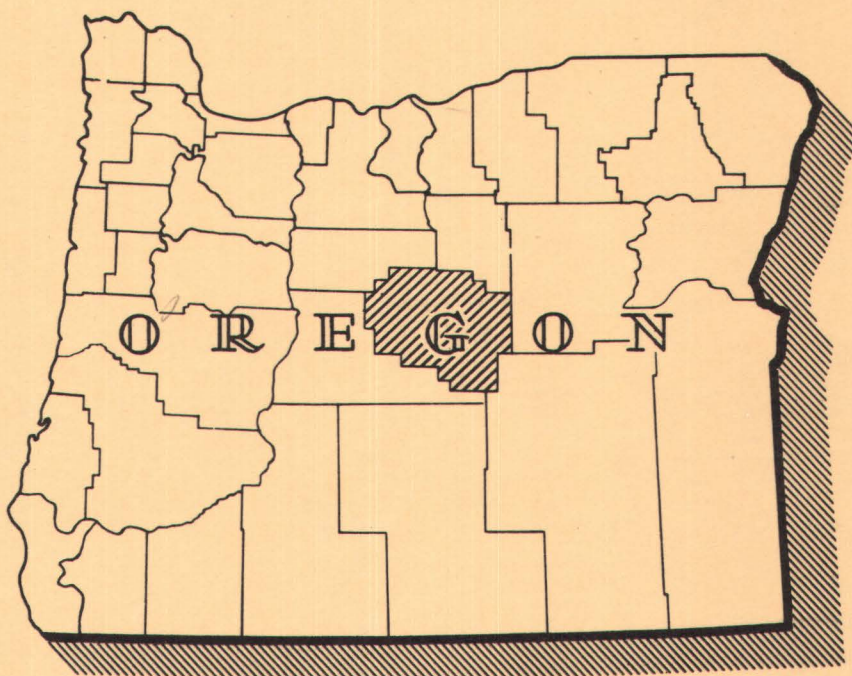


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FOREST STATISTICS FOR CROOK COUNTY, OREGON

(FOREST SURVEY REPORT NO. 114)



U. S. DEPARTMENT OF AGRICULTURE • FOREST SERVICE
PACIFIC NORTHWEST FOREST AND RANGE EXPERIMENT STATION
R. W. COWLIN, DIRECTOR

PORTLAND, OREGON



MAY 1954

PREPARED BY THE DIVISION OF FOREST ECONOMICS

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1/ Acknowledgment is made of cooperation from several public agencies in furnishing ownership records.

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FOR
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Forest Survey Report No. 114

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F. L. Moravets

U. S. Department of Agriculture Forest Service
Pacific Northwest Forest and Range Experiment Station

R. W. Cowlin, Director
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FOREWORD

This publication summarizes in statistical form the results of a reinventory of the forests of Crook County, Oregon, conducted in 1952. This reinventory is a part of the maintenance phase of the Forest Survey, a nationwide project of the Forest Service authorized by the McSweeney-McNary Forest Research Act of 1928 and amended June 25, 1949. The purpose of the Forest Survey is to periodically inventory the extent and condition of forest lands and the timber and other products on them, to ascertain rates of forest growth and depletion, to estimate present consumption of timber products and to analyze and make available in reports survey information needed in the formulation of forest policies and programs.

The Forest Survey is conducted in the various forest regions of the Nation by the regional forest experiment stations of the Forest Service. In the Pacific Northwest region of Oregon and Washington it is an activity of the Pacific Northwest Forest and Range Experiment Station at Portland, Oregon.

Under the initial phase of the Forest Survey the forests of Crook County were inventoried in 1935 and 1936. A statistical report "Forest Statistics for Crook County, Oregon" and a detailed forest type map--scale 1 inch to the mile--were released. The reinventory was conducted during the months of August to October 1952. Another result of the reinventory is a revised forest type map of the county.^{1/}

^{1/} A print of the forest type map is available at cost of blueprinting. For information write Director, Pacific Northwest Forest and Range Experiment Station, 423 U. S. Court House, Portland 5, Oregon.

CONTENTS

Page

Foreword

Figure 1, Forest Stand-Size and Condition Classes, Crook
County, Oregon, 1952.

Significant Findings in the Forest Inventory - - - - -	1
Land Use - - - - -	1
Timber Volume - - - - -	3
Forest Survey Procedure - - - - -	15
Initial Inventory - - - - -	15
Reinventory - - - - -	15
Accuracy of Data - - - - -	16
Forest Area - - - - -	16
Timber Volume - - - - -	16
Comparison of Inventories - - - - -	16
Forest Area - - - - -	16
Timber Volume - - - - -	17
Definition of Terms Used - - - - -	18
Land Area - - - - -	18
Forest Land Classes - - - - -	18
Forest Types - - - - -	19
Tree Classes - - - - -	19
Stand-Size Classes - - - - -	20
Timber Volume - - - - -	21
Timber Cut - - - - -	22

