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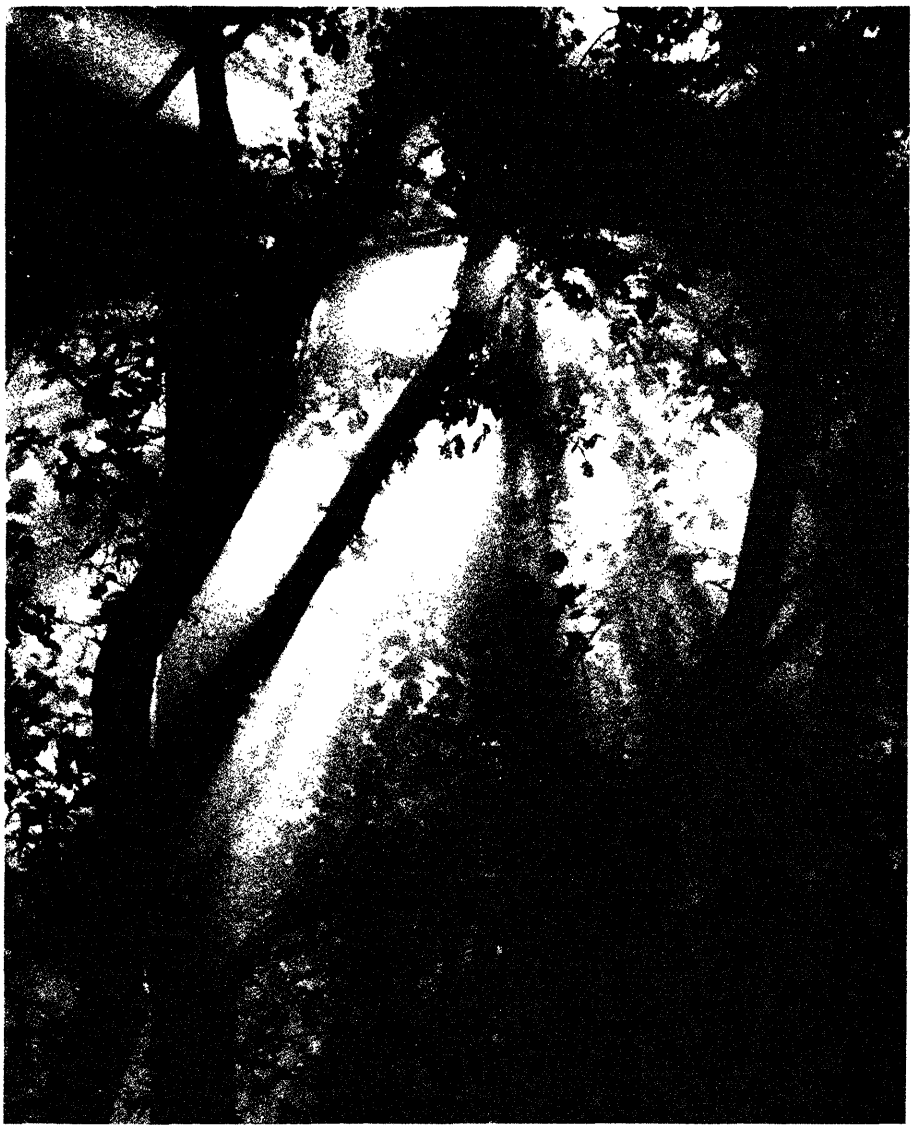
Forest Service

North Central Forest Experiment Station

Resource Bulletin **NC-96**

Nebraska's Second Forest Inventory

Gerhard K. Raile



Information contained in this report includes the most commonly used Forest Inventory and Analysis (FIA) statistics. However, additional forest resource data can be provided to interested users. Persons requesting additional information that can be provided from the raw inventory data are expected to pay for the retrieval costs. These costs will vary, depending on the complexity of the request, from less than $100 for a simple request to $2,000 for a complete retrieval involving the services of a FIA computer programmer. If requests for data conflict with ongoing work, they will be scheduled so as to minimize the impact on the work unit.

Address requests for unpublished information to:

Burton L. Essex
Forest Inventory and Analysis Project
North Central Forest Experiment Station
1992 Folwell Avenue
St. Paul, Minnesota 55108
Phone: (612) 642-5275

Area served: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, eastern South Dakota, Wisconsin.

North Central Forest Experiment Station
Forest Service—U.S. Department of Agriculture
1992 Folwell Avenue
St. Paul, Minnesota 55108
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FOREWORD

Forest Inventory and Analysis (FIA) is a continuing endeavor as mandated by the Forest and Rangeland Renewable Resources Planning Act of 1974. Prior inventories were mandated by the McSweeney-McNary Forest Research Act of 1928. The objective of FIA is to periodically inventory the Nation's forest land to determine its extent, condition, and volume of timber, growth, and depletions. Up-to-date resource information is essential to frame intelligent forest policies and programs. USDA Forest Service regional experiment stations are responsible for conducting these inventories and publishing summary reports for individual States. The North Central Forest Experiment Station is responsible for Forest Inventory and Analysis work in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin.

Fieldwork for the 1983 Nebraska forest survey began in April 1982 and was completed in March 1983. The previous survey of Nebraska's timber resource was dated 1955. The Nebraska Forest Service canvassed primary wood-using mills and provided the fuelwood and post statistics.

Aerial photos used in this Inventory were furnished by USDA Agricultural Stabilization and Conservation Service offices in each county.

HIGHLIGHTS

AREA

- Forest land area totaled 718,300 acres—1.5 percent of the State's total land area.
- Twenty-three percent of the State's forest land is unproductive.
- Commercial forest land decreased by 25 percent between 1955 and 1983, from 714,700 to 537,800 acres.
- Farmers own 71 percent of the State's commercial forest land.
- Forty percent of the commercial forest land is in sawtimber stands of ponderosa pine (129,700 acres) and elm-ash-cottonwood (85,800 acres).
- Sawtimber stands account for 69 percent of the commercial forest followed by poletimber stands (17 percent), sapling and seedling stands (13 percent), and nonstocked areas (1 percent).
- Stands between 60 and 101 years of age occupy 48 percent of the commercial forest.
- Thirty-nine percent of the commercial forest is poorly stocked with growing-stock trees (16.7 to 60 percent), 49 percent is medium stocked (61 to 100 percent), and 10 percent is well stocked (101 to 133 percent).
- Wooded strips occupy 262,200 acres. Wooded strips are not classified as commercial forest because they are too narrow to meet the definition.

VOLUME

- The total volume of timber on commercial forest land in 1983 was 561.6 million cubic feet—456.0 million in growing-stock trees, 96.3 million in cull trees, and 9.3 million in salvable dead trees.
- Growing-stock volume increased 23 percent from 370.2 million cubic feet in 1955 to 456.0 million cubic feet in 1983.
- Growing-stock volume per acre increased 64 percent from 518 cubic feet in 1955 to 848 cubic feet in 1983.
- Elm growing stock drastically dropped due to Dutch elm disease—from 51.3 million cubic feet in 1955 to 12.4 million cubic feet in 1983.
- Ponderosa pine is the species with the most sawtimber volume on commercial forest land (46 percent of the total), followed by cottonwood (30 percent) and bur oak (7 percent).
- Farmers own 72 percent of the growing-stock volume (327.4 million cubic feet).
- The ponderosa pine type accounts for 34 percent of the growing-stock volume, the cottonwood type for 23 percent, and the elm-ash-cottonwood type for 19 percent.
- The ponderosa pine type has the most sawtimber volume per acre with 5,216 board feet.

STAND CONDITIONS

- Net annual growth of growing stock amounted to 11.1 million cubic feet in 1982, 2.4 percent of inventory.
- Sawtimber growth was 42.7 million board feet in 1982, 2.5 percent of inventory.
- Mortality of growing-stock trees totaled 2.2 million cubic feet in 1982, 0.5 percent of inventory.
- Weather accounts for 17 percent of the sawtimber mortality.
- Sawtimber volume by butt log grade is concentrated in log grade 3 (65 percent of sawtimber volume).

TIMBER USE

- Timber removals from growing stock totaled 9.4 million cubic feet in 1982-8.4 million for roundwood products, 440,000 for logging residue, and 513,000 for other removals.
- Removals of growing stock for 1982 are 147 percent higher than those in 1953.
- Farmers and miscellaneous private individuals owned 99 percent of the 1982 growing-stock removals.
- Sawtimber removals from commercial forest land totaled 36.3 million board feet in 1982, 102 percent higher than in 1953.
- Growing-stock removals for roundwood products totaled 8.4 million cubic feet, 62 percent as firewood, 35 percent as saw logs, and 3 percent other products.
- Wood residue from primary plants amounted to 1.6 million cubic feet in 1980—69 percent of it was used for domestic fuel and products such as livestock bedding, mulch, etc.

BIOMASS

- Live tree biomass (trees greater than 1 inch in d.b.h.) totaled 29.0 million green tons or 54 tons per acre of commercial forest land.
- Highest yields per acre of live tree biomass are in the cottonwood (72 tons) and the oak-hickory types (67 tons).
- Sixty-five percent of the live tree biomass is in the boles of trees greater than 5-inches d.b.h., 27 percent is in the tops and limbs of these trees, and 8 percent is in trees less than 5-inches d.b.h.

PROJECTIONS

- The low removals option projection shows inventory increasing from 456 to 608 million cubic feet between 1983 and 2013, a 33-percent gain. Growth is projected to exceed removals throughout the period.
- The high removals option projection shows inventory rising from 456 to 527 million cubic feet in 2012 and then declining. Removals are projected to surpass growth by 2012.

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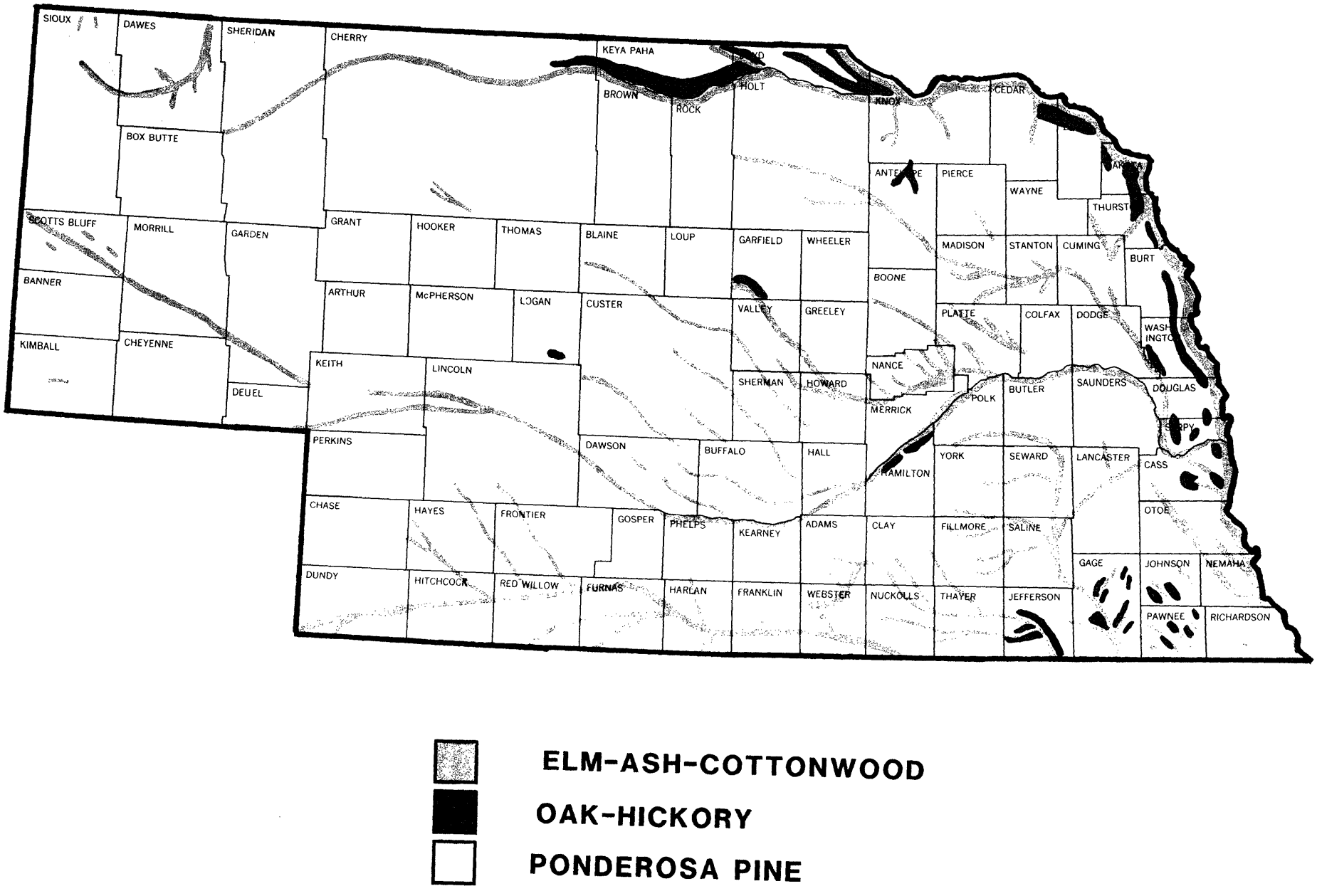

Figure 1.—*Major Forest Areas in Nebraska, 1983*.

