471	820
Nonstocked[c]	12	--	79	91
Total, all types	9,504	8,535	20,298	38,337

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

[a] Totals may be off because of rounding, data subject to sampling error.

[b] Includes sawtimber softwood trees 9.0 inches in d.b.h. and larger and sawtimber hardwood trees 11.0 inches in d.b.h. and larger.

[c] Nonstocked area are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 18—Net volume of timber on timberland outside National Forests, by class of timber and species group, eastern Washington, January 1, 1992[a]

Class of timber	Softwoods	Hardwoods	All species
	Million cubic feet		
Growing-stock trees:			
Sawtimber trees--			
Saw-log portion	7,567	154	7,721
Upper stem portion	319	19	338
Total	7,886	173	8,059
Poletimber trees	1,132	104	1,236
All growing-stock trees	9,018	277	9,294
Cull trees:			
Sound cull trees	3	18	20
Rotten cull trees	16	5	20
Total	18	22	40
Salvable dead trees[b]	--	--	--
All timber	9,036	299	9,335

[a] Totals may be off because of rounding; data subject to sampling error.
[b] Salvable dead trees were not inventoried.

Table 19—Current net annual growth of growing stock on timberland outside National Forests, by forest type and owner, eastern Washington, 1991[a b]

Forest type	Other public	Forest industry	Other private	All owners
		Thousand cubic feet		
Softwood types:				
Douglas-fir--				
Douglas-fir	21,312	26,472	54,984	102,768
Douglas-fir/hardwood	875	--	2,086	2,960
Total	22,187	26,472	57,070	105,728
Ponderosa pine--				
Ponderosa pine	8,634	9,777	35,890	54,300
Ponderosa pine/hardwood	--	685	227	912
Total	8,634	10,462	36,117	55,213
Fir-spruce--				
Grand fir	190	4,567	6,552	11,308
Grand fir/hardwood	--	--	1,633	1,633
Pacific silver fir	--	47	--	47
Subalpine fir	589	191	--	780
Engelmann spruce	-450	-47	456	-41
Engelmann spruce/hardwood	--	--	497	497
Total	329	4,758	9,138	14,224
Western hemlock--				
Western hemlock	--	-29	910	880
Western larch--				
Western larch	1,921	755	2,087	4,763
Western larch/hardwood	--	369	--	369
Total	1,921	1,124	2,087	5,132
Lodgepole pine--				
Lodgepole pine	3,214	1,381	6,720	11,315
Lodgepole pine/hardwood	--	--	634	634
Total	3,214	1,381	7,354	11,949
Other softwood types--				
Western redcedar	350	2,114	1,545	4,009
Western redcedar/hardwood	316	--	--	316
Pacific yew	--	--	--	--
Total	666	2,114	1,545	4,325
Total, softwood types	36,950	46,281	114,221	197,452
Hardwood types:				
Western hardwood--				
Red alder	168	--	--	168
White alder	--	--	209	209
Quaking aspen	256	--	960	1,216
Quaking aspen/conifer	--	313	539	852
Black cottonwood	254	--	2,329	2,583
Oregon white oak/conifer	--	--	175	175
Western paper birch/conifer	--	--	273	273
Other hardwood/conifer	1,136	--	--	1,136
Total, hardwood types	1,814	313	4,485	6,612
Nonstocked[c]	233	--	553	787
Total, all types	38,998	46,594	119,260	204,851

-- = 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] 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 outside National Forests, by forest type and owner, eastern Washington, 1991[a b]

Forest type	Other public	Forest industry	Other private	All owners
	Million board feet, Scribner rule			
Softwood types:				
Douglas-fir--				
Douglas-fir	117,595	134,763	272,101	524,459
Douglas-fir/hardwood	5,374	--	8,923	14,298
Total	122,969	134,763	281,024	538,756
Ponderosa pine--				
Ponderosa pine	44,129	57,423	201,210	302,762
Ponderosa pine/hardwood	--	3,103	1,210	4,314
Total	44,129	60,526	202,420	307,075
Fir-spruce--				
Grand fir	1,086	24,822	30,455	56,363
Grand fir/hardwood	--	--	9,595	9,595
Pacific silver fir	--	792	--	792
Subalpine fir	6,559	1,426	--	7,985
Engelmann spruce	369	-77	2,227	2,518
Engelmann spruce/hardwood	--	--	2,377	2,377
Total	8,014	26,962	44,654	79,631
Western hemlock--				
Western hemlock	--	227	2,892	3,119
Western larch--				
Western larch	10,524	6,308	10,201	27,033
Western larch/hardwood	--	916	--	916
Total	10,524	7,224	10,201	27,949
Lodgepole pine--				
Lodgepole pine	12,411	5,705	29,581	47,697
Lodgepole pine/hardwood	--	--	5,757	5,757
Total	12,411	5,705	35,338	53,454
Other softwood types--				
Western redcedar	2,237	7,644	6,502	16,383
Western redcedar/hardwood	497	--	--	497
Pacific yew	--	--	--	--
Total	2,734	7,644	6,502	16,881
Total, softwood types	200,781	243,052	583,031	1,026,864
Hardwood types:				
Western hardwood--				
Red alder	991	--	--	991
White alder	--	--	748	748
Quaking aspen	1,571	--	14,626	16,198
Quaking aspen/conifer	--	1,532	3,024	4,556
Black cottonwood	1,595	--	5,093	6,688
Oregon white oak/conifer	--	--	603	603
Western paper birch/conifer	--	--	622	622
Other hardwood/conifer	5,940	--	--	5,940
Total, hardwood types	10,097	1,532	24,716	36,346
Nonstocked[c]	1,222	--	3,062	4,285
Total, all types	212,100	244,584	610,810	1,067,494