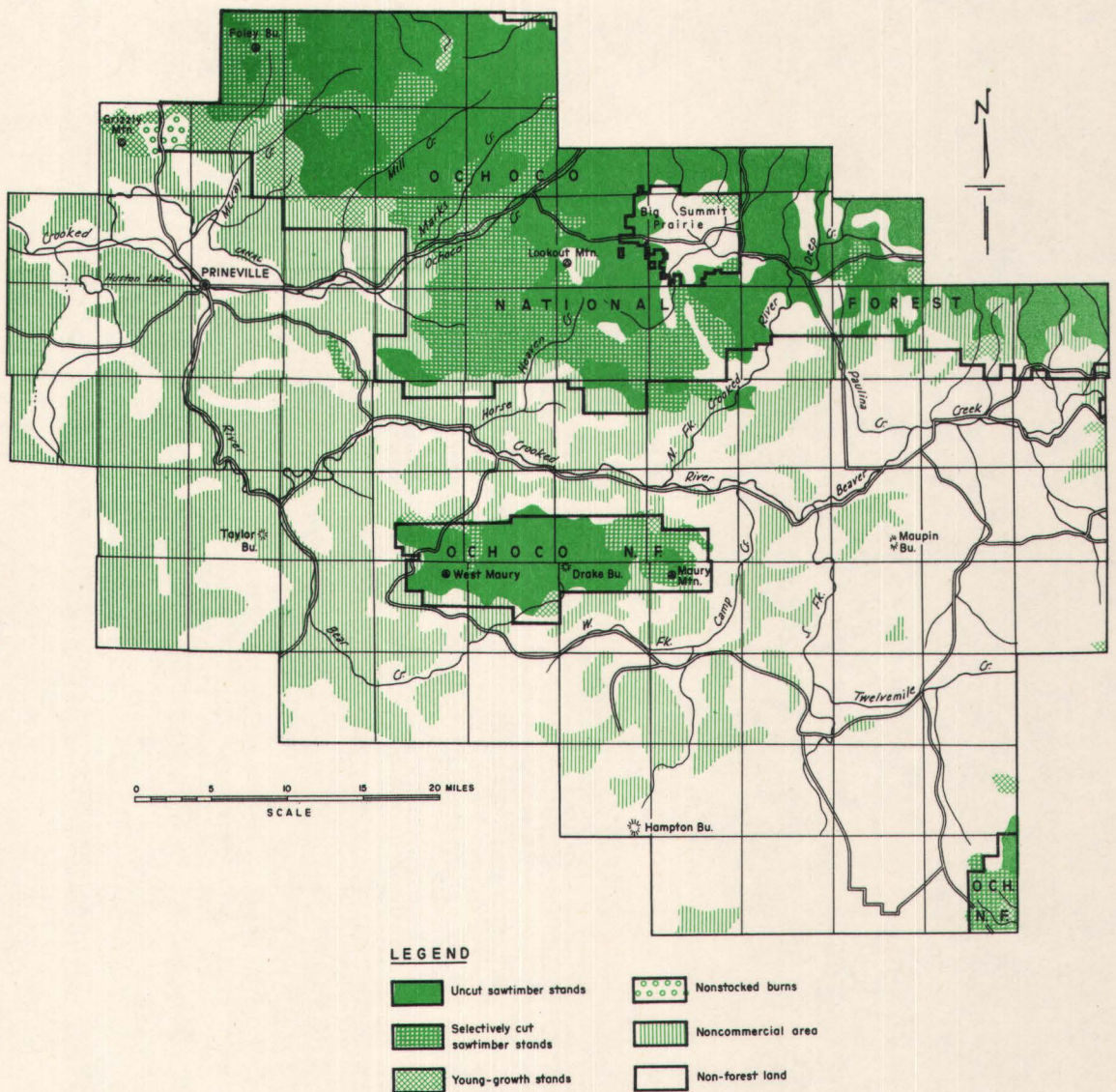
List of Tables

Table 1. Land area, by major classes of land, 1952 - - - - -	4
Table 2. Area of commercial forest land by ownership and stand-size class, 1952 - - - - -	5
Table 3. Area of commercial forest land by major forest type and stand-size class, 1952 - - - - -	6
Table 4. Area of commercial and noncommercial forest land and nonforest land by cover type and ownership class, 1952	7
Table 5. Area of commercial forest land by generalized forest type and ownership class, 1952 - - - - -	8

Page

Table 6.	Net volume of live sawtimber and growing stock on commercial forest land by ownership class, 1952 - -	9
Table 7.	Net volume of live sawtimber and growing stock on commercial forest land by stand-size class, 1952 -	10
Table 8.	Net volume of live sawtimber and growing stock on commercial forest land by species, 1952 - - - - -	11
Table 9.	Net volume of Douglas-fir live sawtimber on commercial forest land by diameter class group and log rule, 1952 - - - - -	12
Table 10.	Net volume of all timber on commercial forest land by class of material and species group, 1952 - - -	13
Table 11.	Average annual timber cut from live sawtimber and growing stock on commercial forest land by species group for the period 1948-1952 incl. - - - - -	14