NEBRASKA'S SECOND FOREST INVENTORY

Gerhard K. Raile, *Mensurationist*

Forest land in Nebraska, with hardwoods plentiful in the east and softwoods dominant in the west, totaled 718,300 acres in 1983. This is a decrease of 185,000 acres from the 1955 (Stone and Bagley, 1961) forest area. Forests are only 1.5 percent of Nebraska's total land area, but they return important economic and noncommodity benefits to the State. Forest land includes commercial forest, unproductive forest, and productive-reserved forest land (See Definition of Terms in Appendix).

One of the greatest impacts on the State's forest land between the 1955 and 1983 forest inventories was the extremely high mortality of elm from Dutch elm disease—particularly in the larger diameter trees. In 1955, elm had the third largest volume after cottonwood and ponderosa pine, but by 1983 it had dropped to fifth place.

FOREST AREA

Between Inventories Commercial Forest Land Loses 25 Percent

Commercial forest area decreased from 714,700 to 537,800 acres between 1955[1] and 1983. The major reason for this decline was the shift of commercial forest land to agriculture. In addition, some forest was flooded by reservoirs. Forty-four percent of the 1983 commercial area is pastured. Except for the Pine Ridge area of northwest Nebraska, this grazing is an obstacle to establishing and regenerating high quality stands.

Commercial forest land is divided almost equally between the Eastern (278,900 acres) and the Western Units (258,900) (fig. 1). Dawes County (48,064 acres), Sioux County (35,987 acres), and Sheridan County (31,453 acres), all in the Western Unit, lead all other counties in commercial forest area. In terms of commercial forest as a percent of total land area, Dawes County leads all others with 5.4 percent, while Sarpy and Thurston Counties in the Eastern Unit are tied for second (4.4 percent).

Private Owners Hold Largest Area of Forest Land

Forty-five percent of the nonindustrial private forest land is owned by parties with from 10 to 50 acres of commercial forest. Another 30 percent is owned by parties with from 50 to 500 acres, as shown in the following tabulation.

Size of holding (Acres)	Area owned by nonindustrial private parties (Thousand acres)
1-5	45.0
5-10	41.8
10-20	113.6
20-50	99.3
50-100	70.5
100-500	70.4
500-2,500	28.6
2,500-5,000	3.4
5,000+	--
Total	472.6

These areas represent the total area owned by an individual and may include one or more noncontiguous tracts.

Nonindustrial private parties own 88 percent of the commercial forest (fig. 2). Farmers alone own 71 percent of the State's commercial area, and miscellaneous private parties own another 17 percent.

Ponderosa Pine Type Makes Up 27 Percent of Commercial Area

The ponderosa pine forest type, generally found in the northwestern corner of the State, leads all others

[1]*Figures have been adjusted from those published after the 1955 survey to conform to 1983 statistics because of changes in survey definitions and procedures.*

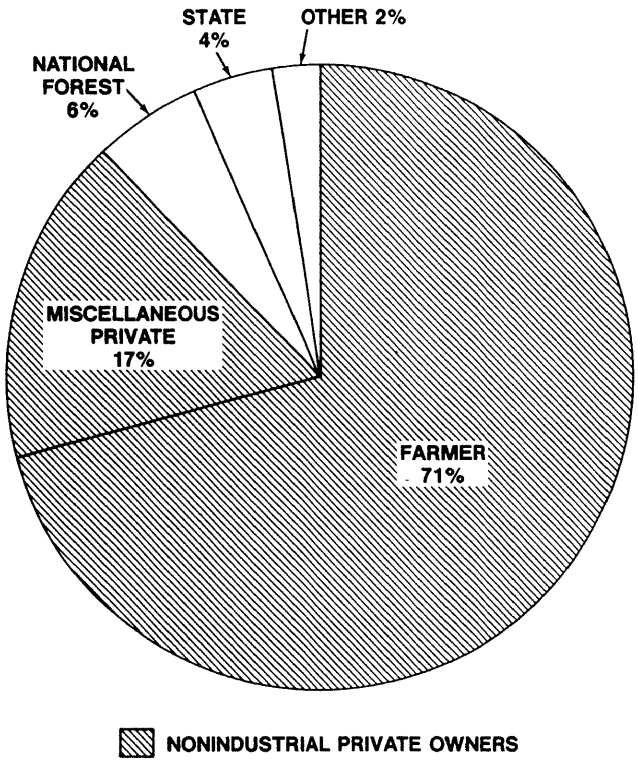

Figure 2.—*Area of commercial forest land by ownership class, Nebraska, 1983.*

in area with 146,100 acres (27 percent of the commercial area). The elm-ash-cottonwood type, usually found on moist sites along stream bottoms, follows with 122,000 acres. The cottonwood type, which grows on the same kind of site, is the third largest forest type with 82,800 acres. The lowland plains hardwood type, a mix of black walnut, hackberry, bur oak, soft maple, and boxelder that is generally found in coves and on bottomland, is the fourth largest forest type with 76,500 acres. These four forest types together account for 79 percent of the State's commercial forest area.

More Than Half Forest Stands are Sawtimber

Looking at the distribution of commercial forest land by stand-size class, sawtimber stands account for the largest area with 369,900 acres or 69 percent of the total. The ponderosa pine type contains 35 percent of these stands.

The second largest stand-size class is poletimber, with 88,900 acres. This class represents 16 percent of the commercial forest area. Fifty-seven percent of the oak-hickory forest type is poletimber.

Sapling and seedling stands account for 72,900 acres or 14 percent of the commercial area. The lowland plains hardwood and elm-ash-cottonwood types occupy 71 percent of these young stands.

The largest change in commercial forest area was in nonstocked land, which fell from 220,200 acres in 1955 to 6,100 acres in 1983, a 97-percent drop. Most of these acres changed to agricultural use, while increased stocking levels shifted some nonstocked acres into other types in the current survey.

Older Stands Predominate

The distribution of commercial forest by stand-age class shows the largest areas in the 61 to 80 year age classes and a lack of stands aged 1 to 40 years (fig. 3). Stands 61 to 70 years old lead all classes, with 76,200 acres or 14 percent of the commercial forest area, and stands aged 71 to 80 years follow with 71,200 acres or 13 percent of the total. Together, these two classes represent stands established from 1903 to 1922.

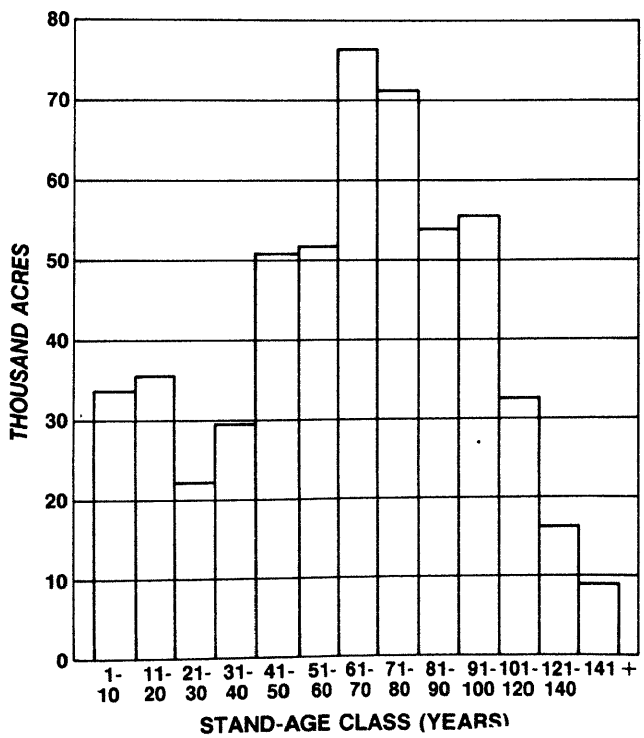

Figure 3.—*Area of commercial forest land by stand-age class, Nebraska, 1983.*

Ideally, an equal area should be in each age class to the rotation age[2] of the particular forest type, and no area should be in classes beyond rotation age. Except for the elm-ash-cottonwood and lowland plains hardwoods types, the small area of stands from 1 to 40 years old means a future shortage of mature timber when rotation age is reached.

It should be noted, however, that this imbalance in age classes is not strongly reflected in the diameter distribution of growing-stock trees of a number of desirable species such as ponderosa pine and black walnut. Comparisons of the growing-stock diameter distribution for number of trees or cubic foot volume would indicate an opportunity to offset much of the effect of this age imbalance through improved forest management to favor these desirable species.

Average Site Index is 55 Feet

Site index is one way to estimate forest site quality. Site index classifies forest land in terms of height growth of dominant or codominant trees of representative species within a forest type at age 50 years. Thirty-six percent of the commercial forest area (195,200 acres) has a site index greater than 61 feet (fig. 4).

The average site index for all types is 54.7 feet. Site index values vary by forest type. A high value for one type may be a low value for another type. The highest weighted average is 61.3 feet for the oak-hickory type, followed by ponderosa pine (60.7 feet), lowland plains hardwoods (55.8 feet), elm-ash-cottonwood (53.2 feet), cottonwood (53.0 feet), and bur oak (49.7 feet). The lowest weighted average is the 41.9 feet in the eastern redcedar-hardwood type.

Average Site Class Second Highest of Plains States[3]

Site class is another way to estimate forest site quality. Site class describes forest land in terms of its inherent capacity to grow wood based on fully stocked natural stands. Site class values are the maximum cubic feet of growth per acre per year expected from fully stocked natural stands.

[2]*Rotation age is the period of years required to establish and grow timber crops to a specified condition of maturity.*

[3]*In this paper the Plains States are considered to be North Dakota, eastern South Dakota (east of the 103rd meridian), Nebraska, and Kansas.*

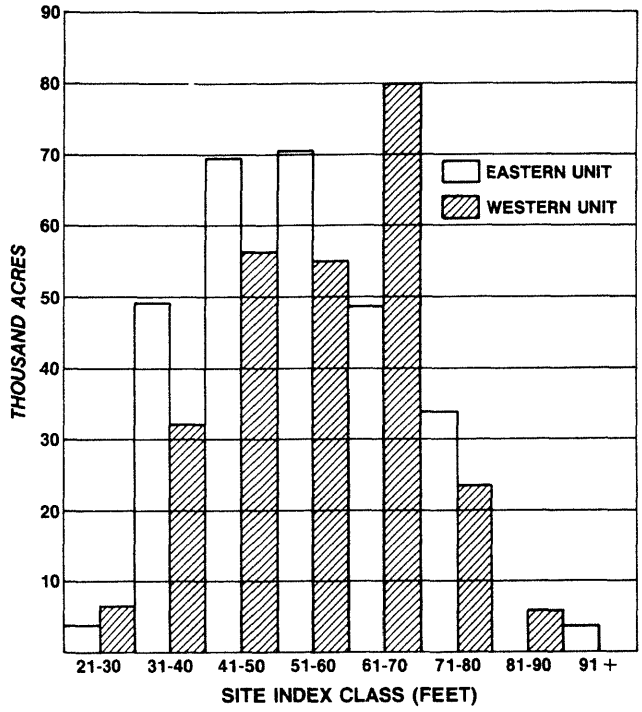

Figure 4.—*Area of commercial forest land by site-index class and Forest Survey Unit, Nebraska, 1983.*

The weighted average site class for Nebraska is 54.8 cubic feet of growth per acre per year, compared to a weighted average for Kansas of 56.8. (When managed, commercial forest land has the capacity to grow more than 20 cubic feet per acre per year.)

