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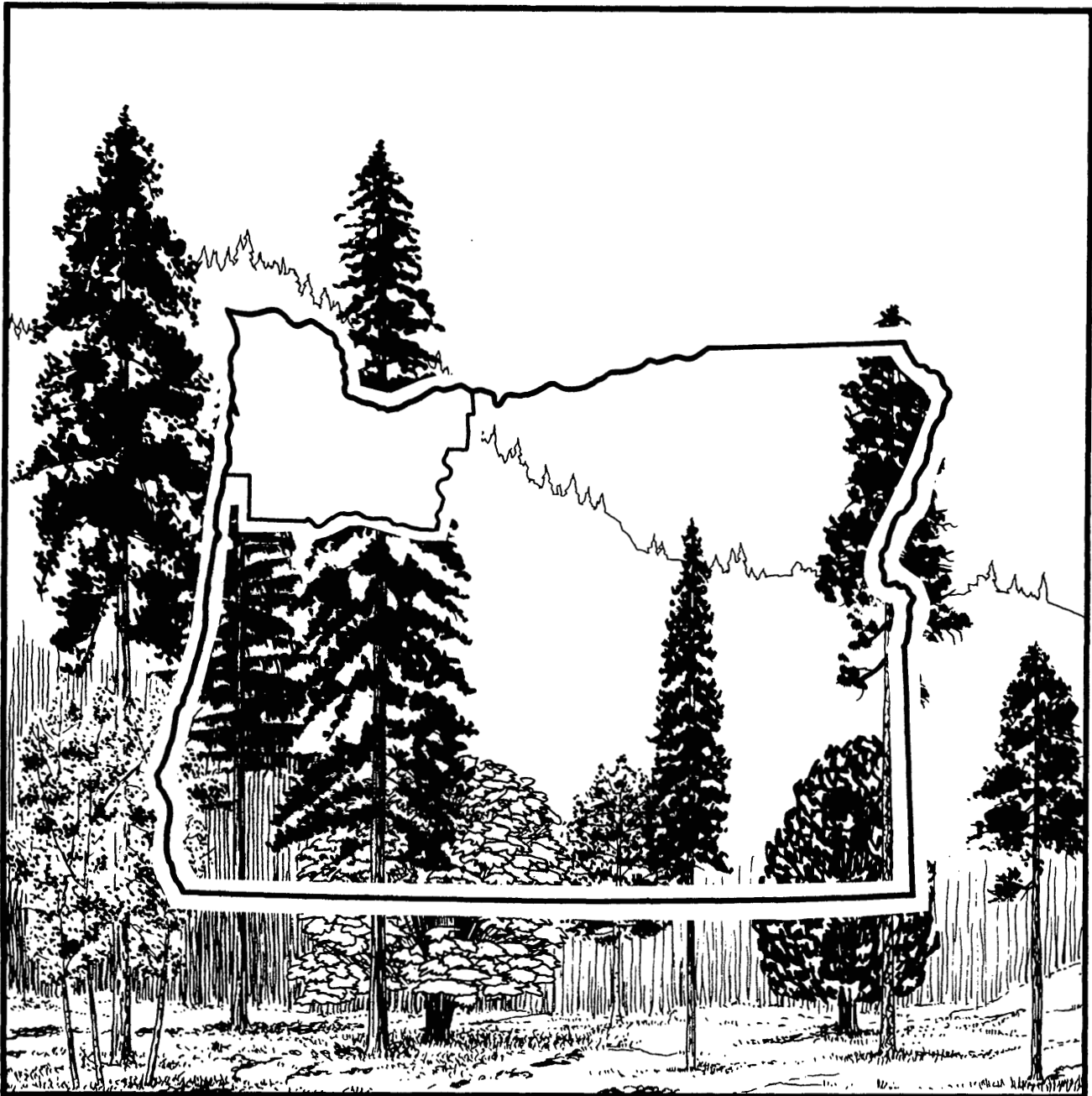
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Timber Resource Statistics for Non- Federal Forest Land in Northwest Oregon

Donald R. Gedney, Patricia M. Bassett, and Mary A. Mei



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AUTHORS

Donald R. Gedney is a resource analyst, and Patricia M. Bassett and Mary A. Mi are programmer/analysts with the Pacific Northwest Research Station, Forestry Sciences Laboratory, P.O. Box 3890, Portland, Oregon 97208.

ABSTRACT

Gedney, Donald R.; Bassett, Patricia M.; Mei, Mary A.

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This report summarizes a 1986 timber resource inventory of the non-Federal forest land in the 10 counties (Clackamas, Clatsop, Columbia, Hood River, Marion, Multnomah, Polk, Tillamook, Washington, and Yamhill) in northwest Oregon. Detailed tables of forest area, timber volume, growth, mortality, and harvest are presented.

KEYWORDS: Forest surveys, statistics (forest), timber resources, resources (forest), Oregon (northwest).

SUMMARY

The northwest Oregon resource area totals 5,726,592 acres, of which non-Federal forest land totals 2,476,000 acres. An estimated 2,367,000 acres are classified as non-Federal timberland. The non-Federal timberland has an estimated 7.7 billion cubic feet of standing timber, and 46 percent of this volume is owned by forest industry.