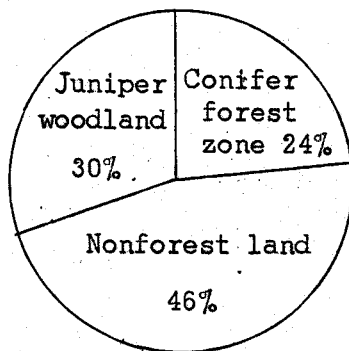
FIGURE 1
 FOREST STAND-SIZE AND CONDITION CLASSES
 CROOK COUNTY, OREGON
 1952



SIGNIFICANT FINDINGS IN THE FOREST INVENTORY

LAND USE

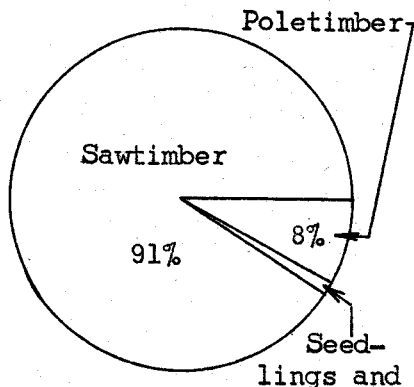
Crook County is situated in the geographical center of Oregon. The county lies on the broad, high plateau of this part of the State but portions of it have rugged topography. Along the northern boundary there is a westward-reaching spur of the Blue Mountains, and in the south-central portion there is a small detached mountainous mass, the Maury Mountains. Crooked River and its tributaries have cut narrow, steep-walled valleys along their lower courses. The climate over the bulk of the county is semi-arid, with 15 to 20 inches of precipitation annually; in the south-western portion there are desert conditions, with about 5 inches annually. Elevations range from 2,700 to 6,300 feet. Climate and topography roughly



divide the county into three vegetative zones (fig. 1). The northeastern one-quarter and the Maury Mountains area comprise the conifer forest zone in which forests of commercial character cover 461 thousand acres; this area was classed as commercial forest land. Most of the western two-fifths of the county is in a western juniper woodland zone. This woodland type is part of a large juniper forest which covers much of the central Oregon area. The juniper stands, generally sparsely stocked, consist of short, limby and gnarled trees of such low timber quality that only limited quantities are used for fence posts, fuelwood, and small wooden

novelties. The juniper zone, classed as noncommercial forest land, covers 563 thousand acres; there is an additional 1 thousand acres of subalpine forest on the upper slopes of Lookout Mountain classed as noncommercial forest land. The third zone, the nonforest land, lies in the southeastern portion of the county. It consists chiefly of sagebrush-covered slopes and desert flats. Within the conifer forest zone there are numerous non-forested areas, the largest of which is Big Summit Prairie. Cropland totaling 64 thousand acres is located on valley lands along the Crooked River; the bulk of this acreage is in the northwestern portion of the county. Non-forest land totals 883 thousand acres. Total land area in the county is 1,907 thousand acres.

Stand-Size and Condition Classes

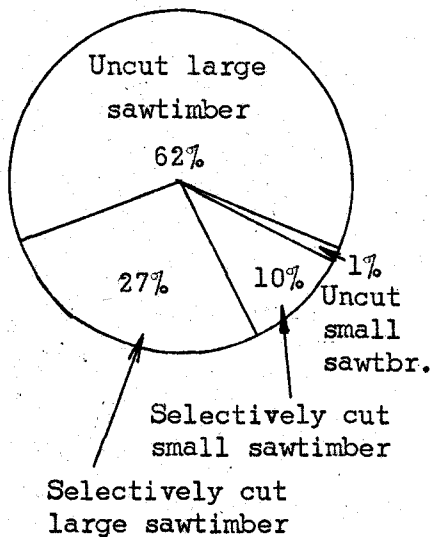


Classification of the commercial forest land by stand-size or condition class found 421 thousand acres covered by sawtimber stands (trees 11" d.b.h. and larger). Poletimber stands (trees 5" - 11" d.b.h.) covered 35 thousand acres, and seedling and sapling stands (trees 0" - 5" d.b.h.) occupied but 2 thousand acres. A total of 3 thousand acres was found to be in a nonstocked status (less than 10 percent stocked); all of this acreage, chiefly in one location in the northwestern portion of the county, was deforested by fire.

saplings and nonstocked 1%

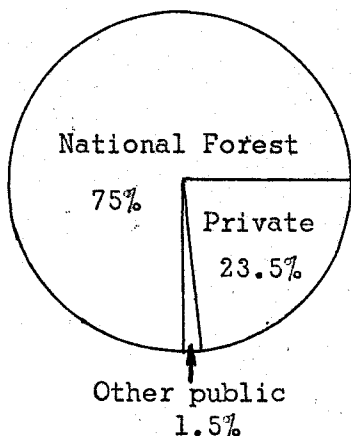
Character of Sawtimber Stands

Prior to the latter 1930's timber cutting had little effect on the sawtimber stands of this county. A few small sawmills produced lumber for local use. By 1935 about 17 thousand acres had been logged, most of it through a heavy-selection type of logging. By 1952, 180 thousand acres had been logged, much of it on a light-selection basis. On 153 thousand acres of this logged area the volume in reserved stands was sufficient—1,500 board feet or more per acre—to classify them as selectively cut sawtimber. Stands in which there has been no cutting now occupy 268 thousand acres; on 263 thousand acres these stands were classed as large, i.e., the majority of the volume is in trees more than 22 inches d.b.h.; and on 5 thousand acres they were classed as small, i.e., from 12 to 22 inches d.b.h. Selectively cut sawtimber stands on 113 thousand acres were classed as large, and as small on 40 thousand acres. Ponderosa pine is the predominant species on nearly 98 percent of the sawtimber acreage. The remaining 2 percent of the acreage is divided chiefly between stands in which either Douglas-fir or white fir is the key species; there are a few hundred acres each of western larch and lodgepole pine sawtimber.