Forty-two Percent of Area on Deep, Well-Drained Soils

Forest site quality is modified by the soil and water conditions on a site. Physiographic class is a measure of these conditions. The five classes range from exceptionally wet sites (hydric) to very dry sites (xeric). Best growing conditions for most species are in the class midway between these two extremes (mesic). Mesic sites are the deep, well-drained soils commonly found on cove sites and on bottomland along intermittent streams. Forty-two percent of the commercial forest area is on mesic sites, including 100 percent of the oak-hickory type, 78 percent of the lowland plains hardwood type, and 49 percent of the bur oak and elm-ash-cottonwood types (table 1).

Most Forest Land is Well Stocked

Stocking can be looked at in two ways. When all live trees are considered, including rough and rotten

Table 1.--Area of commercial forest land by forest type and physiographic class, Nebraska, 1983

(In thousand acres)

Forest type	All classes	Physiographic class				
		Xeric	Xero-mesic	Mesic	Hydro-mesic	Hydric
Ponderosa pine	146.1	14.7	111.5	19.9	--	--
Eastern redcedar-hardwood	42.2	8.2	10.7	12.3	11.0	--
Oak-hickory	24.7	--	--	24.7	--	--
Bur oak	37.4	4.9	10.1	18.5	3.9	--
Elm-ash-cottonwood	122.0	--	3.4	60.3	54.9	3.4
Cottonwood	82.8	3.8	--	32.4	43.2	3.4
Lowland plains hardwoods	76.5	--	8.3	60.0	8.2	--
Nonstocked	6.1	2.3	--	--	3.8	--
All types	537.8	33.9	144.0	228.1	125.0	6.8

trees and noncommercial species, the area of commercial forest land at least medium stocked (61 percent stocked or better) is 453,700 acres or 84 percent of the total. When only growing-stock trees are considered, commercial forest acreage medium or better stocked is 324,400 acres or 60 percent of the total. The remainder of the commercial forest is either poorly stocked with growing-stock trees (207,300 acres) or nonstocked (6,100 acres).

Stocking of live trees does not present a particular problem. However, the high percentage (40 percent) of commercial forest land classed poorly stocked or nonstocked with growing-stock trees does represent an undesirable situation. Stocking is poorest in sapling and seedling stands where 63 percent of the area is poorly stocked with growing-stock trees. A larger portion of the elm-ash-cottonwood forest type is poorly stocked (58 percent) than any other type, although the eastern redcedar-hardwood type (57 percent) follows closely.

Proximity of Forest Land to Water May Affect Land Use

The suitability of a stand for harvest may be affected by its distance from open water because of wildlife, recreation, or operability considerations. Twenty-three percent of the State's commercial forest area is within one-fourth mile of a lake or pond at least 5 acres in area or a stream at least 66 feet wide. On the other hand, 26 percent is more than 20 miles from open water:

Distance to open water (Miles)	Area of commercial forest land (Thousand acres)	Percent
0 - 1/8	67.1	12
1/8 - 1/4	59.2	11
1/4 - 1	87.2	16
1 - 2 1/2	82.4	15
2 1/2 - 5	40.8	8
5 - 10	25.4	5
10 - 20	36.9	7
20+	138.8	26
Total	537.8	100

Forest Access Excellent

Access to Nebraska's forests is excellent. Forty-two percent of the commercial area is within one-fourth mile of a maintained road (one that is graded at least once a year), and 91 percent of it is within 1 mile of a road:

Distance to road (Miles)	Area of commercial forest land (Thousand acres)	Percent
0 - 1/8	117.5	22
1/8 - 1/4	107.5	20
1/4 - 1	262.0	49
1 - 2 1/2	45.9	8
2 1/2 - 5	4.9	1
5 - 10	—	—
10 - 20	—	—
20+	—	—
Total	537.8	100

Twenty-three Percent of Forest Land Unproductive

Nebraska has two kinds of forest land on which industrial wood is not harvested: unproductive forest (162,300 acres) and productive-reserved forest (18,200 acres). Unproductive forest land is incapable either of producing 20 cubic feet per acre of annual growth or of yielding crops of industrial wood because of adverse site conditions. Productive-reserved forest land is commercial forest land withdrawn from timber utilization through statute, administrative regulation, designation, or exclusive use for Christmas-tree production as indicated by annual shearing.

Eighty-six percent of the unproductive forest land is owned by farmers and miscellaneous private parties. Most of the unproductive forest is in the cottonwood type (24 percent), the eastern redcedar-hardwood type (19 percent), and the elm-ash-cottonwood type (18 percent).

The productive-reserved forest land is owned by public agencies. The cottonwood type (45 percent) in the east and the ponderosa pine type (26 percent) in the west account for most of the productive-reserved area.

Nonforest Land with Trees Offers Limited Commercial Opportunities

The area of nonforest land with trees (1.1 million acres) is more than twice the area of commercial forest land in the State. However, because land needs only one or more trees per acre that are at least 5-inches d.b.h. in order to meet this definition, trees are usually very sparse on these areas. Two exceptions are wooded strips and windbreaks (see Definitions of Terms in Appendix).

Wooded strips amount to 262,200 acres in Nebraska. The bulk of these strips is in the elm-ash-cottonwood type (113,900 acres) and the cottonwood type (68,900 acres), and almost all of it is owned by private parties. Fifty-eight percent of the area is in poletimber stands, 36 percent is in sawtimber stands, and only 6 percent is in sapling and seedling stands. Fifty-two percent of the wooded strip area supports stands older than 60 years. Although small tract size sometimes imposes constraints on logging, these wooded strips are frequently logged in conjunction with adjacent commercial land.

Windbreaks total 139,100 acres in the State. Because their primary purpose is protection from wind, these areas are of little significance for timber supply except for occasional firewood cuttings. Windbreaks are more numerous in the Eastern Unit (90,800 acres) than in the Western Unit (48,300 acres). Both wooded strips and windbreaks are important habitat for wildlife.

One other important class of nonforest land with trees is wooded pasture, which is grazed land with more than 16.7 percent stocking in live trees but less than 25 percent stocking in growing-stock trees. Wooded pasture totals 78,300 acres. Cottonwood (18,900 acres) and bur oak (16,000 acres) are the most common forest types.

TIMBER VOLUME

Softwood Volume Shows Substantial Gain Between Inventories

Growing-stock volume on commercial forest land in Nebraska increased 23 percent between 1955 (370 million cubic feet) and 1983 (456 million cubic feet). The surplus of softwood growth over removals between inventories is the cause of these building inventory volumes.

The softwood growing-stock volume, which is 94 percent ponderosa pine, doubled its volume since 1955. However the hardwood volume, which accounts for 63 percent of the growing-stock total, remained constant between inventories:

Species group	Growing-stock volume	
	1955	1983
	(Thousand cubic feet)	
Softwoods	84,600	170,256
Hardwoods	285,600	285,755
Total	370,200	456,011

Growing-stock volume per acre increased 64 percent from 518 cubic feet per acre in 1955 to 848 cubic feet per acre in 1983. Sawtimber volume is currently 3,183 board feet[4] per acre, a total volume of 1.7 billion board feet.

The two Survey Units contain nearly equal volumes of growing stock. However, the Eastern Unit showed a slight loss of volume while the Western Unit had a 60-percent increase (table 2).

Dawes County (52 million cubic feet) contains the largest growing-stock volume in the Western Unit, followed by Sioux (42 million), Sheridan (35 million),

[4]*International 1/4-inch rule.*

Table 2.--Net volume of growing stock in 1955 and 1983 by Forest Survey Unit and change since 1955, Nebraska

Forest Survey Unit	Growing-stock volume 1955	1983	Change
	Thousand cubic feet		Percent
Eastern Unit	226,300	225,748	-0.2
Western Unit	143,900	230,263	+60.0
All Units	370,200	456,011	+23.2

and Knox (16 million) (fig. 5). Cass County (11 million cubic feet) leads the Eastern Unit in volume.

Together, nonindustrial private owners account for 85 percent of the growing-stock volume. Farmers clearly dominate with 72 percent of the total; miscellaneous private parties own 14 percent of the volume. Public agencies own the remaining 13 percent.

Nongrowing-Stock Volume Significant

In addition to the volume in growing-stock trees, volume in rough and rotten, short-log, and salvable dead trees add another 106 million cubic feet to the State's total, bringing total volume on commercial forest land in Nebraska to 562 million cubic feet (table 3).

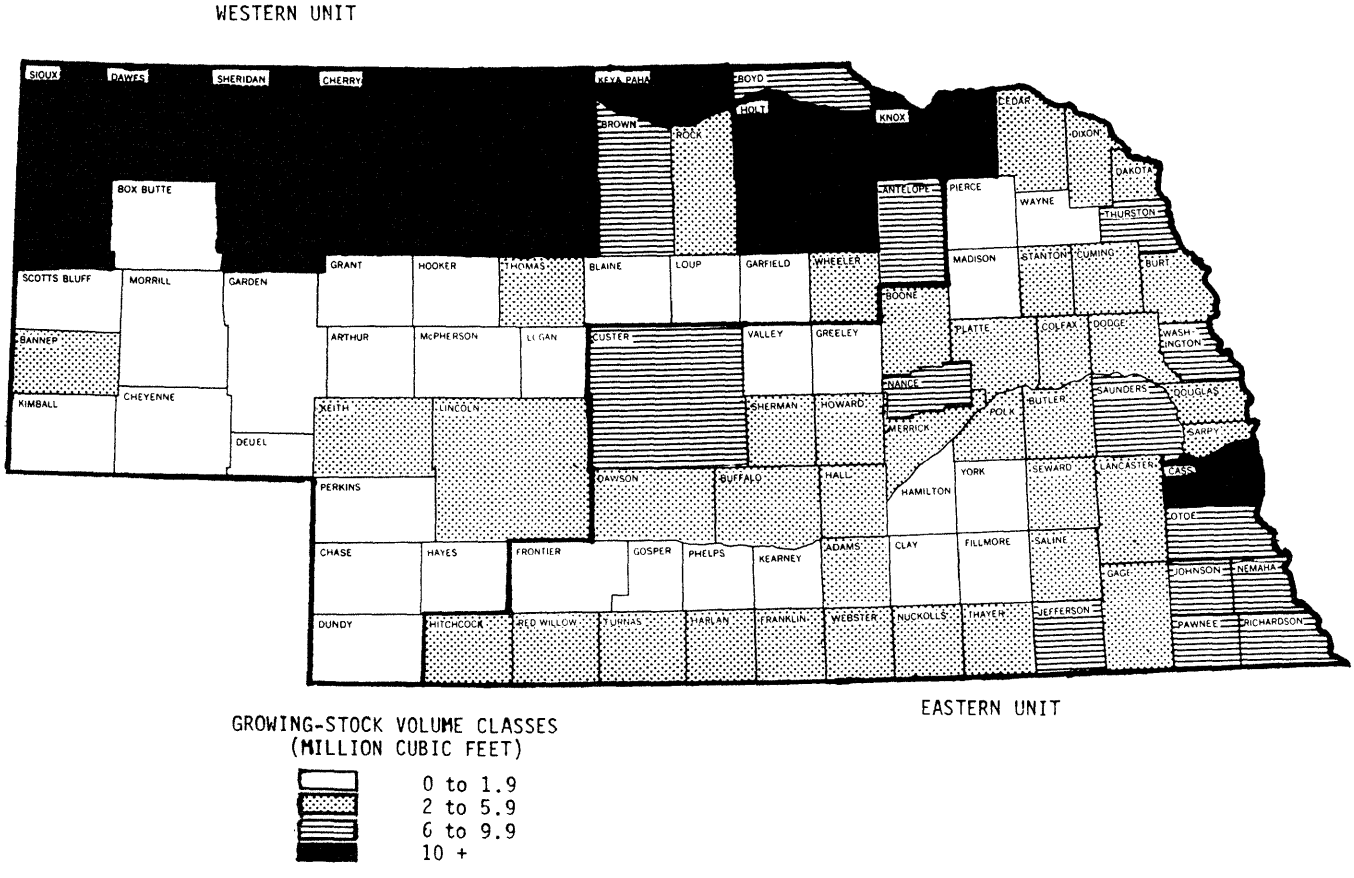

Figure 5.—*Growing-stock volume in Nebraska counties, 1983.*

Table 3.--Net volume of timber on commercial forest land by class of timber and softwoods and hardwoods, Nebraska, 1983