-- = none found or less than 500,000 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 area 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 outside National Forests, by forest type and owner, eastern Washington, 1991[a]

Forest type	Other public	Forest industry	Other private	All owners
		Thousand cubic feet		
Softwood types:				
Douglas-fir--				
Douglas-fir	6,937	5,896	11,310	24,143
Douglas-fir/hardwood	250	--	456	706
Total	7,187	5,896	11,766	24,849
Ponderosa pine--				
Ponderosa pine	3,192	2,607	12,872	18,670
Ponderosa pine/hardwood	--	226	67	292
Total	3,192	2,832	12,938	18,963
Fir-spruce--				
Grand fir	152	3,113	3,758	7,023
Grand fir/hardwood	--	--	595	595
Pacific silver fir	--	584	--	584
Subalpine fir	673	441	--	1,113
Engelmann spruce	3,252	782	839	4,873
Engelmann spruce/hardwood	--	--	341	341
Total	4,077	4,919	5,533	14,529
Western hemlock--				
Western hemlock	--	578	231	808
Western larch--				
Western larch	1,120	564	1,551	3,235
Western larch/hardwood	--	161	--	161
Total	1,120	724	1,551	3,395
Lodgepole pine--				
Lodgepole pine	2,811	864	7,092	10,767
Lodgepole pine/hardwood	--	--	485	485
Total	2,811	864	7,576	11,251
Other softwood types--				
Western redcedar	447	899	427	1,773
Western redcedar/hardwood	178	--	--	178
Pacific yew	--	--	--	--
Total	624	899	427	1,950
Total, softwood types	19,011	16,713	40,022	75,746
Hardwood types:				
Western hardwood--	--	--	--	--
Red alder	60	--	--	60
White alder	--	--	27	27
Quaking aspen	239	--	358	597
Quaking aspen/conifer	--	115	173	288
Black cottonwood	226	--	835	1,060
Oregon white oak/conifer	--	--	77	77
Western paper birch/conifer	--	--	242	242
Other hardwood/conifer	77	--	--	77
Total, hardwood types	602	115	1,711	2,427
Nonstocked[b]	8	--	94	102
Total, all types	19,620	16,828	41,827	78,275

-- = 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 22--Average annual mortality of sawtimber on timberland outside National Forests, by forest type and owner, eastern Washington, 1991[a]

Forest type	Other public	Forest industry	Other private	All owners
	Million board feet, Scribner rule			
Softwood types:				
Douglas-fir--				
Douglas-fir	28,609	23,719	42,274	94,603
Douglas-fir/hardwood	1,197	--	1,794	2,991
Total	29,806	23,719	44,069	97,594
Ponderosa pine--				
Ponderosa pine	13,367	11,026	54,373	78,766
Ponderosa pine/hardwood	--	658	303	960
Total	13,367	11,684	54,675	79,726
Fir-spruce--				
Grand fir	725	12,985	16,074	29,784
Grand fir/hardwood	--	--	2,792	2,792
Pacific silver fir	--	3,078	--	3,078
Subalpine fir	2,931	2,113	--	5,044
Engelmann spruce	14,218	4,146	2,792	21,157
Engelmann spruce/hardwood	--	--	1,140	1,140
Total	17,874	22,323	22,798	62,995
Western hemlock--				
Western hemlock	--	2,553	343	2,896
Western larch--				
Western larch	2,985	1,125	6,400	10,509
Western larch/hardwood	--	305	--	305
Total	2,985	1,430	6,400	10,814
Lodgepole pine--				
Lodgepole pine	6,553	1,856	21,156	29,566
Lodgepole pine/hardwood	--	--	1,194	1,194
Total	6,553	1,856	22,351	30,760
Other softwood types--				
Western redcedar	1,917	2,641	1,627	6,185
Western redcedar/hardwood	270	--	--	270
Pacific yew	--	--	--	--
Total	2,187	2,641	1,627	6,455
Total, softwood types	72,772	66,205	152,263	291,240
Hardwood types:				
Western hardwood--				
Red alder	267	--	--	267
White alder	--	--	119	119
Quaking aspen	1,104	--	896	2,000
Quaking Aspen/conifer	--	457	666	1,123
Black cottonwood	1,034	--	1,241	2,276
Oregon white oak/conifer	--	--	182	182
Western paper birch/conifer	--	--	504	504
Other hardwood/conifer	288	--	--	288
Total, hardwood types	2,693	457	3,609	6,758
Nonstocked[b]	34	--	402	435
Total, all types	75,498	66,662	156,273	298,433

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

[a] Totals may be off because of rounding, data subject to sampling error.

[b] Nonstocked area are less than 10 percent stocked with live trees. Recent clearcuts scheduled for planting are included.