Ownership of Commercial Forest Land

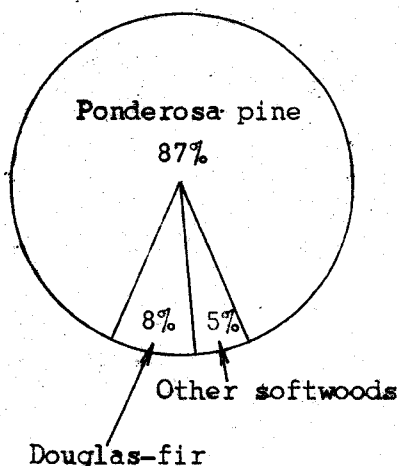
Private owners hold a total of 108 thousand acres of the commercial forest land. This acreage includes about a fifth of the county's sawtimber, nearly two-thirds of the young seedling, sapling and poletimber stands and four-fifths of the nonstocked area. Eighty-one percent of the present private sawtimber area has been selectively logged; 19 percent is uncut. The bulk of the private forest land is in the northwest portion of the county, outside the national forest boundary (fig. 1). Commercial forest lands in national forest ownership in the Ochoco National Forest total 346 thousand acres. This area includes 333 thousand acres of sawtimber, 12 thousand acres of young-growth stands and a few hundred acres of nonstocked. Twenty-five percent of the national forest sawtimber has been selectively logged; 75 percent is uncut. The forests on approximately 7 thousand acres of Federal public domain, managed by the Bureau of Land Management are classed as commercial. The State of Oregon owns a few hundred acres each of sawtimber and poletimber stands.



TIMBER VOLUME

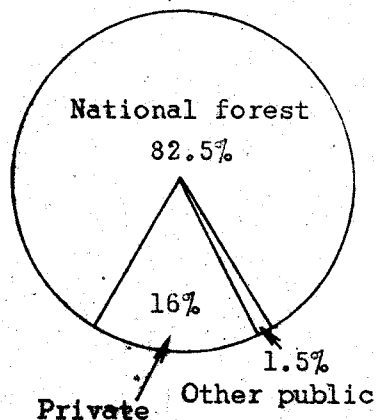
The estimated net volume of live sawtimber trees (11 inches d.b.h. and larger) on the commercial forest land of the county is 5,605 million board feet, log scale, Scribner rule. Uncut sawtimber stands contain 4,076 million of this volume and selectively cut sawtimber stands contain 1,513 million; the remaining 16 million is in occasional sawtimber trees in poletimber stands. The net volume of growing stock (live trees 5 inches d.b.h. and larger, including trees of both poletimber and sawtimber size) is estimated to be 1,086 million cubic feet. Uncut sawtimber stands contain 764 million of this cubic volume, and selectively cut sawtimber stands 308 million; poletimber stands contain 14 million. Dead standing trees are estimated to contain a net volume of sound usable wood totaling 12 million cubic feet. Sound volume in live cull trees is estimated at 2 million cubic feet.

Volume of Sawtimber by Species



All of the live sawtimber volume is of softwood species and ponderosa pine comprises seven-eighths of the total. Other species include Douglas-fir, white fir, western larch and lodgepole pine. A classification of the ponderosa pine sawtimber volume by broad diameter class shows: 15 percent in the 11" to 21" d.b.h. class, 48 percent in the 22" to 31" class, 32 percent in the 32" to 41" class, and 5 percent in the 41" + class. The volume of ponderosa pine in the uncut sawtimber stands totals 3,594 million board feet, approximately three-fourths of the total pine volume; that in selectively cut sawtimber stands totals 1,271 million; and the pine volume in poletimber stands amounts to 15 million.

Ownership of Sawtimber Volume



There is a total of 902 million board feet of sawtimber volume on the lands in private ownership. Approximately three-fourths of this volume is on the selectively logged areas, and one-fourth on uncut areas. National forest sawtimber volume amounts to 4,622 million board feet, more than four-fifths of which is on the uncut sawtimber areas. The federally owned public domain lands have an estimated volume of 76 million board feet. The small area of State lands contains approximately 5 million feet.

Table 1.--Land area by major classes of land, 1952

Class of land	Area
	<u>Acres</u>
Forest:	
Commercial	460,900
Noncommercial:	
Productive-reserved	--
Unproductive	563,590
Total	1,024,490
Nonforest	882,710
Total, all classes	1,907,200

Table 2.—Area of commercial forest land by ownership
and stand-size class, 1952

Ownership class	Total	Saw- timber stands	Pole- timber stands	Seedling and sapling stands	Nonstocked areas
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
Private	107,620	81,560	22,420	1,040	2,600
State	600	400	200		
Federally owned or managed:					
Bureau of Land Mgt.	6,670	5,820	850		
National forest	346,010	332,830	11,580	960	640
Total Federal	352,680	338,650	12,430	960	640
All ownerships	460,900	420,610	35,050	2,000	3,240

Table 3.—Area of commercial forest land by major forest type and stand-size class, 1952

Forest type	Total <u>Acres</u>	Sawtimber stands		Pole- timber stands <u>Acres</u>	Seedling and sapling stands <u>Acres</u>	Non- stocked areas <u>Acres</u>
		Large <u>1/</u> <u>Acres</u>	Small <u>2/</u> <u>Acres</u>			
Ponderosa pine	446,920	368,020	43,450	33,450	2,000	
Lodgepole pine	1,960		400	1,560		
Douglas-fir	3,960	3,660	300			
Western larch	940	840	60	40		
Fir-spruce	3,880	3,560	320			
Nonstocked areas	3,240					3,240
Total	460,900	376,080	44,530	35,050	2,000	3,240

1/ 21 inches d.b.h. and larger.