(In million cubic feet)

Class of timber	All species	Softwoods	Hardwoods
Growing stock			
Sawtimber	353.0	136.0	217.0
Poletimber	103.0	34.2	68.8
Total	456.0	170.2	285.8
Cull			
Rough and rotten	76.8	12.4	64.4
Short-log	19.5	2.7	16.8
Total	96.3	15.1	81.2
Salvable dead	9.3	1.3	8.0
All classes	561.6	186.6	375.0

The volume in short-log trees (commercial species that contain one merchantable 8- to 11-foot saw log but not a 12-foot saw log or two noncontiguous 8- to 11-foot saw logs) is 80 million board feet. This brings total sawtimber volume on commercial forest land to 1,792 million board feet for the State.

Although cull and salvable dead trees take up space that could be used by more valuable growing-stock trees, they are valuable to wildlife. In addition, many of these trees can be used for timber products such as low-grade saw logs or bolts and fuelwood.

More Than One-third of Growing-Stock Volume is Ponderosa Pine

In 1955, cottonwood led all other species in growing-stock volume with 38 percent of the total volume. Today, cottonwood is 31 percent and ponderosa pine represents 35 percent of the total growing-stock volume on commercial forest land. This is a 101 percent increase over the 1955 ponderosa pine growing-stock volume. In 1955, elm was third to cottonwood and ponderosa pine in growing-stock volume, with a large concentration of volume in the larger, overmature trees most susceptible to Dutch elm disease. The decimation of elm by the disease between the two surveys—elm growing-stock volume decreased from 51 to 12 million cubic feet—caused a reordering of volume rankings. The white oak species group moved up to third in 1983 with 39 million cubic feet, a 24-percent gain over its 1955 volume of 32 million cubic feet when it ranked fourth behind cottonwood, ponderosa pine, and elm. Green ash (26 million cubic feet), hackberry (17 million), and black willow (11 million) are other species with large volumes. Black walnut, which is highly valued and in great demand for furniture, cabinets, gun stocks, and other high-quality products, increased 51 percent from its 1955 volume of 3 million cubic feet. Jack pine and green ash were the only other species besides elm to decline in volume between surveys.

The order of species by sawtimber volume is about the same as that of growing stock. Ponderosa pine dominates with 46 percent of the total (782 million board feet). In the Western Unit, ponderosa pine is 77 percent of the total. Cottonwood contains the second largest sawtimber volume, with 511 million board feet, or 30 percent of the total. Elm, which was sixth in growing-stock volume, slipped to ninth in sawtimber volume (17 million board feet).

Trees 15 Inches in Diameter and Larger Make Up Half of Growing-Stock Volume

Forty-nine percent of the State's 1983 volume of growing stock is in trees in the 15-inch diameter class and larger. Total growing-stock volume has no gaps between succeeding diameter classes that might cause future supply problems, although uneven volumes by diameter class may pose problems in the future supply of red oak and black willow. Twenty percent of the volume is in trees 23 inches in diameter and greater, due largely to the high proportion of cottonwood volume in these bigger trees.

Fifty-two percent of the total cottonwood volume is in these larger trees.

Three-quarters of the total growing-stock volume is in three forest types—ponderosa pine (34 percent), cottonwood (23 percent), and elm-ash-cottonwood (19 percent).

Average volume per acre of growing stock on commercial forest land in 1983 was 848 cubic feet compared to 518 cubic feet in 1955. Average volume per acre was highest in the cottonwood forest type (1,260 cubic feet), followed by the ponderosa pine type (1,073), the elm-ash-cottonwood type (725), and the oak-hickory type (713).

The average sawtimber volume per acre in 1983 was 3,183 board feet. The ponderosa pine type (averaging 5,216 board feet per acre) is followed by the cottonwood type (4,620 board feet per acre), elm-ash-cottonwood (2,134), and oak-hickory (1,907).

Less Than One-third of Sawtimber Volume in Better Grades

The total volume in sawtimber trees was estimated by butt log grade based on the sampled tree volumes. These volumes could not be converted to whole-tree log grades because the means to make this conversion accurately are not available. Volumes represent the total volume in trees with the indicated butt log grade. Because a large portion of a tree's volume is in the butt log, the volume distribution by whole tree log grades is not substantially different from that of volumes in trees by butt log grade.

Only 31 percent of the sawtimber volume is in the better log grades 1 and 2. (See Log Grade section in the Appendix for an explanation of individual log grades.) Only two species have more than half of their sawtimber volume in these better log grades. Cottonwood has 70 percent and hackberry 57 percent of their volume in these higher log grades. Ponderosa pine has only 5 percent of its volume in these better grades, primarily because of the large proportion of volume in small trees.

GROWTH, MORTALITY, REMOVALS, AND BIOMASS

Net Growth Up 31 Percent

Net annual growth of growing stock on commercial forest land increased 31 percent between surveys, from 8.5 million cubic feet in 1955 to 11.1 million cubic feet in 1982. The Eastern Unit accounts for 50 percent of the growing-stock volume but only 42 percent of net growth.

The average cubic foot growth rate in the State in 1982 was 2.4 percent of growing-stock inventory, compared to 2.3 percent in 1955. Net growth per acre increased from 11.9 cubic feet in 1955 to 20.6 cubic feet in 1982. The highest average cubic foot growth rate was in the Western Unit with 2.8 percent, while the Eastern Unit had 2.1 percent. Among species with the highest cubic foot growth rates are eastern redcedar (6.3 percent), hackberry (4.0 percent), and soft maple (3.7 percent).

Net annual growth represents growth and ingrowth less natural mortality. The total volume lost by the death of a large, overmature tree cancels out the growth in many smaller diameter trees of the same species. Therefore, a species with a larger proportion of its trees and volume in the larger diameter classes, those that are most subject to mortality, tend to have a lower net annual growth rate. For example, cottonwood has a net annual growing-stock growth rate well below average of 1.2 percent and a sawtimber growth rate of 0.9 percent. Sixty percent of the cottonwood cubic foot volume is in trees 21 inches in diameter and larger, compared to 9 percent for all other species combined.

Net annual growth of sawtimber in 1982 amounted to 42.7 million board feet giving a growth rate of 2.5 percent of inventory. Sawtimber growth per acre averaged 79.5 board feet.

Potential Growth Indicates Higher Growth Rate Possible

Because potential net growth cannot be measured accurately, we roughly estimated potential net growth by using site class information collected during the latest inventory. Site class values indicate the maximum average annual net growth per acre attainable in fully-stocked, unmanaged stands.

We estimated potential growth in the State (table 4) by multiplying the area of commercial forest land in each site class by the midpoint of the growth range in that class. Using this method, we found the potential net annual growth for Nebraska to be 29.7 million cubic feet or 55.2 cubic feet per acre. This method assumes that stands are fully stocked and evenly distributed by age class up to rotation age for each forest type and the results cannot be directly compared to the current growth in

Table 4.--Estimation of potential net annual growth on commercial forest land, Nebraska, 1983

Site class	Area of commercial forest land	Potential net growth per acre[1/]	Total potential net growth
(Cu.ft/acre/year)	(Thousand acres)	(Cu.ft./acre/year)	(Thousand cu.ft./year)
120+	11.8	142.0	1,675.6
85-119	85.2	102.0	8,690.4
50-84	126.2	67.0	8,455.4
20-49	314.6	34.5	10,853.7
All classes	537.8	55.2	29,675.1

[1/] Midpoint of site class interval.

Nebraska of 20.6 cubic feet per acre per year. One method for evaluating current and potential growth was presented by Raile and Hahn (1982) for the aspen forest type in Minnesota. Such an evaluation is beyond the scope of this paper. Still, this potential growth is not the ultimate growth possible. Higher volumes of growth can be attained by thinning, applying fertilizers, and using genetically superior stock.

Mortality Increased 15 Percent

Net annual mortality of growing-stock trees increased from 1.9 million cubic feet in 1955 to 2.2 million in 1982, a 15-percent gain. The mortality rate in 1982 was 0.5 percent of inventory, the same as 1955.

The largest volume of mortality (69 percent of the total) was due to "unknown and other" causes. This is true because of the difficulty experienced by field crews in determining the *primary* cause of death in trees that had been dead for several years. Among the known causes of mortality, disease accounted for the largest volume, 14 percent of the total. Diseases of elm, mainly Dutch elm disease, account for 43 percent of the disease-caused mortality.

Sawtimber mortality amounted to 7.3 million board feet in 1982—0.4 percent of inventory.

Timber Removals Increased 147 Percent

Timber removals from growing stock jumped from 3.8 to 9.4 million cubic feet between surveys, a 147-percent gain. Sawtimber removals increased from 18.0 to 36.3 million board feet, a 102-percent increase.

Although the Eastern Unit contains 50 percent of the State's growing-stock inventory, it accounts for 80 percent of the total growing-stock removals volume. The other 20 percent from the Western Unit supplied 94 percent of the softwood removals. All of the removals from growing stock were from private land.

The volume of removals increased between surveys for most species but declined for a few species. Removals of black walnut growing stock in 1982 were 43 percent lower than the 1953 volume, while sawtimber removals declined from 1.6 million board feet to 1.0 million board feet. The removals volumes for soft maple and elm also declined 88 percent and 31 percent, respectively, between surveys.

Cottonwood accounted for the largest volume of growing-stock removals in 1982 with 3.2 million cubic feet, compared to 1.2 million cubic feet in 1953. Removals of oak were the second largest in 1982 with 2.5 million cubic feet.

The situation is similar for sawtimber removals, with cottonwood accounting for 48 percent of sawtimber removals (17.4 million board feet) and oak in second place with 19 percent (6.9 million board feet).

Ninety percent of the growing-stock removals (8.4 million cubic feet) were harvested for roundwood products, primarily fuelwood and saw logs. Other removals (trees removed but not used for products, or trees left standing but "removed" from the commercial forest classification by land use change)

amounted to 5 percent of the removals volume or 0.5 million cubic feet. Logging residue (unused trees killed by logging or the unused portion of cut trees) accounted for the remaining 5 percent of the removals volume or 0.4 million cubic feet.

Fuelwood (5.2 million cubic feet) accounted for 62 percent of the volume of roundwood products from growing stock in 1982, and saw logs (2.9 million cubic feet) accounted for 35 percent.

Ninety-four percent of the sawtimber removals volume (34.0 million board feet) was harvested for roundwood products. The proportion of saw and veneer logs cut from sawtimber changed from 46 percent of total roundwood products cut from sawtimber in 1953 to 56 percent in 1982. The proportion of fuelwood and posts cut from sawtimber shifted from 46 percent of total roundwood products cut from sawtimber in 1953 to 42 percent in 1982.

Hardwood Removals Exceed Growth

One way to evaluate the level of removals is to compare it with growth. However, caution is needed because the volume of growth contains growth from many trees too small to be part of the removals volume.