Table 23—Area outside National Forests, by county and land class, eastern Washington, January 1, 1992[a]

County	Forest land					Nonforest land[c]	All land[d]
	Timberland	Reserved timberland[b]	Other forest	Reserved other forest	Total		
	Thousand hectares						
Adams	–	–	–	–	–	498	498
Asotin	11	–	–	–	11	132	143
Benton	–	–	–	–	–	444	444
Chelan	41	12	33	–	86	142	228
Columbia	20	–	1	–	21	139	159
Douglas	–	–	–	–	–	471	471
Ferry	236	6	68	–	309	69	378
Franklin	–	–	–	–	–	322	322
Garfield	4	–	–	–	4	141	144
Grant	–	–	–	–	–	689	689
Kittitas	127	–	17	–	145	286	431
Klickitat	143	6	51	–	200	283	483
Lincoln	15	1	11	–	27	571	598
Okanogan	224	4	77	–	305	456	761
Pend Oreille	113	–	4	–	117	37	154
Spokane	114	9	27	–	149	307	457
Stevens	375	2	18	–	395	154	549
Walla Walla	7	–	–	–	7	318	326
Whitman	4	–	2	–	6	551	557
Yakima	190	38	17	3	247	659	906
All counties	1,622	78	326	3	2,029	6,669	8,697

– = None found or less than 500 hectares.
[a] Totals may be off because of rounding; data subject to sampling error.
[b] May include forest land incapable of growing 1.4 or more cubic meters per hectare per year (mean annual increment at culmination in fully stocked natural stands).
[c] 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 Census as land.
[d] Source: U.S. Department of Commerce 1983.

Table 24—Area of reserved timberland and of other forest land outside National Forests, by land class, forest type, and owner, eastern Washington, January 1, 1992[a]

Land class and forest type	Other public	Forest industry	Other private	All owners
		Thousand acres		
Reserved timberland:[b]				
Douglas-fir	8	–	13	22
Fir-spruce	44	–	16	60
Western hemlock[c]	7	–	–	7
Lodgepole pine	25	–	1	27
Ponderosa pine	8	–	30	38
Western hardwoods	1	–	–	1
Unclassified[d]	34	–	5	39
Total	127	–	65	193
Reserved other forest:				
Other softwoods	–	–	7	7
Western hardwoods	–	–	2	2
Total	–	–	8	8
Total, all reserved	127	–	74	201
Unreserved other forest:				
Douglas-fir	54	38	118	210
Fir-spruce	–	14	9	23
Ponderosa pine	89	76	243	408
Other softwoods	5	–	–	5
Western hardwoods	7	–	62	68
Unclassified[d]	32	15	45	91
Total, unreserved	186	142	476	805

– = none found or less than 500 acres.
[a] Totals may be off because of rounding; data subject to sampling error.
[b] May include forest land incapable of growing 20 or more cubic feet of wood per acre per year (mean annual increment at culmination in fully stocked natural stands).
[c] Western redcedar or western hemlock.
[d] Information on forest type unavailable.

Table 25—Area of timberland outside National Forests, by owner and stand-size class, eastern Washington, January 1, 1992[a]

Owner	Stand-size class				All classes
	Sawtimber	Poletimber	Seedling-sapling	Nonstocked[b]	
		Thousand hectares			
Other public	235	36	26	12	309
Forest industry	237	48	65	6	355
Other private	692	144	99	23	957
All owners	1,164	228	189	40	1,622

[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 26–Area, net volume of growing stock, and net volume of sawtimber on timberland outside National Forests, by stand age and owner, eastern Washington, January 1, 1992[a]

Stand age	Other public			Forest industry			Other private			All owners		
	Area	Growing stock volume	Sawtimber volume, Scribner rule	Area	Growing stock volume	Sawtimber volume, Scribner rule	Area	Growing stock volume	Sawtimber volume, Scribner rule	Area	Growing stock volume	Sawtimber volume, Scribner rule
	Thousand acres	*Thousand cubic feet*	*Thousand board feet*	*Thousand acres*	*Thousand cubic feet*	*Thousand board feet*	*Thousand acres*	*Thousand cubic feet*	*Thousand board feet*	*Thousand acres*	*Thousand cubic feet*	*Thousand board feet*
Even-aged:												
0-9	--	--	--	76	11,597	33,697	62	21,282	90,611	138	32,879	124,307
10-19	9	3,790	14,708	30	8,134	31,474	69	29,680	117,836	108	41,605	164,018
20-29	26	19,157	66,275	6	6,430	3,043	28	13,309	43,902	60	38,896	113,221
30-39	15	23,133	37,696	9	16,481	64,567	23	25,500	62,922	46	65,114	165,186
40-49	20	40,173	130,768	35	75,898	217,938	111	182,347	555,018	166	298,418	903,724
50-59	48	87,061	260,663	53	76,674	300,177	218	444,927	1,442,765	318	608,662	2,003,605
60-69	62	180,617	504,484	108	276,724	926,643	158	373,361	1,208,262	328	830,702	2,639,388
70-79	10	16,997	81,085	57	180,184	752,663	183	480,817	1,871,890	250	677,998	2,705,638
80-89	81	322,393	1,356,623	7	27,973	143,164	153	428,539	1,514,789	242	778,905	3,014,576
90-99	38	169,655	725,610	25	104,865	392,032	83	227,452	986,972	146	501,972	2,104,614
100-109	--	--	--	--	--	--	19	68,786	296,741	19	68,786	296,741
110-119	14	51,337	123,284	--	--	--	--	--	--	14	51,337	123,284
120-129	--	--	--	--	--	--	9	5,355	11,690	9	5,355	11,690
130-139	--	--	--	6	31,475	171,433	7	11,960	54,623	12	43,435	226,066
140-149	--	--	--	--	--	--	--	--	--	--	--	--
150-159	--	--	--	--	--	--	--	--	--	--	--	--
160-169	--	--	--	8	43,108	215,814	7	42,898	213,565	15	86,006	429,379
170-179	6	26,437	122,594	6	12,330	63,827	--	--	--	12	38,767	186,421
180-189	--	--	--	--	--	--	6	10,698	48,769	6	10,698	48,769
190-199	--	--	--	--	--	--	--	--	--	--	--	--
200-299	6	18,654	82,996	--	--	--	7	16,560	77,562	13	35,214	160,558
300+	--	--	--	--	--	--	9	52,389	274,819	9	52,389	274,819
Uneven-aged:												
≤100	140	450,868	2,081,993	180	517,143	2,152,930	504	1,121,575	4,606,376	824	2,089,586	8,841,299
100+	132	638,932	3,178,416	103	504,788	2,548,007	258	924,009	4,470,933	492	2,067,728	10,197,357
No manageable stand[b]	158	173,747	737,262	170	138,365	517,127	455	557,880	2,347,588	784	869,992	3,601,978
Total, all ages	764	2,222,950	9,504,455	878	2,032,170	8,534,546	2,366	5,039,323	20,297,635	4,008	9,294,443	38,336,636