2/ 11 to 21 inches d.b.h.

Table 4.--Area of commercial and noncommercial forest land and nonforest land by cover type and ownership class, 1952

(Acres)

Survey type symbol	Cover type	Unreserved						
		Total	Private	State	County	Federally owned or managed		
						Bureau of Land Mgt.	Bureau of Reclamation	National Forest
ALL LANDS								
	Forest land	1,021,490	408,520	11,000	3,530	217,820	4,230	379,390
	Nonforest land	882,710	542,610	20,010	680	256,900	5,760	56,750
	Total	1,907,200	951,130	31,010	4,210	474,720	9,990	436,140
COMMERCIAL FOREST LAND								
P4	Ponderosa pine large sawtimber	368,020	50,850	280		4,730		312,160
P3	Ponderosa pine small sawtimber	43,450	30,670	120		1,090		11,570
P2	Ponderosa pine poletimber	33,450	22,340	200		850		10,060
P1	Ponderosa pine seedlings and saplings	2,000	1,040					960
LP3	Lodgepole pine small sawtimber	400						400
LP2	Lodgepole pine poletimber	1,560	80					1,480
D4	Douglas-fir small old-growth and large young-growth sawtimber (red fir)	3,660	40					3,620
D3	Douglas-fir small young-growth sawtimber	300						300
WL4	Western larch large sawtimber	840						840
WL3	Western larch small sawtimber	60						60
WL2	Western larch poletimber	40						40
WF4	White fir large sawtimber	3,560						3,560
WF3	White fir small sawtimber	320						320
F	Area deforested by fire	3,240	2,600					640
	Total	460,900	107,620	600		6,670		346,010
NONCOMMERCIAL FOREST LAND								
J	Juniper	562,310	300,820	10,400	3,530	211,070	4,230	32,260
SA	Subalpine	1,080						1,080
NR	Noncommercial rocky	200	80			80		40
	Total	563,590	300,900	10,400	3,530	211,150	4,230	33,380
NONFOREST LAND								
G	Grass and brush	881,900	541,800	20,010	680	256,900	5,760	56,750
O	Open-nonvegetative	810	810					
	Total	882,710	542,610	20,010	680	256,900	5,760	56,750

Table 5.--Area of commercial forest land by generalized forest type and ownership class, 1952

(Acres)

Generalized forest type		Unreserved				
		Total	Private	State	Federally owned or managed	
					Bureau of Land Mgt.	National Forest
Conifer large sawtimber: Types P4, D4, WL4, and WF4.						
	Uncut	263,390	14,040	160	2,670	246,520
	Selectively cut	112,690	36,850	120	2,060	73,660
	Total	376,080	50,890	280	4,730	320,180
Conifer small sawtimber: Types P-3, LP3, D3, WL3 and WF3.						
	Uncut	5,050	1,270	40	710	3,030
	Selectively cut	39,480	29,400	80	380	9,620
	Total	44,530	30,670	120	1,090	12,650
Conifer poletimber: Types P2, LP2, and WL2.						
	On cutovers	26,330	20,490	200	370	5,270
	On other	8,720	1,930		480	6,310
	Total	35,050	22,420	200	850	11,580
Conifer seedlings and saplings: Type P1						
	On cutovers	1,280	1,000			280
	On plantations	120				120
	On other	600	40			560
	Total	2,000	1,040			960
Burned-over areas, nonstocked: Type F						
		3,240	2,600			640
Total		460,900	107,620	600	6,670	346,010

Table 6.--Net volume of live sawtimber^{1/} and growing stock^{2/}
on commercial forest land by ownership class, 1952

Ownership class	Sawtimber		Growing stock
	<u>Million board feet,</u> <u>log scale,</u> <u>Scribner rule</u>	<u>Million board feet,</u> <u>International</u> <u>$\frac{1}{4}$-inch rule</u>	<u>Million</u> <u>cubic feet</u>
Private	902	978	187
State	5	6	1
Federally owned or managed:			
Bureau of Land Mgt.	76	82	15
National Forest	4,622	5,018	883
Total Federal	4,698	5,100	898
<u>All ownerships</u>	<u>5,605</u>	<u>6,084</u>	<u>1,086</u>

1/ Includes live trees 11.0 inches diameter breast height and larger measured in board feet.

2/ Includes live trees 5.0 inches diameter breast height and larger measured in cubic feet.

Table 7.—Net volume of live sawtimber and growing stock
on commercial forest land by stand-size class, 1952

Stand-size class	Sawtimber		Growing stock
	<u>Million board feet,</u> <u>log scale,</u> <u>Scribner rule</u>	<u>Million board feet,</u> <u>International</u> <u>4-inch rule</u>	<u>Million</u> <u>cubic feet</u>
Sawtimber stands:			
Uncut	4,076	4,425	764
Selectively cut	1,513	1,640	308
Total sawtimber	5,589	6,065	1,072
Poletimber stands	16	19	14
Seedling and sapling stands	*	*	*
Nonstocked areas	*	*	*
Total	5,605	6,084	1,086

* Less than 500 thousand.