PREFACE

Forest Inventory and Analysis (formerly Forest Survey) is a nationwide project of the USDA Forest Service authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. Work units of the project, located at Forest Service research and experiment stations, conduct forest resource inventories throughout the 50 States. The Pacific Northwest Research Station at Portland, Oregon, is responsible for inventories in Alaska, California, Hawaii, Oregon, and Washington.

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INTRODUCTION

This report presents statistics from the latest inventory of non-Federal timber resources for the 10 counties (Clackamas, Clatsop, Columbia, Hood River, Marion, Multnomah, Polk, Tillamook, Washington, and Yamhill) in northwest Oregon. The northwest Oregon area was first inventoried in 1930-33; subsequent inventories were taken in 1937-54, 1961, and 1976.

Field data for all non-Federal forest lands were collected in the summers of 1984 and 1985 by the Forest Inventory and Analysis Work Unit (FIA) of the Pacific Northwest Research Station. Data for the Federal timber resources--National Forest (U.S. Department of Agriculture, Forest Service) and Bureau of Land Management (U.S. Department of the Interior)--will be presented, with the non-Federal data, in a later report.

Scientific names of trees (Little 1979) are listed on page 8 of this report. See "Terminology" for definitions of terms used in this report.

INVENTORY PROCEDURES

For all non-Federal lands, the sampling design was double sampling for stratification (Cochran 1963). Owner group, major land classes (timberland, other forest, nonforest), and forest condition classes (stage of development, major type, broad stocking class) were identified on 8,905 photo points. This photo sample was subsampled with a grid of 570 field plots established in 1961 and remeasured in 1976. In these inventories, a cluster of 10 variable radius points distributed over about 1 acre was established at each timberland location.

In 1983, a sample of these 10-point plots was remeasured to provide data on growth and mortality. These data were used to project tree diameters and heights on 38 undisturbed hardwood plots that were not remeasured for the current inventory. All other timberland locations were revisited in 1984 and 1985, and a new cluster of five points sampling about 8 acres was established. The field plots were the basis for estimates of timber volume, growth, mortality, and area attributes such as forest type, site class, and stand-size class.

RELIABILITY OF INVENTORY DATA

All area and **volume** statistics for non-Federal forested areas are based on sampling and are subject to sampling error. Confidence intervals (68-percent probability) for the estimated timberland area, cubic-foot volume, and gross annual cubic-foot growth by owner class are as follows:

<u>Owner</u>	<u>Timberland area</u>	<u>Net volume</u>	<u>Gross annual growth</u>
	(Thousand acres)	(Million cubic feet)	
Other public	590 $\pm$ 24	2,090 $\pm$ 200	109 $\pm$ 8
Forest industry--			
With mills	1,087 $\pm$ 28	3,421 $\pm$ 219	192 $\pm$ 12
Without mills	47 $\pm$ 20	149 $\pm$ 76	7 $\pm$ 4
Farmer and			
miscellaneous private	643 $\pm$ 23	2,072 $\pm$ 148	83 $\pm$ 6
All owners	2,367 $\pm$ 32	7,732 $\pm$ 318	391 $\pm$ 15

Confidence intervals are quantitative expressions of the reliability of the timberland area, volume, and growth statistics. The above tabulation, for instance, indicates a two-in-three (68-percent) chance that the timberland area for all owners is within the range of 2,367,000 $\pm$ 32,000 (2,335,000 to 2,399,000) acres.

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

The following tabulations approximate confidence bounds for table cells of various sizes in this report.

<u>Confidence interval</u>		
<u>Timberland area</u>	<u>By owner</u>	<u>By type or class</u>
(Thousand acres)		
1,000	+ 25	+ 65
800	+ 22	+ 59
600	+ 19	+ 52
400	+ 15	+ 43
200	+ 10	+ 31
100	+ 7	+ 23
50	+ 5	+ 17
25	+ 3	+ 12
15	+ 2	+ 10
10	+ 2	+ 8

<u>Growing stock volume</u>		<u>Gross growth and</u>	
<u>and confidence interval</u>		<u>confidence interval</u>	
(Million cubic feet)		(Thousand cubic feet)	
6,000	+ 267	300,000	+ 13,068
4,000	+ 229	200,000	+ 11,033
2,000	+ 174	100,000	+ 8,261
1,000	+ 128	50,000	+ 6,186
800	+ 112	25,000	+ 4,187
600	+ 95	15,000	+ 3,028
400	+ 75	10,000	+ 2,341
200	+ 50	5,000	+ 1,508
100	+ 33	1,000	+ 543
50	+ 22	500	+ 350
25	+ 15	100	+ 100
75	+ 17		
10	+ 9		
5	+ 5		

Actual confidence intervals have been calculated for the tabular data in this report; they are available on request from the Forest Inventory and Analysis Research Work Unit, Forestry Sciences Laboratory, P.O. Box 3890, Portland, Oregon 97208.

TERMINOLOGY

Bureau of Land management lands--Federal lands administered by the Bureau of Land Management, U.S. Department of the Interior.

Chaparral--Areas covered with heavily branched dwarf trees or shrubs, usually evergreen, the crown canopy of which at maturity usually covers more than 50 percent of the ground. The principal genera are Arctostaphylos, Baccharis, Ceanothus, Cercocarpus, and Garrya.