In 1982 growing-stock removals of 9.4 million cubic feet amounted to 84 percent of the volume of net annual growth (11.1 million cubic feet). Sawtimber removals of 36.3 million board feet were 85 percent of net annual growth (42.7 million board feet). These surpluses of growth over removals are created by the high softwood growth rate. For hardwoods, growing-stock removals exceeded growth by 73 percent.

Biomass

Interest in whole-tree utilization is increasing as demand for wood fiber increases. Therefore, we estimated of the above-ground weight of live trees in Nebraska as part of the inventory.

The total biomass of all live trees at least one inch in d.b.h. on commercial forest land in the State amounts to 29.0 million green tons, an average of 54 tons per acre. The largest total biomass is in the elm-ash-cottonwood forest type with 6.2 million green tons (51 tons per acre), but the greatest biomass per acre is in the cottonwood type with 5.9 million tons (72 tons per acre). Among species groups, ponderosa pine contributes the largest share of biomass (7.5 million green tons), followed by cottonwood (7.4 million tons) and white oak (4.1 million tons).

Seventy-two percent of live tree biomass is located in growing-stock trees. Cull trees provide 20 percent of the State's biomass, and trees 1 to 5 inches in diameter add the remaining 8 percent:

Biomass component	Weight (Million green tons)	Percent
Growing-stock trees		
Boles	14.7	51
Tops and limbs	6.2	21
Cull trees		
Boles	4.3	15
Tops and limbs	1.5	5
1- to 5-inch trees	2.3	8
Total	29.0	100

PROJECTED TIMBER SUPPLY

Although Nebraska's timber resource is small when viewed from a National perspective, the State's output of forest products plays a significant role in the supply-demand relation of many local businesses, including some in adjoining States.

To see what the future holds for Nebraska's timber resource, we made two 30-year projections using the Timber Resource Analysis System (TRAS) program (Alig *et al.* 1982), a computer program for updating, backdating, and projecting timber resource information. The first projection assumes a continuation of recent levels of timber removals (low removals option), and the second assumes a higher level of removals (high removals option). Separate projections were made for softwoods and hardwoods. TRAS uses a stand projection technique involving input of number of trees, growth rates, mortality rates, and removal rates, all by 2-inch diameter classes, along with assumed total removals by year and assumed ingrowth into the 2-inch diameter class.

Both options assume that: (1) the area of commercial forest land will not change (some decline is expected, but not enough to affect the results of the projection); (2) radial growth will decline in relation to the increase of basal area per acre of trees; (3) the intensity of forest management will continue at the rate indicated by recent trends; and (4) the volume of "other" removals will drop during the period as more of these trees are utilized for products.

Low Removals Option Projection

The low option assumes that timber removals will decrease from 9.4 million cubic feet in 1982 to 7.1 million cubic feet in 2002. Then they will increase to 8.3 million in 2013. Growth is projected to exceed removals throughout the period, to peak about 2007, then to slowly turn down. Therefore, growing-stock inventory is projected to increase by 151.5 million cubic feet to 607.5 million cubic feet (fig. 6). The assumed average annual change in removals used in the projections is shown in the following tabulation:

Period	Low removals option		High removals option	
	Soft-woods	Hard woods	Soft-woods	Hard woods
	(Percent annual change)			
1983-1987	8.2	−3.4	10.1	−1.3
1988-1992	7.7	−3.1	10.8	−1.5
1993-1997	7.1	−2.9	10.0	−1.8
1998-2002	6.7	−2.7	8.8	−2.0
2003-2007	6.4	−2.5	7.3	−1.7
2008-2013	6.1	−2.3	6.1	−1.5

Growth is projected to increase from 11.1 million cubic feet in 1982 to 13.3 million cubic feet in 2007 and then to turn down to 13.2 million cubic feet in 2013. The surplus of growth over removals was 1.7 million cubic feet in 1983. This surplus is projected to grow to 6.2 million cubic feet in 2003 and then taper off to 5.1 million cubic feet in 2013.

Growing-stock inventory is projected to climb during the entire period but to increase at a slower rate during the last decade. The 1983 inventory of 456.0 million cubic feet is projected to reach 607.5 million cubic feet by 2013—a 33-percent gain.

High Removals Option Projection

Removals under this option reflect a higher level of harvesting than the previous option. Timber removals are projected to exceed growth by 2012, and inventory is projected to turn down at that time (fig. 7).

Timber removals jump from 9.4 million cubic feet in 1982 to 13.0 million cubic feet in 2013, a 38-percent gain. Expanded markets for forest products are assumed over those assumed for the low option.

Net growth is projected to climb from 11.1 million cubic feet in 1982, peak at 13.2 million cubic feet in 2002 and then fall off to 12.6 million in 2012. The excess of growth over removals in 1982, 1.7 million cubic feet, is projected to increase to 3.4 million cubic feet in 1999 and then to vanish completely in 2012 when the growth and removals curves intersect.

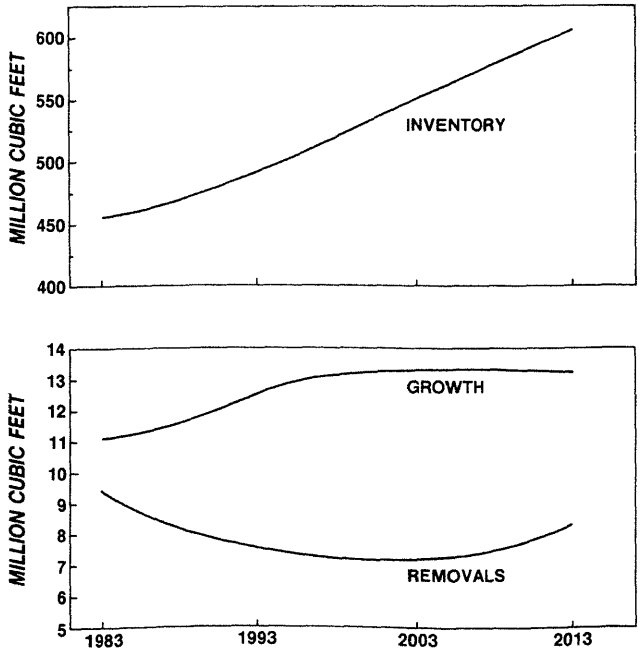

Figure 6.—*Removals, net growth and inventory of growing stock in Nebraska, 1983, low removals option projection for 1983–2013.*

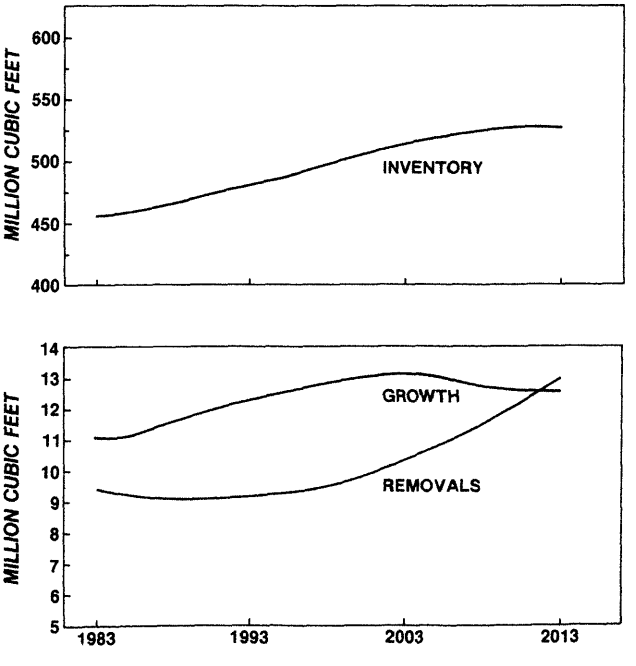

Figure 7.—*Removals, net growth and inventory of growing stock in Nebraska, 1983, high removals option projections for 1983–2013.*

Inventory rises more slowly than for the low option, from 456.0 million cubic feet in 1983 to a peak of 527.5 million cubic feet in 2012. Inventory will decline beyond 2012 in response to the deficit of removals over growth.

Timber Supply Likely to Increase

These projections represent reasonable bounds within which the actual future forest situation will develop. Inventories should increase between 16 and 33 percent by 2013, however the low and high removals options are valid only to the extent that the assumptions upon which they are based are realized. Projections for the first decade are the most reliable because changing economic and social conditions may invalidate longer-range assumptions and reduce the value of projections beyond this decade. Also, economic development initiatives by the State could increase utilization of the resource.

These projections are not necessarily desirable goals from silvicultural, social, or economic perspectives. They are simply indicators of what is likely to happen if forests in the State are managed much as they have been for the past 28 years and if harvesting occurs at a "high" or a "low" level. Inventory is likely to continue to accumulate at a rate close to that of recent years for about two decades. During the third decade it will slow down or decline. Higher growth and larger inventories toward the end of the projection period are possible if timber management efforts are increased beyond that of recent trends. More complete utilization of residues, tree tops, and limbs, the volumes of which are not included in growing-stock inventories, is desirable and would further extend wood supplies. The interest in fuelwood as an energy source suggests that this may be happening. Inventories could be smaller than projected if the area of commercial forest land declines significantly.

Total output of fuelwood from roundwood more than doubled from 64,593 cords in 1953 to 169,000 cords in 1980. This increased utilization for fuelwood presents both an opportunity and a threat to improved forest management. If the lower quality trees are taken for fuelwood, a market incentive will be provided to accomplish timber stand improvement to release desirable growing-stock trees. On the other hand, if many of the best young growing-stock trees are taken out for fuelwood, the future potential to produce quality saw logs will be greatly reduced. The key is proper forest management. The importance of fuelwood removals is stressed by the fact that 62 percent of all growing stock removals for products are for fuelwood.

Because nonindustrial private forest landowners possess 88 percent of the commercial forest area and 85 percent of the growing-stock volume, they control the future of the State's forest resource. Improving the forest resource requires that private owners practice sound forest management. Policies providing practical technical information and field assistance on timber sale preparation and administration along with forest management education will help to improve the forest resource. These owners might also be persuaded by policies that make timber-growing more profitable to them, such as efforts to expand markets for timber products and to increase financial incentives for performing needed management work.

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APPENDIX

ACCURACY OF SURVEY

Forest Inventory and Analysis information is based on a sampling procedure designed to provide reliable statistics at the State level. Consequently, the reported figures are estimates only. The sampling errors mean the chances are two out of three that the true inventory value is within the limits indicated.

For example, the estimated growing-stock volume in Nebraska in 1983, 456.0 million cubic feet, has a sampling error of ±8.6 percent (±39.2 million cubic feet). Therefore, the growing-stock volume from a 100-percent inventory would have a two in three chance of falling between 416.8 and 495.2 million cubic feet.

The following tabulation shows the sampling errors for the 1983 Nebraska Inventory:

Item	State total	Sampling error
Growing stock	(Thousand cubic feet)	(Percent)
Volume	456,011	8.6
Growth	11,099	10.9
Removals	9,350	20.6
Sawtimber	(Thousand board feet)	
Volume	1,711,873	9.4
Growth	42,729	14.3
Removals	36,264	20.9
Commercial forest area	(Thousand acres) 537.8	6.0

As survey data are broken down into smaller sections, the sampling error increases. The smaller the breakdown, the larger the sampling error. For example, the sampling error for growing-stock volume in a particular county is higher than that for total growing-stock volume in the State (table 95 shows the sampling errors for smaller estimates).

SURVEY PROCEDURE

The major steps in the survey of Nebraska were as follows:

1. A total of 260,180 1-acre points were systematically distributed across aerial photos of the entire State. Photo interpretors classified these points as forest land (5,564), nonforest land with trees (4,770), nonforest land without trees (247,873), questionable (69), and water (1,904), in order to make a preliminary estimate of forest area. Next, all of the forest, nonforest with trees, and questionable points were stereoclassified as to forest type, stand-size class, and density. Then 306 points classed as forest, 3 points classed as questionable, and 273 points classed as nonforest with trees were examined on the ground to correct the preliminary area estimate for errors in classification and for actual changes in land use since the aerial photos were taken. At each of 159 commercial forest locations, variable-radius plots (basal area factor 37.5) were established at 10 points uniformly placed over the sample acre. Tree measurements made at commercial forest locations were the basis for estimates of timber volume, growth, mortality, number of trees, and other forest classifications.