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

[a] Totals may be off because of rounding, data subject to sampling error.

[b] Lacks 25 percent conifer stocking on 3/5ths of sample points.

Table 27--Net volume of growing stock and sawtimber on timberland outside National Forests, by county and owner, eastern Washington, January 1, 1992[a]

County	Other public	Forest industry	Other private	All owners
		Million cubic feet		
Growing stock:				
Chelan/Douglas	43	111	234	388
Ferry	62	96	1,078	1,236
Kittitas	222	467	84	773
Klickitat	343	427	164	934
Lincoln	--	--	45	45
Okanogan	444	24	551	1,019
Pend Oreille	174	295	307	776
Southeastern counties[b]	22	46	127	195
Spokane/Whitman	62	86	387	535
Stevens	628	406	901	1,935
Yakima	223	75	1,160	1,458
All counties	2,223	2,032	5,039	9,294
		Million board feet, Scribner rule		
Sawtimber:				
Chelan/Douglas	135	461	1,132	1,751
Ferry	167	409	4,563	5,178
Kittitas	1,034	2,144	277	3,506
Klickitat	1,707	1,903	647	4,257
Lincoln	--	--	162	162
Okanogan	1,737	85	2,106	3,843
Pend Oreille	806	1,081	993	2,895
Southeastern counties[b]	75	225	489	799
Spokane/Whitman	261	361	1,541	2,175
Stevens	2,588	1,547	3,158	7,239
Yakima	993	319	5,230	6,532
All counties	9,504	8,535	20,298	38,337
		Million cubic meters		
Growing stock:				
Chelan/Douglas	1	3	7	11
Ferry	2	3	31	35
Kittitas	6	13	2	22
Klickitat	10	12	5	26
Lincoln	--	--	1	1
Okanogan	13	1	16	29
Pend Oreille	5	8	9	22
Southeastern counties[b]	1	1	4	6
Spokane/Whitman	2	2	11	15
Stevens	18	11	26	55
Yakima	6	2	33	41
All counties	63	58	143	263

-- = 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] Asotin, Columbia, Garfield, and Walla Walla Counties.

Table 28—Current net annual growth, average annual mortality, and average annual removals of growing stock on timberland outside National Forests, by species and owner, eastern Washington, 1991[a]