Table 8.--Net volume of live sawtimber and growing stock
on commercial forest land by species, 1952

Species	Sawtimber		Growing stock
	<u>Million board feet,</u> <u>log scale,</u> <u>Scribner rule</u>	<u>Million board feet,</u> <u>International</u> <u>4-inch rule</u>	<u>Million</u> <u>cubic feet</u>
Softwoods:			
Ponderosa pine	4,880	5,290	891
Lodgepole pine	1	1	4
Douglas-fir	452	496	124
White fir	159	171	43
Western larch	113	126	24
Total	5,605	6,084	1,086
Hardwoods: <u>1/</u>			
All species	5,605	6,084	1,086

1/ Quaking aspen also grows in the county in limited quantities.

Table 9.—Net volume of Douglas-fir live sawtimber on commercial forest land by diameter class group and log rule, 1952

Diameter class and log rule	Total	Ponderosa pine	Douglas- fir	Other softwoods
	- - <u>Million board feet</u> - -			
11.0" to 20.9" d.b.h.				
Scribner rule	989	752	136	101
International $\frac{1}{4}$ -inch rule	1,141	872	157	112
21.0" to 30.9" d.b.h.				
Scribner rule	2,720	2,320	228	172
International $\frac{1}{4}$ -inch rule	2,938	2,505	247	186
31.0" to 40.9" d.b.h.				
Scribner rule	1,619	1,583	36	
International $\frac{1}{4}$ -inch rule	1,717	1,679	38	
41.0" d.b.h. and larger				
Scribner rule	277	225	52	
International $\frac{1}{4}$ -inch rule	288	234	54	
All diameter classes				
Scribner rule	5,605	4,880	452	273
International $\frac{1}{4}$ -inch rule	6,084	5,290	496	298

Table 10.—Net volume of all timber on commercial forest land
by class of material and species group, 1952

Class of material	Total	Softwoods	Hardwoods <u>1/</u>
	<u>Million</u> <u>cubic feet</u>	<u>Million</u> <u>cubic feet</u>	<u>Million</u> <u>cubic feet</u>
Growing stock:			
Sawtimber trees:			
Sawlog portion	937	937	
Upper stem portion	71	71	
Total	1,008	1,008	
Poletimber trees	78	78	
Total growing stock	1,086	1,086	
Other material:			
Sound cull trees	1	1	
Rotten cull trees	1	1	
Salvable dead trees	12	12	
Total other material	14	14	
<u>Total, all timber</u>	<u>1,100</u>	<u>1,100</u>	

1/ Quaking aspen grows in the county in limited quantities.

Table 11.--Average annual timber cut from live sawtimber and growing stock on commercial forest land by species group for the period 1948-1952 incl.

Species group	Live sawtimber						Growing stock		
	Timber products	Logging residues	Timber cut 1/	Timber products	Logging residues	Timber cut 1/	Timber products	Logging residues	Timber cut 1/
	Thousand board feet, log scale, Scribner rule			Thousand board feet, International 1/4-inch rule			Thousand cubic feet		
Softwoods	74,156	4,101	78,257	79,873	4,417	84,290	13,992	1,682	15,674
Hardwoods ^{2/}									
Total	74,156	4,101	78,257	79,873	4,417	84,290	13,992	1,682	15,674

1/ Total of timber products and logging residues. Timber products is the portion of the inventory volume removed from the forest; logging residues is the portion cut or killed in logging not removed from the forest.

2/ Volume cut too insignificant to list.

FOREST SURVEY PROCEDURE

The procedures used in the reinventory of Crook County were materially different from the procedures used in the initial inventory. This change in procedures accounts for some significant differences in both the forest-area and timber-volume statistics obtained. Therefore, a brief description of the procedures used in each inventory seems desirable.

Initial Inventory

The initial inventory of the county was conducted in 1935 and 1936 by what was known as the "compilation method." In this method existing information on forest types, timber cruises, logging records, and other pertinent data were collected from private timber owners and various public agencies. These data were checked in the field for reliability, and were then adjusted to the specifications and standards of Forest Survey. Forest-type and timber-volume data for areas not covered by reliable existing information were obtained through intensive field reconnaissance.

All land in the county was classified as either forest or nonforest. Forest land was further classified as commercial or noncommercial; the commercial was still further classified by forest type, stand-size or condition class, and in case of young growth by stocking class. All such types and classes were mapped in place on 1-inch-to-the-mile base maps of each forested township. These township type maps were then superimposed over current ownership-status plats and dot counted to obtain forest-type area statistics by ownership class. Type delineations on the township maps were traced to a base map of the county to form a county forest type map. The commercial forest land was also classified as to site quality, or forest-productive capacity.

In-place, timber-volume estimates were based on existing cruises collected and adjusted to the Forest Survey standard, field samples, and ocular estimates. Separate volume estimates were computed for each of the commercial tree species and for each ownership class.