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

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

Cull trees--Live trees of noncommercial species, or live trees of commercial species that are more than 75 percent defective and are unlikely to become growing stock.

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."

Farmer--Lands owned by an individual or corporate owner who produces agricultural products and does not meet the definition of a forest industry.

Forest industry lands--

With mills: lands owned by companies or individuals that operate wood-using plants.

Without mills: lands owned by companies or individuals that manage forests for timber production but do not operate mills.

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.

Forest land, reserved--Forest land withdrawn from timber production through statute or ordinance. Included are National, State, and county parks; and other reserved lands.

Forest types--Stands with 50-percent or more stocking in live conifer trees classed as softwood types; stands with a majority of stocking in live hardwood trees classed as hardwood types. The individual forest type is determined by plurality of stocking by species of live softwood or hardwood trees.

Gross annual growth--The increase in volume of trees during a specified year. Components of gross annual growth of trees: (a) the increment in sound volume of trees alive at the beginning of a specified year and surviving to the year's end, plus (b) the sound volume of trees reaching sawtimber or poletimber size during the year.

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 stump to a minimum 4-inch top (of central stem) outside the bark. Net volume equals gross volume less deduction for rot and missing bole sections.

Hardwoods--Trees that are **angiosperms**, usually broad leaved and deciduous .

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

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

Mean annual increment--A measure of the productivity of forest land in **terms** of the average increase in cubic-foot volume per acre per year. For a given species and site index, the average is based on the age at which the mean annual increment culminates for fully stocked stands. When productivity is calculated, nonforest inclusions of less than 1 acre are excluded.

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

Miscellaneous private owners--All private owners not otherwise classified.

Mortality--Volume of sound wood in trees dying from natural causes during a specified period.

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.

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

Non-Federal lands--Includes all land except lands owned or managed by the Forest Service, U.S. Department of Agriculture, and by the Bureau of Land Management, **U.S.** Department of the Interior. Includes miscellaneous Federal lands .

Nonforest land--Land that has never supported forests or was formerly forested and is currently developed for nonforest uses. Included are lands used for agricultural crops, Christmas tree farms, improved pasture, residential areas, city parks, constructed roads, operating railroads and their right-of-way clearings, powerline and pipeline clearings, streams more than 30 feet wide, and 1- to 40-acre areas of water classified by the Bureau of the Census, U.S. Department of Commerce, as land. If intermingled in forest areas, unimproved roads and other nonforest strips must be more than 120 feet wide, and clearings or other areas must be 1 acre or larger to qualify as nonforest land.

Nonstocked areas--Timberland less than 10 percent stocked with growing-stock trees.

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

Other public lands--Lands administered by public agencies other than the Forest Service, U.S. Department of Agriculture, or the Bureau of Land Management, U.S. Department of the Interior.

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

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

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

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

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

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

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

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

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

Sawtimber volume--Net volume of sawtimber trees measured in board feet. Net 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 32-foot logs for conifers and 16-foot logs for hardwoods.

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

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

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

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

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

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

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

Timberland, reserved— Private or public land withdrawn from timber utilization through statute, ordinance, or administrative order but which otherwise qualifies as timberland.

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

NAMES OF TREES

Common name

Scientific name

Softwoods:

Douglas-fir	<u>Pseudotsuga menziesii</u> (Mirb.) Franco
Grand fir	<u>Abies grandis</u> (Dougl. ex D. Don.) Lindl.
Lodgepole pine	<u>Pinus contorta</u> Dougl. ex Loud. var. <u>latifolia</u> Engelm.
Mountain hemlock	<u>Tsuga mertensiana</u> (Bong.) Carr.
Noble fir	<u>Abies procera</u> Rehd.
Pacific silver fir	<u>Abies amabilis</u> Dougl. ex Forbes
Ponderosa pine	<u>Pinus ponderosa</u> Dougl. ex Laws.
Sitka spruce	<u>Picea sitchensis</u> (Bong.) Carr.
Western hemlock	<u>Tsuga heterophylla</u> (Raf.) Sarg.
Western redcedar	<u>Thuja plicata</u> Donn ex D. Don
Western white pine	<u>Pinus monticola</u> Dougl. ex D. Don

Hardwoods :

Bigleaf maple	<u>Acer macrophyllum</u> Pursh
Bitter cherry	<u>Prunus emarginata</u> Dougl. ex Eaton
Black cottonwood	<u>Populus trichocarpa</u> Torr. & Gray
Oregon ash	<u>Fraxinus latifolia</u> Benth.
Oregon white oak	<u>Quercus garryana</u> Dougl. ex Hook.
Pacific madrone	<u>Arbutus menziesii</u> Pursh
Red alder	<u>Alnus rubra</u> Bong.