Species	Other public			Forest industry			Other private			All owners		
	Current net annual growth[b]	Average annual mortality	Average annual removals	Current net annual growth[b]	Average annual mortality	Average annual removals	Current net annual growth[b]	Average annual mortality	Average annual removals	Current net annual growth[b]	Average annual mortality	Average annual removals
	Thousand cubic feet											
Softwoods:												
Pacific silver fir	553	157	–	9	485	413	241	198	–	803	839	413
Grand fir	2,865	1,909	2,759	5,816	4,326	6,346	9,045	5,706	11,312	17,727	11,941	20,417
Subalpine fir	598	559	–	44	623	3,985	419	415	–	1,061	1,597	3,985
Noble fir	–	–	–	–	–	245	–	–	–	–	–	245
Western larch	1,253	1,803	374	1,246	1,405	7,566	4,287	3,526	2,487	6,786	6,735	10,427
Engelmann spruce	-24	3,494	902	-268	741	1,142	232	1,183	–	-61	5,418	2,044
Whitebark pine	-35	38	–	–	–	–	–	–	–	-35	38	–
Lodgepole pine	2,422	3,267	319	714	1,125	3,183	4,979	8,212	2,850	8,114	12,604	6,352
Western white pine	302	143	–	-119	327	241	252	203	–	435	673	241
Ponderosa pine	6,660	3,311	8,053	7,305	3,217	11,532	33,865	13,291	27,531	47,830	19,819	47,115
Douglas-fir	21,629	3,721	7,723	29,161	3,374	26,316	58,118	6,596	23,497	108,909	13,691	57,536
Western redcedar	1,848	562	–	1,996	575	2,368	2,561	423	–	6,405	1,560	2,368
Western hemlock	8	134	–	192	425	2,626	386	209	–	586	768	2,626
Mountain hemlock	–	–	–	–	–	–	19	39	–	19	39	–
Total	38,080	19,099	20,130	46,096	16,623	65,964	114,404	40,001	67,676	198,579	75,722	153,769
Hardwoods:												
Bigleaf maple	22	52	–	–	–	–	–	–	–	22	52	–
Red alder	62	52	–	30	29	–	–	–	–	92	81	–
Western paper birch	150	54	135	164	49	–	521	154	85	835	257	220
Quaking aspen	309	170	–	163	90	–	1,268	549	–	1,740	808	–
Black cottonwood	263	175	–	–	–	–	2,799	1,037	330	3,062	1,212	330
Cherry	100	13	–	–	–	–	82	12	–	183	25	–
Oregon white oak	12	7	122	141	38	–	185	73	–	338	118	122
Total	918	521	257	498	206	–	4,856	1,826	415	6,272	2,553	672
All species	38,998	19,620	20,387	46,594	16,828	65,964	119,260	41,827	68,091	204,851	78,275	154,441

– = 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.

Table 29—Current net annual growth, average annual mortality, and average annual removals of sawtimber on timberland outside National Forests, by species and owner, eastern Washington, 1991[a]

Species	Other public			Forest industry			Other private			All owners		
	Current net annual growth[b]	Average annual mortality	Average annual removals	Current net annual growth[b]	Average annual mortality	Average annual removals	Current net annual growth[b]	Average annual mortality	Average annual removals	Current net annual growth[b]	Average annual mortality	Avera annu remov
	Thousand board feet, Scribner rule											
Softwoods:												
Pacific silver fir	3,518	316	--	114	2,451	2,175	1,272	825	--	4,905	3,592	2,1
Grand fir	15,288	7,871	12,210	24,685	16,006	25,158	50,062	25,261	61,090	90,039	49,138	98,4
Subalpine fir	6,788	1,994	--	409	2,489	15,775	1,674	1,083	--	8,871	5,566	15,7
Noble fir	--	--	--	--	--	1,417	--	--	--	--	--	1,4
Western larch	5,046	6,602	1,589	7,038	5,214	36,717	22,485	14,302	11,442	34,569	26,118	49,7
Engelmann spruce	1,286	15,641	3,975	-1,112	4,052	6,044	1,418	5,115	--	1,592	24,808	10,0
Lodgepole pine	8,677	7,182	1,296	7,134	3,195	13,338	34,324	22,115	6,394	50,135	32,492	21,0
Western white pine	6,518	590	--	-245	1,450	1,202	1,327	912	--	7,600	2,952	1,2
Ponderosa pine	37,336	14,960	44,439	43,614	14,047	57,567	186,365	57,778	140,726	267,315	86,786	242,7
Douglas-fir	115,084	15,701	38,797	153,306	13,649	119,328	281,687	23,307	111,192	550,077	52,657	269,3
Western redcedar	9,038	2,184	--	7,765	2,137	9,098	6,020	1,308	--	22,824	5,629	9,0
Western hemlock	214	562	--	1,129	1,503	11,583	274	393	--	1,617	2,459	11,5
Mountain hemlock	--	--	--	--	--	--	138	147	--	138	147	
Other softwoods	-187	209	--	--	--	--	--	--	--	-187	209	
Total	208,606	73,813	102,307	243,837	66,194	299,402	587,051	152,545	330,844	1,039,494	292,553	732,5
Hardwoods:												
Bigleaf maple	29	36	--	--	--	--	--	--	--	29	36	
Red alder	168	164	--	213	136	--	--	--	--	381	300	
Western paper birch	191	93	426	27	22	--	348	140	--	566	255	42
Quaking aspen	1,334	536	--	485	286	--	14,944	1,231	--	16,763	2,053	
Black cottonwood	1,773	856	--	--	--	--	8,388	2,295	776	10,161	3,151	77
Oregon white oak	--	--	518	23	28	--	79	62	--	102	90	51
Other hardwoods	--	--	--	--	--	--	--	--	--	--	--	
Total	3,495	1,685	944	747	471	--	23,759	3,728	776	28,001	5,885	1,71
All species	212,101	75,498	103,251	244,584	66,665	299,402	610,811	156,273	331,620	1,067,496	298,434	734,27

-- = 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.

Table 30—Changes in timberland area outside National Forests, by owner, eastern Washington, 1980 to 1990-91[a b]

Description	Other public	Forest industry	Other private	All owners
		Thousand acres		
Timberland area in 1980	780	970	2,503	4,254
Area change due to:				
Changes in land class--				
Timberland to rights-of-way	-12	-20	--	-33
Timberland to urban	--	--	-26	-26
Timberland to agricultural	--	--	-15	-15
Agricultural to timberland	--	--	--	--
Net change	-12	-20	-41	-74
Changes in inventory area--				
To National Forest	-11	-74	--	-85
From National Forest	--	--	--	--
To reserved timberland	--	--	-87	-87
Net change	-11	-74	-87	-172
Changes in ownership--				
From other public	-23	23	--	--
From forest industry	20	-40	20	--
From other private	11	19	-30	--
Net change	7	2	-9	--
Timberland area in 1990-91	764	878	2,366	4,008

-- = 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 1980 owner and gains are shown by the 1990-91 owner.