2. Statistics on timber utilization during 1980 were obtained from mill surveys. The Nebraska Forest Service canvassed resident sawmills and other primary wood-using plants. The North Central Forest Experiment Station canvassed out-of-State primary wood-using mills such as sawmills and veneer mills to determine their use of timber from Nebraska. The Nebraska Forest Service supplied 1980 estimates of fuelwood and post production from roundwood.

3. Estimates of primary mill residue used for fuelwood were obtained from the canvass of Nebraska primary wood-using plants. Timber cut for products by ownership class was determined by a canvass of public and forest industry timber owners. The portion of timber cut unaccounted for by the latter owners was grouped under "farmer and other owners".

4. Wood utilization factors for converting fuelwood, posts, and timber products output to removals from growing-stock were obtained during the 1971-1972 Missouri utilization study.

5. Field data were sent to St. Paul, Minnesota, to be processed and analyzed.

COMPARING NEBRASKA'S SECOND INVENTORY WITH THE FIRST INVENTORY

Data from new forest surveys are often compared with data from earlier ones to determine trends in

forest areas and volumes. Changes in procedures and definitions between surveys make it necessary to adjust earlier survey data so they are comparable to data from the new survey.

The published 1955 area of commercial forest land, 1,050,800 acres, was adjusted due to definitional changes between surveys. Some land now defined as nonforest with trees was defined as commercial forest land in 1955. Also, new site productivity curves for ponderosa pine caused some land previously classified as commercial to be classified as unproductive forest land in the current survey. The adjusted 1955 area, 705,700 acres, can be compared directly with the 1983 area (537,800 acres).

The Timber Resource Analysis System (a USDA Forest Service computer program for updating, backdating, and projecting timber volume, growth, mortality, and removals) recalculated 1955 volumes using 1983 estimates of cubic foot volume per tree and 1983 board foot-cubic foot ratios. This volume adjustment was necessary so that volume differences between surveys represented actual change and not merely change in the volume equations used on each occasion.

LOG GRADE

In Nebraska the butt log of every sawtimber tree sampled was graded for quality. Logs were graded on the basis of external characteristics. Hardwood species were graded according to "Hardwood Log Grades for Standard Lumber" (Vaughn *et al.* 1966). The best 12-foot section of the lowest 16-foot hardwood log, or the best 12-foot upper section if the butt log did not meet minimum log-grade standards, was graded as follows:

Forest Service standard grades for hardwood factory saw logs

Grading factors		Specifications							
		Log grade 1			Log grade 2				Log grade 3
Position in tree		Butts only	Butts and uppers		Butts and uppers				Butts and uppers
Scaling diameter, inches		[1]13-15	16-19	20+	[2]11+	12+			8+
Length without trim, feet			10+		10+	8-9	10-11	12+	8+
Required clear cuttings[3] of each of three best faces[4]	Min. length, feet	7	5	3	3	3	3	3	2
	Max. number	2	2	2	2	2	2	3	No Limit
	Min. proportion of log length required in clear cutting	5/6	5/6	5/6	2/3	3/4	2/3	2/3	1/2
Maximum sweep and crook allowance	For logs with less than one-fourth of end in sound defects		15 percent			30 percent			50 percent
	For logs with more than one-fourth of end in sound defects		10 percent			20 percent			35 percent
Maximum scaling deduction			40 percent[5]			50 percent[6]			50 percent

[1]Ash and basswood butts can be 12 inches if they otherwise meet requirements for small #1's.
[2]Ten-inch logs of all species can be #2's if they otherwise meet requirements for small #1's.
[3]A clear cutting is a portion of a face, extending the width of the face, that is free of defects.
[4]A face is one-fourth of the surface of the log as divided lengthwise.
[5]Otherwise #1 logs with 41-60 percent deductions can be #2.
[6]Otherwise #2 logs with 51-60 percent deductions can be #3.

Forest Service standard specifications for hardwood construction logs (tie and timber logs)

Position in tree		Butt and upper
Min. diameter, small end		8 inches +
Min. length, without trim		8 feet
Clear cuttings		No requirements.
Sweep allowance, absolute		One-fourth of the diameter at the small end for each 8 feet of length.
Sound surface defects	Single knots	Any number, if no one knot has an average diameter above the callus in excess of one-third of the log diameter at point of occurrence.
	Whorled knots	Any number if sum of knot diameters above the callus does not exceed one-third of the log diameter at point of occurrence.
	Holes	Any number provided none has a diameter over one-third of the log diameter at point of occurrence, and none extends more than 3 inches into included timber.[2]
Unsound surface defects		Same requirements as for sound defects if they extend into included timber.[2] No limit if they do not.
End defects	Sound	No requirements.
	Unsound	None allowed; log must be sound internally, but will admit one shake not to exceed one-fourth the scaling diameter and will admit a longitudinal split not extending more than 5 inches into the contained timber.

[1]These specifications are minimum for the class. If, from a group of logs, factory logs are selected first, thus leaving only non-factory logs from which to select construction logs, then the quality range of the construction logs so selected is limited, and the class may be considered a grade. If selection of construction logs is given first priority, then it may be necessary to subdivide the class into grades.

[2]Included timber is always square, and dimension is judged from small end.

Softwood species were graded according to the following specifications:

LOG GRADES FOR SOFTWOOD LOGS

Grade 1

1. Logs must be 16 inches or larger, 10 feet or longer, and with deduction for defect not over 30 percent of gross scale.
2. Logs must be at least 75 percent clear on each of three faces.
3. All knots outside clear cutting must be sound and not over 2-½ inches in diameter.

Grade 2

1. Logs must be 12 inches or larger, 10 feet or longer, and with a net scale after deduction for defect of at least 50 percent of the gross contents of the log.
2. Logs must be at least 50 percent clear on each of three faces or 75 percent clear on two faces.

Grade 3

Logs must be 6 inches or larger, 8 feet or longer, and with a net scale after deduction for defect of at least 50 percent of the gross contents of the log.

Note: (A) Diameters are diameter inside bark at small end of log.
(B) Percent clear refers to percent clear in one continuous section.

PRINCIPAL TREE SPECIES GROUPS IN NEBRASKA[5]

Softwoods
- Ponderosa pine ..... *Pinus ponderosa*
- Eastern redcedar ..... *Juniperus virginiana*
- Other softwoods
  - Rocky mountain juniper.. *Juniperus scopulorum*

Hardwoods
- White oak
  - Bur oak ..... *Quercus macrocarpa*
  - White oak ..... *Quercus alba*
  - Chinkapin oak ..... *Quercus muehlenbergii*
  - Post oak ..... *Quercus stellata*
- Red oak
  - Northern red oak ..... *Quercus rubra*
  - Black oak ..... *Quercus velutina*
- Hickory
  - Shagbark hickory ..... *Carya ovata*
  - Bitternut hickory ..... *Carya cordiformis*
- Basswood
  - American basswood ..... *Tilia americana*
- Soft maple
  - Red maple ..... *Acer rubrum*
  - Silver maple ..... *Acer saccharinum*
- Boxelder ..... *Acer negundo*
- Elm
  - American elm ..... *Ulmus americana*
  - Siberian elm ..... *Ulmus pumila*
  - Slippery elm ..... *Ulmus rubra*
  - Rock elm ..... *Ulmus thomasii*
- Green ash ..... *Fraxinus pennsylvanica*
- Cottonwood
  - Eastern cottonwood ..... *Populus deltoides*
  - Plains cottonwood ..... *Populus deltoides* var. *occidentalis*
- Black willow ..... *Salix nigra*
- Hackberry ..... *Celtis occidentalis*
- Black walnut ..... *Juglans nigra*
- Other hardwoods
  - Honeylocust ..... *Gleditsia triacanthos*
  - Red mulberry ..... *Morus rubra*
  - Paper birch ..... *Betula papyrifera*
  - Texas buckeye ..... ***Aesculus glabra var. arguta***
  - Northern catalpa ..... *Catalpa speciosa*
  - Kentucky coffeetree ..... *Gymnocladus dioicus*
  - Osage-orange ..... *Maclura pomifera*
  - Black locust ..... *Robinia pseudoacacia*
  - White mulberry ..... *Morus alba*

METRIC EQUIVALENTS OF UNITS USED IN THIS REPORT

1 acre = 4,046.86 square meters or 0.405 hectare.
1,000 acres = 405 hectares.
1 cubic foot = 0.0283 cubic meter.
1 foot = 30.48 centimeters or 0.3048 meter.
1 inch = 25.4 millimeters, 2.54 centimeters, or 0.0254 meter.

DEFINITION OF TERMS

Basal area.--The area in square feet of the cross section at breast height of a single tree. When the basal area of all trees in a stand are summed, the result is usually expressed as square feet of basal area per acre.

Biomass.--The above-ground volume of all live trees (including bark and foliage). Biomass is made up of 5 components:

Growing-stock bole.--Biomass of a growing-stock tree from a 1-foot stump to a variable 4-inch top.

Growing-stock tops and limbs.--Biomass of a growing-stock tree from a 1-foot stump minus the growing-stock bole.

Cull bole.--Biomass of a cull tree from a 1-foot stump to a variable 4-inch top.

[5] *The common and scientific names are based on: Little, Elbert L., Jr. Checklist of United States Trees (Native and Naturalized). Agric. Handb. 541. Washington, DC: U.S. Department of Agriculture, Forest Service; 1979. 375 p.*

Cull tops and limbs.--Biomass of a cull tree from a 1-foot stump minus the cull bole.

1- to 5-inch trees.--Biomass of all live trees from 1- to 5-inches in diameter at breast height.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. (Note: Areas qualifying as commercial forest land are capable of producing more than 20 cubic feet per acre per year of annual growth when managed. Currently inaccessible and inoperable areas are included except when the areas involved are small and unlikely to become suitable for producing industrial wood in the foreseeable future.)

Commercial species.--Tree species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality such as hophornbeam and hawthorn.)

County and municipal land.--Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Cull.--Portions of a tree that are unusable for industrial wood products because of rot, form, or other defect.

Diameter classes.--A classification of trees based on diameter outside bark, measured at breast height (4½ feet above the ground). (Note: d.b.h. is the common abbreviation for diameter at breast height. Two-inch diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h. inclusive.)

Farm.--Any land from which $1,000 or more of agricultural products were produced and sold during the year.

Farmer-owned lands.--Land owned by operators of farms. (Note: Excludes land leased by farm operators from nonfarm owners, such as railroad companies and States.)

Forest industry land.--Land owned by companies or individuals operating primary wood-using plants, except sawmills sawing less than 100,000 board feet annually.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. (Note: Stocking is measured by comparison of basal area and/or number of trees, by age or size and spacing with specified standards.) The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width at least 120 feet wide to qualify as forest land. Unimproved roads and trails, streams, or other bodies of water or clearings in forest areas shall be classes as forest if less than 120 feet wide. Also see definitions of land area, commercial forest land, noncommercial forest land, productive-reserved forest land, stocking, unproductive forest land, nonforest land, and water.

Forest trees.--Woody plants having a well-developed stem and usually more than 12 feet in height at maturity.

Forest types.--A classification of forest land based upon the species forming a plurality of live tree stocking. Major forest types in Nebraska are:

Ponderosa pine.--Forests in which ponderosa pine comprises a plurality of the stocking.

Eastern redcedar-hardwood.--Forests in which hardwoods comprise a plurality of the stocking but in which eastern redcedar comprises 25 percent or more of the stocking. Found on dry uplands, usually abandoned pastures or fields.

Oak-hickory.--Forests in which upland oaks (white, black) or hickory, singly or in combination, comprise a plurality of the stocking, except for stands classed as eastern redcedar-hardwood or as bur oak. Occurs on a variety of soils.

Bur oak.--Forests in which bur oak comprises a majority of the stocking. Occurs on dry uplands and ridges.