TABLE 1--AREA OF NON-FEDERAL LAND BY LAND CLASS AND COUNTY, NORTHWEST OREGON, JANUARY 1, 1986 ^{1/} ^{2/}

LAND CLASS	CLACKAMAS	CLATSOP	COLUMBIA	HOOD RIVER	MARION	MULTNOMAH	POLK	TILLAMOOK	WASHINGTON	YAMHILL	ALL COUNTIES
<u>THOUSAND ACRES</u>											
FOREST LAND:											
TIMBERLAND	306	427	309	72	148	56	212	450	221	166	2,367
RESERVED TIMBERLAND	2	6	--	1	9	6	--	5	2	--	31
OTHER FOREST	8	15	7	3	5	5	5	20	6	6	80
TOTAL	315	448	316	76	162	67	217	475	228	172	2,476
NONFOREST LAND ^{3/}	272	71	91	45	378	136	209	81	225	223	1,731
ALL CLASSES ^{4/}	588	518	408	121	541	203	426	556	453	395	4,209

-- = none found or less than 500 acres.

^{1/}Subject to sampling error.

^{2/}Totals may be off because of rounding.

^{3/}Includes cropland, pasture and range, swampland, industrial and urban areas, powerline clearings, railroads, and all improved roads and highways; and water as classified by Forest Inventory and Analysis standards but defined by the Bureau of the Census as land.

^{4/}Source: United States Bureau of the Census, Land and Water of the United States, 1980.

TABLE 2--AREA OF NON-FEDERAL TIMBERLAND BY OWNER AND COUNTY, NORTHWEST OREGON, JANUARY 1, 1986 ^{1/} ^{2/}

LAND CLASS	CLACKAMAS	CLATSOP	COLUMBIA	HOOD RIVER	MARION	MULTNOMAH	POLK	TILLAMOOK	WASHINGTON	YAMHILL	ALL COUNTIES
<u>MOUSAND ACRES</u>											
OTHER PUBLIC:											
INDIAN	11	--	--	--	5	--	--	--	--	--	16
OTHER FEDERAL	--	3	--	--	--	--	1	--	--	--	4
STATE	8	133	9	18	21	3	7	266	48	1	514
COUNTY AND MUNICIPAL	10	13	4	9	--	4	--	6	6	4	56
TOTAL	29	149	13	27	26	7	8	272	54	5	590
PRIVATE:											
FOREST INDUSTRY--											
WITH MILL	125	229	208	30	51	11	142	139	75	77	1,087
WITHOUT MILL	3	12	10	1	2	1	a	3	4	4	47
OTHER PRIVATE--											
FARMER	39	9	17	4	38	3	34	14	23	43	224
MISCELLANEOUS	111	29	61	10	31	34	20	22	65	37	420
TOTAL	278	279	296	45	122	49	204	178	167	161	1,778
ALL OWNERS	306	427	309	72	148	56	212	450	221	166	2,367

-- = none found or less than 500 acres.

^{1/}Subject to sainpling error.

^{2/}Totals may be off because of rounding.

TABLE 3--AREA OF NON-FEDERAL STOCKABLE TIMBERLAND BY SITE CLASS AND OWNER, NORTHWEST OREGON, JANUARY 1, 1986 ^{1/} ^{2/}

SITE CLASS <u>3/</u>	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERS
		WITH MILLS	WITHOUT MILLS		
<u>CUBIC FEET</u>	- - - - -	- - - - -	<u>THOUSAND ACRES</u>	- - - - -	- - - - -
225 OR MORE	68	119	--	59	246
165 TO 224	175	379	14	116	684
120 TO 164	241	469	26	280	1,016
85 TO 119	84	85	6	154	329
50 TO 84	4	13	--	24	41
20 TO 49	--	12	--	6	17
ALL CLASSES	573	1,076	47	638	2,333

-- = none found or less than 500 acres.

^{1/}Subject to sampling error.

^{2/}Totals may be off because of rounding.

^{3/}Capacity for cubic-foot annual growth per acre at culmination of mean annual growth in fully stocked natural stands. The areas shown here exclude 34,000 acres of included nonforest land less than 1 acre.

TABLE 4--AREA OF NON-FEDERAL TIMBERLAND BY STAND-SIZE CLASS AND OWNER, NORTHWEST OREGON,
JANUARY 1, 1986 ^{1/} ^{2/}

STAND-SIZE CLASS	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERS
		WITH MILLS	WITHOUT MILLS		
<u>THOUSAND ACRES</u>					
SAWTIMBER STANDS:					
LARGE SAWTIMBER 3/	35	13	--	63	111
SMALL SAWTIMBER 4/	321	547	20	322	1,211
TOTAL	356	560	20	385	1,322
POLETIMBER STANDS	147	141	20	107	416
SAPLING AND					
SEEDLING STANDS	80	359	--	102	541
NONSTOCKED AREAS	7	27	6	49	89
ALL CLASSES	590	1,087	47	643	2,367

-- = none found or less than 500 acres.

^{1/}Subject to sampling error.

^{2/}Totals may be off because of rounding.

^{3/}Includes trees 21.0-inch d.b.h. and larger.

^{4/}Includes softwood trees 9.0- to 20.9-inch d.b.h. and hardwood trees 11.0- to 20.9-inch d.b.h.