Table 31—Changes in volume of growing stock on timberland outside National Forests, by species group and owner, eastern Washington, 1980 to 1990-91[a b c]

Description	Other public	Forest industry	Other private	All owners
		Million cubic feet		
Softwoods:				
Total volume in 1980	1,966	2,415	4,688	9,069
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	-26	-22	-57	-105
Nonforest to timberland	--	--	--	--
Net change	-26	-22	-57	-105
Changes in inventory area--				
To National Forest	-53	-255	--	-308
From National Forest	--	--	--	--
To reserved timberland	--	--	-328	-328
Net change	-53	-255	-328	-637
Changes in ownership--				
From other public	-24	24	--	--
From forest industry	26	-48	22	--
From other private	12	41	-53	--
Net change	14	17	-31	--
Growth, mortality and harvest--				
Periodic gross growth	589	722	1,627	2,938
Periodic mortality	-118	-148	-298	-565
Periodic removals	-220	-724	-744	-1,687
Net change	251	-150	585	686
Total volume in 1991	2,155	2,005	4,858	9,018
Hardwoods:				
Total volume in 1980	60	20	134	214
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	--	--	--
Nonforest to timberland	--	--	--	--
Net change	--	--	--	--
Changes in inventory area--				
To National Forest	--	--	--	--
From National Forest	--	--	--	--
To reserved timberland	--	--	--	--
Net change	--	--	--	--
Changes in ownership--				
From other public	--	--	--	--
From forest industry	1	-1	--	--
From other private	--	--	--	--
Net change	1	-1	--	--
Growth, mortality and harvest--				
Periodic gross growth	15	8	67	90
Periodic mortality	-5	--	-14	-20
Periodic removals	-3	--	-5	-7
Net change	7	8	48	63
Total volume in 1991	68	27	182	277

-- = none found or less than 500,000 cubic feet.
[a] Totals may be off because of rounding; data subject to sampling error.
[b] Includes growing-stock trees 5.0 inches in d.b.h. and larger.
[c] Negative values are losses of volume and positive values are gains of volume. Losses are shown by the 1980 owner and gains are shown by the 1990-91 owner.

Table 32--Changes in volume of sawtimber on timberland outside National Forests, by species group and owner, eastern Washington, 1980 to 1990-91[a b c]

Description	Other public	Forest industry	Other private	All owners
	Million board feet, Scribner rule			
Softwoods:				
Total volume in 1980	8,385	9,792	18,728	36,904
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	-124	-97	-164	-384
Nonforest to timberland	--	--	--	--
Net change	-124	-97	-164	-384
Changes in inventory area--				
To National Forest	-126	-992	--	-1,118
From National Forest	--	--	--	--
To reserved timberland	--	--	-1,439	-1,439
Net change	-126	-992	-1,439	-2,557
Changes in ownership--				
From other public	-76	76	--	--
From forest industry	47	-100	53	--
From other private	34	127	-160	--
Net change	6	102	-108	--
Growth, mortality and harvest--				
Periodic gross growth	2,728	3,524	7,503	13,755
Periodic mortality	-468	-574	-1,071	-2,113
Periodic removals	-1,116	-3,283	-3,637	-8,036
Net change	1,144	-333	2,795	3,606
Total volume in 1991	9,284	8,473	19,810	37,566
Hardwoods:				
Total volume in 1980	175	49	317	541
Volume changes due to:				
Changes in land class--				
Timberland to nonforest	--	--	--	--
Nonforest to timberland	--	--	--	--
Net change	--	--	--	--
Changes in inventory area--				
To National Forest	--	--	--	--
From National Forest	--	--	--	--
To reserved timberland	--	--	--	--
Net change	--	--	--	--
Changes in ownership--				
From other public	--	--	--	--
From forest industry	--	--	--	--
From other private	--	--	--	--
Net change	--	--	--	--
Growth, mortality and harvest--				
Periodic gross growth	63	13	208	284
Periodic mortality	-8	--	-28	-36
Periodic removals	-10	--	-9	-18
Net change	45	13	171	230
Total volume in 1991	221	62	488	770

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

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

[b] Includes sawtimber softwood trees 9.0 inches in d.b.h. and larger and sawtimber hardwood trees 11.0 inches in d.b.h. and larger.

[c] Negative values are losses of volume and positive values are gains of volume. Losses are shown by the 1980 owner and gains are shown by the 1990-91 owner.