Reinventory

In the reinventory in 1952 complete revision of the 1-inch-to-the-mile forest type map was accomplished through interpretation, classification, and mapping on aerial photos, flown in 1951, covering all of the commercial forest land and most of the noncommercial forest land. Types, stand-size classes, and stocking classes were similar to those recognized in the initial inventory. However, the aerial photos facilitated mapping of much greater accuracy and detail than was possible through ground reconnaissance in the initial inventory. Type delineations on the aerial photos were transferred to a 1-inch county base map through use of a

photo projector. The new type map was then superimposed over the current ownership-status map and a dot count made of forest type areas by ownership class.

Estimates of net volume each of live sawtimber, growing stock, and sound, cull, and salvable-dead material were calculated by applying average per-acre volumes to the appropriate forest-type acreages. The average per-acre volumes for sawtimber stands and poletimber stands were obtained through a sampling procedure in which the stands were measured on randomly selected plots. Intensity of the sampling was so designed as to produce a total estimate of volume in the county of a specified sampling accuracy set by Forest Survey. In the random selection of samples each individual sawtimber or poletimber stand in the county had an equal chance of being selected. A sample consisted of a cluster of 3 one-fifth-acre circular plots spaced at regular 6-chain intervals. A total of 47 plot clusters, or 141 one-fifth-acre plots, was taken in sawtimber and poletimber stands.

ACCURACY OF DATA

Forest Area

In the reinventory of the county, in-place mapping of the forests and their classification by forest type, stand-size class, or condition class were on the basis of 100-percent coverage. Thus no error because of sampling was involved. Errors due to techniques or judgment in the field and in office computation of data were possible, but difficult to evaluate. Throughout all phases of the work close supervision and frequent checks assured a high level of accuracy and uniformity of standards.

Timber Volume

For the timber volume, derived from sampling surveys, the chances are two out of three that the estimated total sawtimber volume in the county does not vary in either direction from the true volume more than ± 8.89 percent; the estimated total growing-stock volume does not vary more than ± 7.61 percent.

COMPARISON OF INVENTORIES

Due to procedural differences between the two inventories direct comparison of many of the statistical data obtained in the reinventory in 1952 with those from the initial inventory in 1936 is not possible.

Forest Area

Significant changes have occurred in the forest land areas of the county during the 16 years between inventories, as indicated below:

Changes in Forest Land by Stand-Size and
Condition Classes Between Inventories

Inventory	Total forest land	Unreserved commercial forest land						Noncommercial forest land
		Total	Sawtimber		Pole timber	Seedlings and saplings	Nonstocked area	
			Uncut	Selectively cut				
<u>Thousands of acres</u>								
1936	987	475	442	12	4	15	2	512
1952	1,024	461	269	152	35	2	3	563

The change in total forest land area, amounting to 47 thousand acres, was very largely due to a difference in interpretation and classification, between inventories, of the large acreage of western juniper type--a sparse woodland type classed as noncommercial forest land. Also some differences were due to the greater accuracy in delineation of forest land versus nonforest land on aerial photos in contrast with that by ground reconnaissance.

The 14-thousand-acre change in total area of commercial forest land can be attributed to a difference in interpretation and classification and also to the difference in facility of mapping procedures.

The significant changes in area of uncut and selectively cut sawtimber stands indicate the extent of logging operations during the period between inventories. In addition, on some of the logged areas the volume in the reserve trees was less than 1,500 board feet per acre, the minimum volume of sawtimber stands; such stands were classed as poletimber. Some of the increase in poletimber acreage was also due to the ingrowth of stands from the seedling and sapling stand-size class.

Timber Volume

The estimated net volume of live sawtimber in 1935 was 5,316 million board feet, log scale, Scribner rule; in 1952 it was 5,605 million, an increase of 5.4 percent. In 1935 the estimated net volume of growing stock, which includes all sawtimber and poletimber trees, was 1,172 million cubic feet; in 1952 it was 1,086 million, a decrease of 7.5 percent. Thus, it appears there has been no significant trend in net timber volume. Some of the changes during the 16 years are undoubtedly due to differences in procedures and standards between the two inventories.

DEFINITION OF TERMS USED

Land Area

Total Land

Includes dry land and unmeandered water surface.

Forest Land

Includes (a) land which is at least 10 percent stocked by trees of any size and capable of producing timber or other wood products, or of exerting an influence on the climate or on the water regime; and (b) land from which the trees described in "(a)" have been removed to less than 10-percent stocking and which has not been developed for other use. Minimum area of forest land recognized in reinventory of the county was 10 acres.

Nonforest Land

Land that does not qualify as forest land. Minimum area recognized in the reinventory of the county was 10 acres.

Forest Land Classes

Commercial Forest Land

Forest land which is producing, or is physically capable of producing, usable crops of wood, economically available now or prospectively, and not withdrawn from timber utilization.

Noncommercial Forest Land

Forest land (a) withdrawn from timber utilization through statute, ordinance, or administrative order but which otherwise qualifies as commercial forest land and (b) incapable of yielding usable wood products (usually sawtimber) because of adverse site conditions, or so physically inaccessible as to be unavailable economically in the foreseeable future.

Productive-reserved. Forest land withdrawn from timber utilization through statute, ordinance, or administrative order, but which otherwise qualifies as commercial forest land.