TABLE 5--AREA OF NON-FEDERAL TIMBERLAND BY FOREST TYPE AND OWNER, NORTHWEST OREGON,
JANUARY 1, 1986 ^{1/} ^{2/}

FOREST TYPE	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERS
		WITH MILLS	WITHOUT MILLS		
THOUSAND ACRES					
DOUGLAS-FIR	349	601	13	221	1,184
WESTERN HEMLOCK	72	291	--	21	384
SITKA SPRUCE	7	18	--	22	46
WESTERN REDCEDAR	--	7	--	34	42
WESTERN WHITE PINE	7	--	--	--	7
GRAND FIR	--	--	--	6	6
RED ALDER	127	130	21	175	454
BIGLEAF MAPLE	--	12	6	53	72
OREGON WHITE OAK	6	--	--	33	39
OREGON ASH	--	--	--	12	12
BLACK COTTONWOOD	--	--	--	6	6
BITTER CHERRY	--	--	--	6	6
OTHER SOFTWOODS	--	--	--	6	6
OTHER HARDWOODS	15	--	--	--	15
NONSTOCKED	7	27	6	49	89
ALL TYPES	590	1,087	47	643	2,367

-- = none found or less than 500 acres.

^{1/}Subject to sampling error.

^{2/}Totals may be off because of rounding.

TABLE 6--AREA OF NON-FEDERAL RESERVED TIMBERLAND AND OTHER FOREST LAND BY LAND CLASS, FOREST TYPE, AND OWNER, NORTHWEST OREGON, JANUARY 1, 1986 ^{1/} ~~2/~~

LAND CLASS AND FOREST TYPE	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERS
		NITH MILLS	WITHOUT MILLS		
<u>THOUSAND ACRES</u>					
TIMBERLAND, RESERVED:					
DOUGLAS-FIR	18	--	--	--	19
SITKA SPRUCE	4	--	--	--	4
HEMLOCK	4	--	--	--	4
TRUE FIRS	1	--	--	--	1
RED ALDER	1	--	--	--	1
OTHER HARDWOODS	3	--	--	--	3
ALL TIMBERLAND, RESERVED	30	--	--	--	31
OTHER FOREST LAND:					
OREGON WHITE OAK	16	--	--	14	30
OTHER HARDWOODS	1	--	--	--	1
CHAPARRAL	1	--	--	--	1
UNCLASSIFIED	26	--	--	21	47
ALL OTHER FOREST LAND 3/	44	--	--	35	80

-- = none found or less than 500 acres.

^{1/}Subject to sampling error.

^{2/}Totals may be off because of rounding.

^{3/}Includes 1,566 acres of reserved areas.

TABLE 7--VOLUME OF TIMBER ON NON-FEDERAL TIMBERLAND BY CLASS OF
TIMBER AND BY SOFTWOODS AND HARDWOODS, NORTHWEST OREGON,
JANUARY 1, 1986 ^{1/} ^{2/}

CLASS OF TIMBER	SOFTWOODS	HARDWOODS	ALL SPECIES
<u>MILLION CUBIC FEET</u>			
SAWTIMBER TREES:			
SAW-LOG PORTION	5,172	988	6,161
UPPER-STEM PORTION	193	271	464
TOTAL	5,366	1,259	6,625
POLETIMBER TREES	506	601	1,107
ALL GROWING STOCK	5,871	1,861	7,732
SOUND CULL TREES	41	68	109
ROTTEN CULL TREES	14	73	87
SALVABLE DEAD TREES	70	11	81
ALL TIMBER	5,996	2,013	8,009

^{1/}Subject to **sampling** error.

^{2/}Totals may be off because of rounding.

TABLE 8--~~VOLUME~~ OF GROWING STOCK AND SAWTIMBER ~~ON~~ EION-FEDERAL TIMBERLAND BY OWNER AND BY SOFTWOODS AND HARDWOODS, NORTHWEST OREGON, JANUARY 1, 1986 ~~1/~~ 2/

CLASS OF TIMBER AND OWNER	AVERAGE VOLUME	SOFTWOODS	HARDWOODS	ALL SPECIES
	<u>CUBIC FEET PER ACRE</u>	<u>MILLION CUBIC FEET</u>		
GROWING STOCK: <u>3/</u>				
OTHER PUBLIC	3,542	1,679	411	2,090
FOREST INDUSTRY--				
WITH MILLS	3,147	2,818	604	3,421
WITHOUT MILLS	3,170	106	43	149
FARMER AND MISCELLANEOUS				
PRIVATE	<u>3,222</u>	<u>1,269</u>	<u>803</u>	<u>2,072</u>
ALL OWNERS	3,267	5,871	1,861	7,732
	<u>BOARD FEET PER ACRE</u>	<u>MILLION BOARD FEET</u>		
SAWTIMBER (SCRIBNER RULE): <u>4/</u>				
OTHER PUBLIC	12,490	6,337	1,032	7,369
FOREST INDUSTRY--				
WITH MILLS	10,658	9,897	1,688	11,585
WITHOUT MILLS	11,213	429	97	527
FARMER AND MISCELLANEOUS				
PRIVATE	<u>10,963</u>	<u>4,931</u>	<u>2,119</u>	<u>7,049</u>
ALL OWNERS	11,209	21,594	4,937	26,531

1/Subject to sampling error.

2/Totals may be off because of rounding.

3/Includes trees 5.0-inch d.b.h. and larger.

4/Includes softwood trees 9.0-inch d.b.h. and larger and hardwood trees 11.0-inch d.b.h. and larger.