Table 33—Timber harvest by owner, eastern Washington, 1955-91

Year	National Forest	Other public	Private[a]	All owners
		Thousand board feet, Scribner rule		
1955	172,714	47,673	537,955	758,342
1956	217,290	46,097	504,073	767,460
1957	227,845	37,657	485,045	750,547
1958	250,764	29,131	491,670	771,565
1959	330,307	35,716	536,507	902,530
1960	272,884	29,195	536,180	838,259
1961	288,501	27,229	481,854	797,584
1962	400,062	37,159	454,426	891,647
1963	411,925	41,419	491,028	944,372
1964	427,596	38,232	547,882	1,013,710
1965	433,090	75,941	530,562	1,039,593
1966	428,176	75,922	526,794	1,030,892
1967	448,802	84,539	531,740	1,065,081
1968	472,669	102,260	603,772	1,178,701
1969	426,409	118,017	523,715	1,068,141
1970	332,863	67,014	490,807	890,684
1971	385,967	110,434	573,711	1,070,112
1972	481,759	91,899	615,658	1,189,316
1973	439,170	113,300	666,398	1,218,868
1974	382,870	76,699	683,056	1,142,625
1975	339,847	66,583	606,463	1,012,893
1976	363,896	78,859	689,188	1,131,943
1977	321,884	116,758	730,581	1,169,223
1978	339,443	108,993	771,153	1,219,589
1979	291,369	89,186	747,201	1,127,756
1980	316,864	55,485	686,626	1,058,975
1981	297,105	51,486	585,130	933,721
1982	178,788	23,331	525,473	727,592
1983	399,356	92,725	634,084	1,126,165
1984	327,596	123,010	597,153	1,047,759
1985	324,138	96,516	683,390	1,104,044
1986	396,551	108,974	718,637	1,224,162
1987	462,312	146,022	729,928	1,338,262
1988	426,280	121,557	748,721	1,296,558
1989	433,511	119,929	805,671	1,359,111
1990	313,259	102,628	759,905	1,175,792
1991	284,304	68,673	737,433	1,090,410

[a] Includes harvest from Native American lands.
Source: State of Washington, Department of Natural Resources.

Table 34—National Forest area by land class, eastern Washington, 1987[a b c d]

Timberland		Other forest		All forest land	Nonforest land	All lands
Available	Reserved	Available	Reserved			
		Thousand acres				
2,494	698	811	1	4,004	673	4,677

[a] Totals are off because of rounding.
[b] Does not include 197,000 acres of the Mount Baker-Snoqualmie National Forest located in Skagit and Whatcom Counties and administered by the Okanogon National Forest. These acres were reported in the previous inventory of eastern Washington (Bassett and Oswald 1983). 107,000 of these acres are in the Paysten Wilderness Area.
[c] Does not include 523,000 acres of the Mount Baker-Snoqualmie National Forest located in Kittitas and Yakima Counties and administered by the Wenatchee National Forest. These acres were reported in the previous inventory of eastern Washington (Bassett and Oswald 1983). 224,000 acres of these acres are in wilderness areas.
[d] Does not include area administered by the Gifford Pinchot National Forest in Klickitat and Yakima Counties. These acres were reported by MacLean and others (1992).

Table 35—Area of forest land within National Forests, by land class and forest type, eastern Washington, 1987[a]

Forest type	Timberland		Other Forest		All types
	Available	Reserved	Available	Reserved	
			Thousand acres		
Douglas-fir	1,250	502	186	--	1,937
Fir-spruce	248	8	--	--	257
Western hemlock[b]	479	--	--	--	479
Lodgepole pine	124	--	309	--	433
Ponderosa pine	351	188	313	--	851
Western white pine	4	--	--	--	4
Nonstocked[c]	38	--	--	1	38
Unclassified[d]	--	--	3	--	3
All types	2,494	698	811	1	4,004

-- = none reported or less than 500 acres.
[a] Totals may be off because of rounding.
[b] Western redcedar or western hemlock.
[c] Nonstocked areas are less than 10 percent stocked with live trees.
[d] Information about forest type unavailable.

Table 36—Area of National Forest timberland, by site class, eastern Washington, 1987[a]

Site class[b]						All classes
≥224	165-224	120-164	85-119	50-84	20-49	
			Thousand acres			
--	--	--	100	588	1,806	2,494

-- = none reported or less than 500 acres.
[a] Totals may be off because of rounding.
[b] Mean annual increment cubic-foot growth per acre at culmination in fully stocked natural stands.

Table 37—Area of National Forest timberland, by forest type and stand-size class, eastern Washington, 1987[a]

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked[b]	All classes
			Thousand acres		
Douglas-fir	661	398	191	--	1,250
Fir-spruce	166	59	24	--	248
Western hemlock[c]	253	217	9	--	479
Lodgepole pine	124	--	--	--	124
Ponderosa pine	166	128	57	--	351
Western white pine	--	--	4	--	4
Nonstocked[b]	--	--	--	38	38
All types	1,371	801	284	38	2,494

-- = none reported or less than 500 acres.
[a] Totals may be off because of rounding.
[b] Nonstocked area are less than 10 percent stocked with live trees.
[c] Western redcedar or western hemlock.