Unproductive. Forest land incapable of yielding usable wood products (usually sawtimber) because of adverse site conditions, or so physically inaccessible as to be unavailable economically in the foreseeable future.

Forest Types

Forest Type

A forest stand characterized by the predominance of certain key species--in terms of cubic volume for sawtimber and poletimber stands, and in number of trees for seedling and sapling stands--or a forest condition such as nonstocked cutover or burned-over land. The major forest types listed in table 3 are of the following composition:

Ponderosa pine. Stands comprised of 50 percent or more of ponderosa pine by cubic volume or number of trees.

Lodgepole pine. Stands comprised of 50 percent or more of lodgepole pine by cubic volume or number of trees.

Douglas-fir. Stands comprised of 50 percent or more of Douglas-fir by cubic volume or number of trees.

Western larch. Stands comprised of 50 percent or more of western larch by cubic volume or number of trees.

Fir-spruce. Stands comprised of 50 percent or more of white fir by cubic volume or number of trees.

Nonstocked areas. Cutover or burned-over areas on which the restocking, if any, is less than 10 percent density and which does not support a residual stand meeting minimum sawtimber requirements.

Tree Classes

Sawtimber Tree

Softwood or hardwood tree 11.0 inches d.b.h. or larger containing at least one 16-foot log to a variable top diameter inside bark approximating 40 percent of diameter breast height, but never less than 8 inches, and in which 25 percent or more of the gross board-foot volume is free from rot and defect.

Poletimber Tree

Softwood or hardwood tree 5.0 to 10.9 inches d.b.h. in which 25 percent or more of the gross cubic-foot volume is free from rot and defect.

Cull Tree

Live tree of sawtimber or poletimber size that is unmerchantable, now or prospectively, because of defect or rot.

Sound cull tree. Live tree of sawtimber or poletimber size which contains 25 percent or more of sound volume but will not make at least one merchantable log, now or prospectively, because of roughness or poor form.

Rotten cull tree. Live tree of sawtimber or poletimber size in which less than 25 percent of the total volume is sound.

Salvable Dead Tree

Standing dead or down tree which contains 25 percent or more of sound volume and at least one merchantable log.

Stand-Size Classes

Sawtimber Stand

Stand of sawtimber trees having a minimum net volume of 1,500 board feet, log scale, Scribner rule.

Large sawtimber stand. Stand in which the majority of the volume is in trees more than 21.0" d.b.h.

Small sawtimber stand. Stand in which the majority of the volume is in trees from 11.0" to 20.9" d.b.h.

Poletimber Stand

Stand failing to meet sawtimber-stand specifications but of at least 10 percent stocking of trees 5.0 inches d.b.h. and larger, with at least one-half the minimum stocking in poletimber trees (5.0 inches to 10.9 inches d.b.h.).

Seedling and Sapling Stand

Stand not qualifying as either sawtimber or poletimber stand but having at least 10-percent stocking of trees and with at least one-half the minimum stocking in seedlings and saplings (0-inch to 4.9 inches d.b.h.).

Uncut Sawtimber Stand

Stand that is essentially undisturbed by cutting.

Selectively Cut Sawtimber Stand

Stand in which a partial harvest has been made, and in which the residual volume amounts to 1,500 board feet per acre or more.

Timber Volume

Live Sawtimber Volume

Net volume in board feet of live sawtimber trees:

Scribner rule. The common board-foot rule used in determining log-scale volume of sawtimber in this region. This rule underestimates, particularly in case of timber of the smaller diameters, the volume of lumber that could be produced from the timber.

International $\frac{1}{4}$ -inch rule. The standard board-foot rule adopted by the Forest Service in the presentation of Forest Survey volume statistics.

Growing Stock

Net volume in cubic feet of live sawtimber trees and live pole-timber trees from stump to a minimum 4.0-inch top (of central stem) inside bark.

Sawtimber Volume

Net volume in board feet of live and salvable dead sawtimber trees to a merchantable top.

All-Timber Volume

Net volume in cubic feet of live and salvable dead sawtimber trees and poletimber trees of commercial species, and cull trees of all species from stump to a minimum 4.0-inch top inside bark.

Commercial Tree Species

Tree species that are considered in determining stocking of stands and growing-stock volume. Includes species presently or prospectively usable for commercial timber products.

Commercial tree species in Crook County include:

Softwoods:

Ponderosa pine (Pinus ponderosa)
Lodgepole pine (Pinus contorta)
Douglas-fir (Pseudotsuga menziesii)
White fir (Abies concolor and grandis)
Western larch (Larix occidentalis)

Hardwoods:

Quaking aspen (Populus tremuloides)

Timber Cut

Timber Cut from Live Sawtimber

Board-foot volume of live sawtimber trees removed from commercial forest land during a specified year as timber products and that left as logging residue.

Timber products. Board-foot volume of live sawtimber entering into timber products during a specified year.

Logging residue. Board-foot volume of live sawtimber that is cut or killed in logging during a specified year but is not removed from the forest as timber products.

Timber Cut from Growing Stock

Cubic-foot volume of live sawtimber and poletimber trees removed from commercial forest land during a specified year as timber products and that left as logging residue.

Timber products. Cubic-foot volume of growing stock entering into timber products during a specified year.

Logging residue. Cubic-foot volume of growing stock that is cut or killed in logging during a specified year but is not removed as timber products.