TABLE 9--VOLUME OF GROWING STOCK AND SAWTIMBER ON NON-FEDERAL TIMBERLAND BY COUNTY AND OWNER, NORTHWEST OREGON, JANUARY 1, 1986 ±/ 2/

COUNTY	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERS
		WITH MILLS	WITHOUT MILLS		
<u>MILLION CUBIC FEET</u>					
GROWING STOCK: <u>3/</u>					
CLACKAMAS	127	259	9	459	854
CLATSOP	656	786	35	133	1,610
COLUMBIA	53	768	37	283	1,140
HOOD RIVER	99	76	3	42	219
MARION	94	174	8	232	508
MULTNOMAH	35	45	2	126	208
POLK	25	490	22	158	695
TILLAMOOK	764	279	10	92	1,144
WASHINGTON	214	277	12	293	795
YAMHILL	23	270	12	255	561
ALL COUNTIES	2,090	3,421	149	2,072	7,732
<u>MILLION BOARD FEET</u>					
SAWTIMBER (SCRIBNER RULE) : <u>4/</u>					
CLACKAMAS	482	799	32	1,581	2,894
CLATSOP	2,503	2,670	122	458	5,753
COLUMBIA	212	2,717	133	990	4,052
HOOD RIVER	354	232	9	142	737
MARION	355	619	30	783	1,787
MULTNOMAH	136	167	9	438	750
POLK	88	1,686	78	507	2,358
TILLAMOOK	2,403	837	30	310	3,581
UASHINGTON	745	931	42	1,006	2,724
YAMHILL	91	928	43	835	1,896
ALL COUNTIES	7,369	11,585	527	7,049	26,531

1/Subject to sampling error.

2/Totals may be off because of rounding.

3/Includes trees 5.0-inch d.b.h. and larger.

4/Includes softwoods trees 9.0-inch d.b.h. and larger and hardwood trees 11.0-inch d.b.h. and larger.

TABLE 10--VOLUME OF GROWING STOCK ON NON-FEDERAL TIMBERLAND BY SPECIES AND OWNER, NORTHWEST OREGON, JANUARY 1, 1986 1/ 2/

SPECIES	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERS
		WITH MILLS	WITHOUT MILLS		
MILLION CUBIC FEET					
SOFTWOODS:					
DOUGLAS-FIR	1,231	1,742	90	935	3,998
WESTERN HEMLOCK	382	798	14	69	1,264
SITKA SPRUCE	32	164	--	81	277
WESTERN REDCEDAR	9	53	2	163	227
GRAND FIR	17	13	--	16	47
NOBLE FIR	7	38	--	--	45
PACIFIC SILVER FIR	--	8	--	--	8
OTHER SOFTWOODS <u>3/</u>	1	1	--	4	6
TOTAL	1,679	2,818	106	1,269	5,871
HARDWOODS:					
RED ALDER	315	487	36	369	1,207
BIGLEAF MAPLE	70	98	6	243	426
OREGON WHITE OAK	12	6	--	95	114
BLACK COTTONWOOD	--	--	--	49	49
OREGON ASH	--	--	--	38	38
BITTER CHERRY	1	12	1	9	24
PACIFIC MADRONE	4	--	--	--	4
TOTAL	411	604	43	803	1,861
ALL SPECIES	2,090	3,421	149	2,072	7,732

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

1/Subject to sampling error.

2/Totals may be off because of rounding.

3/Includes ponderosa pine, western white pine, lodgepole pine, and mountain hemlock.

TABLE 11--VOLUME OF SAWTIMBER ON NON-FEDERAL TIMBERLAND BY SPECIES AND OWNER, NORTHWEST OREGON, JANUARY 1, 1986 ^{1/} ^{2/}

SPECIES	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERS
		WITH MILLS	WITHOUT MILLS		
<u>MILLION BOARD FEET, SCRIBNER RULE</u>					
SOFTWOODS :					
DOUGLAS-FIR	4,751	6,469	369	3,603	15,192
WESTERN HEMLOCK	1,374	2,442	56	279	4,151
SITKA SPRUCE	111	614	--	385	1,110
WESTERN REDCEDAR	25	165	4	579	774
GRAND FIR	54	40	--	75	168
NOBLE FIR	20	135	--	--	155
PACIFIC SILVER FIR	--	27	--	--	27
OTHER SOFTWOODS 3/	2	5	--	9	16
TOTAL	6,337	9,997	429	4,931	21,594
HARDWOODS:					
RED ALDER	764	1,437	5	1,139	3,426
BIGLEAF MAPLE	246	209	13	523	991
OREGON WHITE OAK	18	13	--	128	159
BLACK COTTONWOOD	--	--	--	279	279
OREGON ASH	--	--	--	40	40
BITTER CHERRY	--	29	--	10	39
PACIFIC MADRONE	4	--	--	--	4
TOTAL	1,032	1,688	97	2,119	4,937
ALL SPECIES	7,369	11,585	527	7,049	26,531

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

^{1/}Subject to sampling error.

^{2/}Totals may be off because of rounding.

^{3/}Includes ponderosa pine, western white pine, and mountain hemlock.