Elm-ash-cottonwood.--Lowland forest in which elm, ash, cottonwood, and willow, singly or in combination, comprise a plurality of the stocking, except for those in which cottonwood or willow comprise a majority of the stocking. Found on first or second bottoms of major streams.

Cottonwood.--Forests in which cottonwood comprises a majority of the stocking.

Lowland plains hardwoods.--Forests in which black walnut, hackberry, bur oak, soft maple, and boxelder, singly or in combination, comprise a plurality of the stocking. Commonly found in coves and bottomlands.

Gross area.--The entire area of land and water as determined by the Bureau of the Census, 1980.

Growing-stock trees.--Live trees of commercial species, excluding rough and rotten trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5 inches d.b.h. and over, from a 1-foot stump to a minimum 4 inch top diameter outside bark of the central stem or to the point where the central stem breaks into limbs. Cubic feet can be converted to standard cords by dividing by 79. One standard cord is 128 cubic feet of stacked wood, including bark and air.

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Idle farmland.--Includes former cropland, orchards, improved pastures, and farm sites not tended within the past 2 years and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivating, seeding, irrigating, or clearing of trees or brush and less than 16.7 percent stocked with live trees.

Indian land.--All lands held in trust by the United States for individual Indians or tribes, or all lands, titles to which are held by individual Indians or tribes, subject to Federal restrictions against alienation.

Land area.--A. *Bureau of the Census.*--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than one-eighth of a statute mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

B. *Forest Inventory and Analysis.*--The same as the Bureau of the Census, except minimum width of streams, etc., is 120 feet and minimum size of lakes, etc., is 1 acre.

Live trees.--Growing-stock, rough, and rotten trees 1 inch d.b.h. and larger.

Log grades.--A classification of logs based on external characteristics as indicators of quality or value. (See Appendix for specific grading factors used.)

Logging residues.--The unused growing stock portions of trees cut or killed by logging.

Maintained road.--Any road, hard-topped or other surfaces, that is plowed or graded at least once a year. Includes rights-of-way that are cut or treated to limit herbaceous growth.

Marsh.--Nonforest land that characteristically supports low, generally herbaceous or shrubby vegetation and that is intermittently covered with water.

Merchantable.--Refers to a pulpwood or saw log section that meets pulpwood or saw log specifications, respectively.

Miscellaneous federal land.--Federal land other than National Forest and Indian land.

Miscellaneous private land.--Privately owned land other than forest-industry and farmer-owned land.

Mortality.--The volume of sound wood in growing-stock and sawtimber trees that die annually.

National Forest land.--Federal land that has been legally designated as National forest or purchase units, and other land administered by the USDA Forest Service.

Net annual growth of growing stock.--The annual change in volume of sound wood in live sawtimber and poletimber trees and the total volume of trees entering these classes through ingrowth, less volume losses resulting from natural causes.

Net annual growth of sawtimber.--The annual change in the volume of live sawtimber trees and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses. (Note: Includes areas used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1- to 40-acre areas of water classified by the Bureau of the Census as land. If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide and more than 1 acre to qualify as nonforest land.)

a. *Nonforest land without trees.*--Nonforest land with no live trees present.

b. *Nonforest land with trees.*--Nonforest land with one or more trees per acre at least 5 inches d.b.h.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other removals.--Growing-stock trees removed but not utilized for products, or trees left standing but "removed" from the commercial forest land classification by land use change. Examples are removals from cultural operations such as timber stand improvement work, land clearing, and changes in land use.

Ownership.--Property owned by one owner, regardless of the number of parcels in a specified area.

Ownership size class.--The amount of commercial forest land owned by one owner, regardless of the number of parcels.

Owner tenure.--The length of time a property has been held by the owner.

Physiographic class.--A measure of soil and water conditions that affect tree growth on a site. The physiographic classes are:

Xeric sites.--Very dry soils where excessive drainage seriously limits both growth and species occurrence. Example: sandy jack pine plains.

Xeromesic sites.--Moderately dry soils where excessive drainage limits growth and species occurrence to some extent. Example: dry oak ridge.

Mesic sites.--Deep, well-drained soils. Growth and species occurrence are limited only by climate.

Hydromesic sites.--Moderately wet soils where insufficient drainage or infrequent flooding limits growth and species occurrence to some extent. Example: better drained bottomland hardwood sites.

Hydric sites.--Very wet sites where excess water seriously limits both growth and species occurrence. Example: frequently flooded river bottoms and spruce bogs.

Plant residues.--Wood and bark materials generated at manufacturing plants during production of other products.

Poletimber stands.--(See stand-size class.)

Poletimber trees.--Growing-stock trees of commercial species at least 5 inches d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land but withdrawn from timber utilization through statute, administration regulation, designation, or exclusive use for Christmas tree production, as indicated by annual shearing.

Productive-deferred.--Forest land sufficiently productive to qualify as commercial forest land but presently withdrawn from timber utilization because it is being considered for possible inclusion into the Wilderness system.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, because they do not meet regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent of extra cull volume in a tree is rotten.

Rough trees.--(a) Live trees of commercial species that do not contain at least one merchantable 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, because they do not meet regional specifications for freedom from defect primarily because of roughness or poor form, and (b) all live trees of noncommercial species.

Roundwood products.--Logs, bolts, or other round sections (including chips from roundwood) cut from trees for industrial or consumer uses. (Note: Includes saw logs, veneer logs and bolts; cooperage logs and bolts; pulpwood, fuelwood; piling; poles; posts; hewn ties; mine timbers; and various other round, split, or hewn products.

Salvable dead trees.--Standing or down dead trees considered merchantable by regional standards.

Saplings.--Live trees 1 to 5 inches d.b.h.

Sapling-seedling stands.--(See stand-size class.)

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight and with a minimum diameter outside bark (d.o.b.) for softwoods of 7 inches (9 inches for hardwoods) or other combinations of size and defect specified by regional standards.

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

Saw log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw log top is 7 inches d.o.b. for softwoods and 9 inches d.o.b. for hardwoods.

Sawtimber stands.--(See stand-size class.)

Sawtimber trees.--Growing-stock trees of commercial species containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and meeting regional specifications for freedom from defect. Softwoods must be at least 9 inches d.b.h. Hardwoods must be at least 11 inches d.b.h.

Sawtimber volume.--Net volume of the saw log portion of live sawtimber in board feet, International ¼-inch rule, from stump to a minimum 7 inches top diameter outside bark (d.o.b.) for softwoods and a minimum 9 inches top d.o.b. for hardwoods.

Seedlings.--Live trees less than 1 inch d.b.h. that are expected to survive. Only softwood seedlings more than 6 inches tall and hardwood seedlings more than 1 foot tall are counted.

Short-log (rough tree).--Sawtimber-size trees of commercial species that contain at least one merchantable 8- to 11-foot saw log but not a 12-foot saw log.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Site index.--An expression of forest site quality based on the height of a free-growing dominant or codominant tree of a representative species in the forest type at age 50.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Stand.--A growth of trees on a minimum of 1 acre of forest land that is stocked by forest trees of any size.

Stand-age class.--Age of the main stand. Main stand refers to trees of the dominant forest type and stand-size class.

Stand-area class.--The extent of a continuous forested area of the same forest type, stand-size class, and stand-density class.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area; that is, sawtimber, poletimber, or seedlings and saplings.

a. *Sawtimber stands.*--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber and/or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

b. *Poletimber stands.*--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and/or sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

c. *Sapling-seeding stands.*--Stands at least 16.7 percent stocked with growing-stock trees of which

more than half of the stocking is saplings and/or seedlings.

d. *Nonstocked stands.*--Stands in which stocking of growing-stock trees is less than 16.7 percent.

State land.--Land either owned by States or leased to them, for 50 years more.

Stocking.--The degree of occupancy of land by trees, measured by basal area and/or the number of trees in a stand by size or age and spacing, compared to the basal area and/or number of trees required to fully utilize the growth potential of the land; that is, the stocking standard.

A stocking percent of 100 indicates full utilization of the site and is equivalent to 80 square feet of basal area per acre in trees 5 inches d.b.h. and larger. In a stand of trees less than 5 inches d.b.h., a stocking percent of 100 would indicate that the present number of trees is sufficient to produce 80 square feet of basal area per acre when the trees reach 5 inches d.b.h.

Stands are grouped into the following stocking classes:

Overstocked stands.--Stands in which stocking of trees is 134.0 percent or more.

Fully-stocked stands.--Stands in which stocking of trees is from 101.0 to 133.9 percent.

Medium-stocked stands.--Stands in which stocking of trees is from 61.0 to 100.9 percent.

Poorly-stocked stands.--Stands in which stocking of trees is from 16.7 to 60.9 percent.

Nonstocked areas.--Commercial forest land on which stocking of trees is less than 16.7 percent.

Timber removals from growing stock.--The volume of sound wood in growing-stock trees removed annually for forest products (including roundwood products and logging residues) and for other removals.

Timber removals from sawtimber.--The net board-foot volume of live sawtimber trees removed for forest products annually (including roundwood products and logging residues) and for other removals.

Timber products output.--All timber products cut from roundwood and byproducts of wood manufacturing plants. Roundwood products include logs, bolts, or other round sections cut from growing-stock trees, cull trees, salvable dead trees, trees on nonforest land, noncommercial species, sapling-size trees, and limbwood. Byproducts from primary manufacturing plants include slabs, edging, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and screenings of pulpmills that are used as pulpwood chips or other products.

Tree biomass.--The total aboveground weight (including the bark) of all trees from 1 to 5 inches in d.b.h., and the total aboveground weight (including the bark) from a 1-foot stump for trees more than 5 inches in diameter.

Tree size class.--A classification of trees based on diameter at breast height, including sawtimber trees, poletimber trees, saplings, and seedlings.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of annual growth or of yielding crops of industrial wood under natural conditions because of adverse site conditions. (Note: Adverse conditions include shallow soil, dry climate, poor drainage, high elevation, steepness, and rockiness.)

Upper stem portion.--That part of the bole of sawtimber trees above the saw log top to a minimum top diameter of 4 inches outside bark or to the point where the central stem breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; schoolyards, cemeteries, roads; railroads; airports; beaches; powerlines; and other rights-of-way; or other nonforest land not included in any other specified land use class.

Water.--(a) *Bureau of the Census.*--Permanent inland water surfaces, such as lakes, reservoirs, and ponds at least 40 acres in area; and streams, sloughs, estuaries, and canals at least one-eighth of a statute mile wide.

(b) *Noncensus.*--Permanent inland water surfaces, such as lakes, reservoirs, and ponds from 1 to 39.9 acres in area; and streams, sloughs, estuaries, and canals from 120 feet to one-eighth of a statute mile wide.

Windbreak.--A group of trees less than 120 feet wide used for protecting soil, cropfields, and buildings.

Wooded pasture.--Improved pasture with more than 16.7 percent stocking in live trees but less than 25 percent stocking in growing-stock trees. Area is currently improved for grazing or there is other evidence of grazing.

Wooded strip.--An acre of more of natural continuous forest land that would otherwise meet survey standards for commercial forest land except that it is less than 120 feet wide.

TABLES

TEXT TABLES

AREA

NUMBER OF TREES

VOLUME

GROWTH AND REMOVALS

MORTALITY

UTILIZATION

BIOMASS

PROJECTIONS

SAMPLING ERRORS

Table 5.--Area of land by land class, Nebraska[1/], 1955 and 1983

(In thousand acres)

Land class	1955	1983
Forest land		
Commercial forest land		
Ponderosa pine	147.2	146.1
Eastern redcedar-hardwood	12.5	42.2
Oak-hickory	28.3	24.7
Bur oak	45.1	37.4
Elm-ash-cottonwood	109.5	122.0
Cottonwood	83.3	82.8
Lowland plains hardwoods	68.6	76.5
Nonstocked	220.2	6.1
Subtotal	714.7	537.8
Noncommercial forest land:		
Unproductive	174.8	162.3
Productive-reserved	13.8	18.2
Subtotal	188.6	180.5
Total	903.3	718.3
Nonforest land	48,161.0	48,333.8
All land	49,064.3[2/]	49,052.1[3/]

[1/] Figures have been adjusted from those published after the 1955 survey to conform to 1983 areas because of changes in survey definitions and procedures.