Table 38—Net volume of growing stock on National Forest timberland, by species and diameter class, eastern Washington, 1987[a] [b]

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	21.0-28.9	29.0+	
					Million cubic feet						
Douglas-fir	81	141	168	172	193	188	187	166	512	459	2,267
Ponderosa pine	10	17	20	26	34	48	54	61	264	226	760
True firs	96	131	144	136	123	121	108	86	212	117	1,274
Western hemlock	11	17	20	25	33	32	33	30	109	78	388
Western white pine	4	11	19	27	20	19	17	16	29	19	181
Engelmann spruce	16	26	33	36	34	38	35	31	78	32	359
Western larch	31	51	43	58	57	55	48	45	139	69	596
Western redcedar	2	4	5	5	4	4	5	5	17	27	78
Lodgepole pine	145	177	129	73	46	27	14	10	4	0	625
Other western softwoods	4	3	8	8	8	6	8	4	32	38	119
Western hardwoods	1	--	--	--	--	--	--	--	--	--	1
All species	401	578	589	566	552	538	509	454	1,396	1,065	6,648

-- = none reported or less than 500,000 cubic feet.
[a] Totals may be off because of rounding.
[b] Includes growing-stock trees 5 inches in d.b.h. and larger.

Table 39—Net volume of sawtimber on National Forest timberland, by species and diameter class, eastern Washington, 1987[a b]

Species	Diameter class (inches at breast height) 9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+	All classes
	Million board feet, Scribner rule								
Douglas-fir	684	836	1,027	1,065	1,098	1,055	3,498	3,822	13,085
Ponderosa pine	74	125	180	286	333	401	1,878	1,855	5,132
True firs	615	687	685	718	682	559	1,489	932	6,368
Western hemlock	94	128	193	194	199	190	747	599	2,343
Western white pine	86	144	112	111	106	102	190	152	1,003
Engelmann spruce	148	189	196	234	228	200	548	252	1,994
Western larch	172	293	323	320	293	283	930	468	3,084
Western redcedar	21	24	20	20	24	24	83	147	363
Lodgepole pine	568	362	248	158	79	62	24	--	1,501
Other western softwoods	34	39	41	33	46	22	192	234	640
Western hardwoods	--	2	1	1	1	1	1	1	7
All species	2,496	2,829	3,024	3,140	3,090	2,900	9,580	8,461	35,521

-- = none reported or less than 500,000 board feet.
[a] Totals may be off because of rounding.
[b] Includes sawtimber softwood trees 9.0 inches in d.b.h. and larger and sawtimber hardwood trees 11.0 inches in d.b.h. and larger.

Table 40—Net volume of growing stock on National Forest timberland, by forest type and stand-size class, eastern Washington, 1987[a b]

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked[c]	All classes
	Million cubic feet				
Douglas-fir	2,311	1,188	--	--	3,498
Fir-spruce	548	37	--	--	586
Western hemlock[d]	1,006	737	7	--	1,750
Lodgepole pine	204	--	--	--	204
Ponderosa pine	323	283	--	--	606
Western white pine	--	--	3	--	3
Nonstocked[c]	--	--	--	1	1
All types	4,392	2,245	10	1	6,648

-- = none reported or less than 500,000 cubic feet.
[a] Totals may be off because of rounding.
[b] Includes growing-stock trees 5.0 inches and larger.
[c] Nonstocked area are less than 10 percent stocked with live trees.
[d] Western redcedar or western hemlock.

Table 41—Net volume of sawtimber on National Forest timberland, by forest type and stand-size class, eastern Washington, 1987[a b]

Forest type	Sawtimber	Poletimber	Seedling-sapling	Nonstocked[c]	All classes
		Million board feet, Scribner rule			
Douglas-fir	12,817	5,870	--	--	18,687
Fir-spruce	3,094	200	--	--	3,294
Western hemlock[d]	5,626	3,651	17	--	9,293
Lodgepole pine	1,125	--	--	--	1,125
Ponderosa pine	1,696	1,415	--	--	3,111
Western white pine	--	--	8	--	8
Nonstocked[c]	--	--	--	3	3
All types	24,358	11,135	25	3	35,521

-- = none reported or less than 500,000 board feet.
[a] Totals may be off because of rounding.
[b] Includes sawtimber softwood trees 9.0 inches in d.b.h. and larger and sawtimber hardwood trees 11.0 inches in d.b.h. and larger.
[c] Nonstocked area are less than 10 percent stocked with live trees.
[d] Western redcedar or western hemlock.

Table 42—Net annual growth and mortality of growing stock on National Forest timberland, by forest type, eastern Washington, 1986[a b]

Forest type	Net annual growth	Annual mortality
	Thousand cubic feet	
Douglas-fir	66,563	17,447
Fir-spruce	8,063	1,705
Western hemlock[c]	35,951	8,120
Lodgepole pine	3,104	878
Ponderosa pine	9,186	21,284
Western white pine	254	33
Nonstocked[d]	49	--
All types	123,170	49,468

-- = none reported or less than 500 cubic feet.
[a] Totals may be off because of rounding.
[b] Includes growing-stock trees 5.0 inches in d.b.h. and larger.
[c] Western redcedar or western hemlock.
[d] Nonstocked areas are less than 10 percent stocked with live trees.

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Metric Equivalents

1 acre = 0.405 hectare
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

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This report summarizes a 1990-91 timber resource inventory of Washington east of the crest of the Cascade Range. The inventory was conducted on all private and public lands except National Forests. Timber resource statistics from National Forest inventories also are presented. Detailed tables provide estimates of forest area, timber volume, growth, mortality, and harvest.

Keywords: Forest surveys, forest inventory, statistics (forest), timber resources, resources (forest), eastern Washington, central Washington.

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