TABLE 12--VOLUME OF GROWING STOCK ON NON-FEDERAL TIMBERLAND BY SPECIES AND DIAMETER CLASS, NORTHWEST OREGON,
JANUARY 1, 1986 ^{1/} ^{2/}

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 AND LARGER	
	<u>MILLION CUBIC FEET</u>										
SOFTWOODS :											
DOUGLAS-FIR	73	194	343	390	476	497	455	378	811	381	3,998
WESTERN HEMLOCK	72	133	174	197	147	123	109	63	148	97	1,264
SITKA SPRUCE	3	10	14	17	27	19	17	14	38	118	277
WESTERN REDCEDAR	4	6	4	14	9	10	15	16	76	74	227
GRAND FIR	3	4	5	4	8	2	6	3	4	8	47
NOBLE FIR	1	2	1	5	10	15	3	9	1	--	45
PACIFIC SILVER FIR	--	--	2	--	1	--	--	--	3	--	8
OTHER SOFTWOODS ^{3/}	1	--	1	1	--	1	--	--	2	--	6
TOTAL	158	348	544	628	677	666	606	483	1,083	678	5,871
HARDWOODS :											
RED ALDER	87	143	202	221	182	129	106	41	87	9	1,207
BIGLEAF MAPLE	22	33	61	44	51	37	25	40	73	39	426
OREGON WHITE OAK	6	9	17	10	22	9	12	11	15	3	114
BLACK COTTONWOOD	--	--	--	--	--	2	3	4	13	28	49
OREGON ASH	--	--	2	16	3	3	6	2	4	2	38
BITTER CHERRY	4	6	4	7	2	--	--	--	--	--	24
PACIFIC MADRONE	1	--	2	1	--	--	--	--	--	--	4
TOTAL	121	191	289	299	259	179	152	97	191	81	1,861
ALL SPECIES	278	539	833	927	937	846	758	580	1,274	759	7,732

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

^{1/}Subject to sampling error.

^{2/}Totals may be off because of rounding.

^{3/}Includes ponderosa pine, western white pine, lodgepole pine, and mountain hemlock.

TABLE 13--VOLUME OF SAWTIMBER ON NON-FEDERAL TIMBERLAND BY SPECIES AND DIAMETER CLASS, NORTHWEST OREGON,
JANUARY 1, 1986 1/ 2/

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 AND LARGER	ALL CLASSES
MILLION BOARD FEET. SCRIBNER RULE									
SOFTWOODS:									
DOUGLAS-FIR	852	1,211	1,734	1,957	1,919	1,664	3,829	2,025	15,192
WESTERN HEMLOCK	438	663	572	526	480	292	694	485	4,151
SITKA SPRUCE	32	46	85	65	71	60	171	581	1,110
WESTERN REDCEDAR	7	37	27	28	48	56	273	298	774
GRAND FIR	11	15	32	8	28	13	18	43	168
NOBLE FIR	2	15	32	54	10	39	4	--	155
PACIFIC SILVER FIR	7	--	5	--	--	--	15	--	27
OTHER SOFTWOODS <u>3/</u>	2	1	--	4	--	--	10	--	16
TOTAL	1,351	1,988	2,487	2,641	2,556	2,125	5,015	3,431	21,594
HARDWOODS:									
RED ALDER	--	808	801	621	528	199	427	41	3,426
BIGLEAF MAPLE	--	156	184	113	82	121	234	102	991
OREGON WHITE OAK	--	16	38	19	24	25	34	3	159
BLACK COTTONWOOD	--	--	--	9	14	21	81	154	279
OREGON ASH	--	12	4	6	6	2	6	3	40
BITTER CHERRY	--	29	10	--	--	--	--	--	39
PACIFIC MADRONE	--	4	--	--	--	--	--	--	4
TOTAL	--	1,024	1,036	768	655	368	782	303	4,937
ALL SPECIES	1,351	3,013	3,523	3,409	3,210	2,493	5,798	3,734	26,531

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

1/Subject to sampling error.

2/Totals may be off because of rounding.

3/Includes ponderosa pine, western white pine, and mountain hemlock.

TABLE 14--GROSS ANNUAL GROWTH OF GROWING STOCK ON NON-FEDERAL TIMBERLAND BY OWNER AND BY
SOFTWOODS AND HARDWOODS, NORTHWEST OREGON, 1985 ^{1/} _{2/}

OWNER	AVERAGE VOLUME	SOFTWOODS	HARDWOODS	ALL SPECIES
	<u>CUBIC FEET PER ACRE</u>	- - - - - <u>THOUSAND CUBIC FEET</u> - - - - -		
OTHER PUBLIC	185	87,477	21,540	109,017
FOREST INDUSTRY:				
WITH MILLS	177	166,606	25,437	192,043
WITHOUT MILLS	156	4,971	2,339	7,310
FARMER AND MISCELLANEOUS				
PRIVATE	129	52,784	29,993	82,777
ALL OWNERS	165	311,838	79,309	391,146

^{1/}Subject to sampling error.

^{2/}Totals may be off because of rounding.

TABLE 15--GROSS ANNUAL GROWTH OF GROWING STOCK ON NON-FEDERAL LAND BY SPECIES AND OWNER, NORTHWEST OREGON, 1985 ^{1/} ^{2/}

SPECIES	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERS
		WITH MILLS	WITHOUT MILLS		
THOUSAND CUBIC FEET					
SOFTWOODS :					
DOUGLAS-FIR	63,184	92,266	4,106	38,979	198,534
WESTERN HEMLOCK	20,035	56,775	743	3,530	81,083
SITKA SPRUCE	2,030	11,630	--	2,494	16,154
WESTERN REDCEDAR	383	2,621	122	6,866	9,992
GRAND FIR	848	922	--	728	2,497
NOBLE FIR	714	1,833	--	--	2,547
PACIFIC SILVER FIR	--	533	--	--	533
OTHER SOFTWOODS 3/	282	26	--	188	496
TOTAL	87,477	166,606	4,971	52,784	311,838
HARDWOODS:					
RED ALDER	17,928	21,913	2,057	14,965	56,863
BIGLEAF MAPLE	3,053	2,842	227	9,078	15,199
OREGON WHITE OAK	337	119	--	2,565	3,021
BLACK COTTONWOOD	--	--	--	1,470	1,470
OREGON ASH	--	--	--	998	998
BITTER CHERRY	50	562	55	917	1,584
PACIFIC MADRONE	173	--	--	--	173
TOTAL	21,540	25,437	2,339	29,993	79,309
ALL SPECIES	109,017	132,043	7,310	82,777	391,146

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

^{1/}Subject to sampling error.

^{2/}Totals may be off because of rounding.

^{3/}Includes ponderosa pine, western white pine, mountain hemlock, and lodgepole pine.

TABLE 16--AVERAGE ANNUAL MORTALITY OF GROWING STOCK ON NON-FEDERAL TIMBERLAND BY SPECIES AND OWNER, NORTHWEST OREGON, 1985 ^{1/} ^{2/}

SPECIES	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERS
		WITH MILLS	WITHOUT MILLS		
THOUSAND CUBIC FEET					
SOFTWOODS:					
DOUGLAS-FIR	3,812	5,351	281	2,804	12,248
WESTERN HEMLOCK	1,513	2,488	43	217	4,261
SITKA SPRUCE	99	473	--	221	792
WESTERN REDCEDAR	32	157	5	459	654
GRAND FIR	63	38	--	44	145
NOBLE FIR	20	106	--	--	126
PACIFIC SILVER FIR	--	22	--	--	22
OTHER SOFTWOODS 3/	4	4	--	10	17
TOTAL	5,544	8,639	329	3,753	18,265
HARDWOODS:					
KED ALDER	2,504	3,874	287	2,924	9,589
BIGLEAF MAPLE	599	774	50	1,871	3,293
OREGON WHITE OAK	97	48	--	751	897
BLACK COTTONWOOD	--	--	--	369	369
OREGON ASH	--	--	--	289	289
BITTER CHERRY	7	99	8	70	184
PACIFIC MADRONE	33	--	--	--	33
TOTAL	3,241	4,795	345	6,274	14,655
ALL SPECIES	8,785	13,433	674	10,028	32,920

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

^{1/}Subject to sampling error.

^{2/}Totals may be off because of rounding.

^{3/}Includes ponderosa pine, western white pine, mountain hemlock, and lodgepole pine.

TABLE 17--TIMBER HARVEST BY OWNER, NORTHWEST OREGON,
1962-85

YEAR	NATIONAL FOREST	OTHER PUBLIC	PRIVATE	ALL OWNERS
THOUSAND BOARD FEET, SCRIBNER RULE				
1962	390,900	232,517	593,205	1,216,622
1963	412,900	248,126	660,941	1,321,967
1964	422,100	261,395	705,875	1,389,370
1965	480,100	218,285	754,899	1,453,284
1966	421,800	241,700	712,167	1,375,667
1967	375,100	202,256	637,594	1,214,950
1968	472,784	277,011	851,398	1,601,193
1969	446,991	212,951	810,336	1,470,278
1970	360,446	196,161	723,979	1,280,586
1971	318,842	221,344	848,997	1,389,183
1972	464,717	290,947	666,540	1,422,204
1973	494,720	348,864	675,907	1,519,491
1974	358,458	209,187	617,685	1,185,330
1975	283,323	140,295	641,572	1,065,190
1976	361,446	245,655	734,873	1,341,974
1977	306,621	248,547	662,834	1,218,002
1978	270,352	196,250	797,421	1,264,023
1979	394,212	233,877	733,429	1,361,518
1980	394,749	216,699	576,885	1,188,333
1981	292,298	254,346	517,775	1,064,419
1982	196,266	120,933	616,982	934,181
1983	360,466	291,783	671,507	1,323,761
1984	426,389	305,060	666,992	1,398,441
1985	422,075	281,395	903,588	1,607,058

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METRIC EQUIVALENTS

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 1986 timber resource inventory of the non-Federal forest land in the 10 counties (Clackamas, Clatsop, Columbia, Hood River, Marion, Multnomah, Polk, Tillamook, Washington, and Yamhill) in northwest Oregon. Detailed tables of forest area, timber volume, growth, mortality, and harvest are presented.

KEYWORDS: Forest surveys, statistics (forest), timber resources, resources (forest), Oregon (northwest).

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Pacific Northwest Research Station
319 S.W. Pine St.
P.O. Box 3890
Portland, Oregon 97208

U.S. Department of Agriculture
Pacific Northwest Research Station
319 S.W. Pine Street
P.O. Box 3890
Portland, Oregon 97208

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