[2/] 1950, Bureau of Census.

[3/] 1980, Bureau of Census.

Table 6.--Area by land class and Forest Survey Unit, Nebraska, 1983

(In thousand acres)

Land class	All Units	Forest Survey Unit: Eastern Unit	Forest Survey Unit: Western Unit
FOREST LAND			
Commercial forest land	537.8	278.9	258.9
Noncommercial forest land			
Unproductive	162.3	92.7	69.6
Productive-reserved	18.2	10.3	7.9
Subtotal	180.5	103.0	77.5
Total	718.3	381.9	336.4
NONFOREST LAND			
Nonforest with trees			
Cropland	41.8	31.5	10.3
Improved pasture[1/]	582.5	221.6	360.9
Wooded strips[2/]	262.2	159.0	103.2
Marsh	7.8	2.3	5.5
Windbreaks[3/]	139.1	90.8	48.3
Wooded pasture[1/]	78.3	35.2	43.1
Subtotal	1,111.7	540.4	571.3
Nonforest without trees			
Cropland	25,484.6	16,515.8	8,968.8
Improved pasture[1/]	20,246.0	3,921.5	16,324.5
Idle farmland	3.5	--	3.5
Marsh	191.4	37.4	154.0
Other farm-farmstead	123.2	85.5	37.7
Urban and other	1,126.6	820.4	306.2
Noncensus water	46.8	30.1	16.7
Subtotal	47,222.1	21,410.7	25,811.4
Total	48,333.8	21,951.1	26,382.7
TOTAL LAND[4/]	49,052.1	22,333.0	26,719.1
WATER (BUREAU OF THE CENSUS)[4/]	455.1	204.3	250.8
TOTAL LAND AND WATER[4/]	49,507.2	22,537.3	26,969.9

[1/] Includes areas classified as range by the USDA Soil Conservation Service.

[2/] An acre or more of natural continuous forest land less than 120 feet wide that would otherwise meet survey standards.

[3/] A group of trees less than 120 feet wide used for the protection of soil, cropfields, and buildings in use.

[4/] U.S. Department of Commerce, Bureau of the Census. 1980. State/county area measurement reports (unpublished).

Table 7.--Area of land by land class and county, Nebraska, 1983

EASTERN UNIT

County	Land area[1/]	Forest land				Nonforest land with trees			
		All forest	Non-commercial	Commercial	Percent commercial forest	All nonforest with trees	Wooded strips	Other nonforest with trees	Percent nonforest with trees
	Acres				Percent	Acres			Percent
Adams	360,864	2,692	407	2,285	0.6	10,083	2,603	7,480	2.8
Boone	439,942	2,954	387	2,567	0.6	9,481	1,875	7,606	2.2
Buffalo	605,062	10,721	3,956	6,765	1.1	4,066	729	3,337	0.7
Burt	310,982	6,026	1,170	4,856	1.6	9,208	2,614	6,594	3.0
Butler	373,888	4,490	930	3,560	1.0	2,090	618	1,472	0.6
Cass	356,506	16,361	3,971	12,390	3.5	16,072	3,779	12,293	4.5
Cedar	473,626	7,915	2,122	5,793	1.2	16,541	4,849	11,692	3.5
Clay	367,309	2,038	360	1,678	0.5	3,482	913	2,569	0.9
Colfax	262,618	4,729	1,222	3,507	1.3	1,814	642	1,172	0.7
Cuming	367,725	6,437	964	5,473	1.5	7,143	2,045	5,098	1.9
Custer	1,645,619	18,822	5,806	13,016	0.8	49,788	14,241	35,547	3.0
Dakota	164,864	7,841	1,887	5,954	3.6	7,257	1,417	5,840	4.4
Dawson	628,429	13,840	7,669	6,171	1.0	8,760	3,307	5,453	1.4
Dixon	303,494	10,108	2,263	7,845	2.6	11,716	3,838	7,878	3.9
Dodge	341,779	8,294	2,248	6,046	1.8	14,104	3,738	10,366	4.1
Douglas	212,941	8,444	1,611	6,833	3.2	10,212	1,951	8,261	4.8
Fillmore	368,928	924	182	742	0.2	456	136	320	0.1
Franklin	368,704	4,090	603	3,487	0.9	14,169	3,786	10,383	3.8
Frontier	624,403	3,832	2,402	1,430	0.2	10,018	2,397	7,621	1.6
Furnas	461,389	5,237	1,908	3,329	0.7	5,614	1,880	3,734	1.2
Gage	549,139	9,218	1,502	7,716	1.4	34,820	11,382	23,438	6.3
Gosper	294,886	697	220	477	0.2	347	130	217	0.1
Greeley	365,062	528	205	323	0.1	3,667	1,316	2,351	1.0
Hall	343,533	5,271	1,573	3,698	1.1	5,793	1,869	3,924	1.7
Hamilton	347,264	2,876	916	1,960	0.6	2,309	420	1,889	0.7
Harlan	355,277	4,006	1,072	2,934	0.8	1,601	445	1,156	0.5
Hitchcock	453,702	4,227	1,459	2,768	0.6	7,257	2,172	5,085	1.6
Howard	361,075	5,523	1,580	3,943	1.1	19,210	6,581	12,629	5.3
Jefferson	367,693	13,721	2,946	10,775	2.9	12,887	3,441	9,446	3.5
Johnson	240,999	9,734	2,361	7,373	3.1	14,696	3,947	10,749	6.1
Kearney	331,910	224	72	152	--	120	24	96	--
Lancaster	536,973	6,803	1,966	4,837	0.9	25,488	9,561	15,927	4.7
Madison	368,224	3,152	858	2,294	0.6	7,780	2,652	5,128	2.1
Merrick	305,971	7,911	3,315	4,596	1.5	9,005	2,918	6,087	2.9
Nance	281,235	10,259	2,586	7,673	2.7	4,795	1,074	3,721	1.7
Nemaha	261,453	11,430	3,067	8,363	3.2	11,123	3,854	7,269	4.3
Nuckolls	368,429	5,475	1,381	4,094	1.1	6,034	1,678	4,356	1.6
Otoe	393,843	10,989	2,275	8,714	2.2	14,128	4,604	9,524	3.6
Pawnee	276,864	9,696	2,845	6,851	2.5	11,584	2,982	8,602	4.2
Phelps	345,530	532	71	461	0.1	302	66	236	0.1
Pierce	367,834	3,047	1,116	1,931	0.5	5,129	1,879	3,250	1.4
Platte	428,314	4,585	780	3,805	0.9	2,642	500	2,142	0.6
Polk	279,763	3,560	1,154	2,406	0.9	1,483	347	1,136	0.5
Red Willow	459,712	3,669	698	2,971	0.6	2,125	403	1,722	0.5
Richardson	353,734	13,450	3,599	9,851	2.8	8,636	2,681	5,955	2.4
Saline	368,307	7,371	1,794	5,577	1.5	6,876	1,890	4,986	1.9
Sarpy	152,422	8,573	1,885	6,688	4.4	14,493	4,764	9,729	9.5
Saunders	481,792	10,524	3,357	7,167	1.5	11,513	3,488	8,025	2.4

(Table 7 continued on next page)

[1/] U.S. Department of Commerce, Bureau of the Census. 1980.

(Table 7 continued)

County	Land area[1/]	Forest land				Nonforest land with trees			
		All forest	Non-commercial	Commercial	Percent commercial forest	All nonforest with trees	Wooded strips	Other nonforest with trees	Percent nonforest with trees
	Acres				Percent	Acres			Percent
Seward	368,109	5,393	1,106	4,287	1.2	5,139	1,275	3,864	1.4
Sherman	360,640	3,603	1,486	2,117	0.6	19,471	6,594	12,877	5.4
Stanton	275,712	5,712	1,936	3,776	1.4	10,766	2,722	8,044	3.9
Thayer	368,026	5,147	1,527	3,620	1.0	2,427	561	1,866	0.7
Thurston	250,003	14,166	3,156	11,010	4.4	7,462	2,181	5,281	3.0
Valley	363,091	1,549	512	1,037	0.3	4,107	1,408	2,699	1.1
Washington	247,174	13,488	2,814	10,674	4.3	14,764	3,881	10,883	6.0
Wayne	283,622	1,787	302	1,485	0.5	3,836	1,365	2,471	1.4
Webster	368,141	7,023	1,113	5,910	1.6	10,411	3,007	7,404	2.8
York	368,486	1,182	284	898	0.2	4,122	1,598	2,524	1.1
Total	22,333,016	381,896	102,957	278,939	1.2	540,422	159,018	381,404	2.4
				WESTERN UNIT					
Antelope	549,459	12,917	3,028	9,889	1.8	17,253	2,290	14,963	3.1
Arthur	454,752	323	--	323	0.1	54	--	54	--
Banner	478,208	5,507	2,151	3,356	0.7	11,534	852	10,682	2.4
Blaine	457,235	1,399	268	1,131	0.2	3,077	356	2,721	0.7
Box Butte	689,280	84	--	84	--	112	56	56	--
Boyd	340,666	11,762	2,511	9,251	2.7	25,205	5,129	20,076	7.4
Brown	776,864	14,682	4,284	10,398	1.3	20,933	5,280	15,653	2.7
Chase	571,853	416	191	225	--	3,282	319	2,963	0.6
Cherry	3,815,309	17,322	4,724	12,598	0.3	32,993	3,705	29,288	0.9
Cheyenne	765,370	688	--	688	0.1	9,124	544	8,580	1.2
Dawes	894,266	56,465	8,401	48,064	5.4	70,313	16,844	53,469	7.9
Deuel	279,853	282	--	282	0.1	398	168	230	0.1
Dundy	588,941	1,635	93	1,542	0.3	4,590	575	4,015	0.8
Garden	1,075,392	823	75	748	0.1	6,991	660	6,331	0.7
Garfield	365,062	1,963	407	1,556	0.4	5,306	495	4,811	1.5
Grant	495,898	--	--	--	--	--	--	--	--
Hayes	456,518	1,096	176	920	0.2	3,821	869	2,952	0.8
Holt	1,539,731	27,163	6,702	20,461	1.3	68,004	12,882	55,122	4.4
Hooker	461,197	935	154	781	0.2	939	143	796	0.2
Keith	665,037	3,579	24	3,555	0.5	8,438	1,324	7,114	1.3
Keya Paha	491,898	22,449	6,484	15,965	3.2	32,982	9,831	23,151	6.7
Kimball	609,254	441	83	358	0.1	5,752	272	5,480	0.9
Knox	707,494	28,630	7,277	21,353	3.0	50,154	11,693	38,461	7.1
Lincoln	1,616,301	12,199	3,040	9,159	0.6	29,383	4,008	25,375	1.8
Logan	365,523	1,216	335	881	0.2	645	54	591	0.2
Loup	367,392	902	284	618	0.2	3,319	780	2,539	0.9
McPherson	549,984	301	51	250	--	263	28	235	--
Morrill	899,174	6,441	3,695	2,746	0.3	14,490	2,652	11,838	1.6
Perkins	566,150	--	--	--	--	--	--	--	--
Rock	642,106	5,671	1,366	4,305	0.7	8,715	1,183	7,532	1.4
Scotts Bluff	464,115	9,396	4,830	4,566	1.0	20,999	3,052	17,947	4.5
Sheridan	1,569,773	37,128	5,675	31,453	2.0	47,037	7,266	39,771	3.0
Sioux	1,324,518	44,921	8,934	35,987	2.7	38,496	6,464	32,032	2.9
Thomas	456,576	4,980	1,556	3,424	0.7	17,605	1,839	15,766	3.9
Wheeler	367,955	2,695	714	1,981	0.5	9,085	1,599	7,486	2.5
Total	26,719,104	336,411	77,513	258,898	1.0	571,292	103,212	468,080	2.1
All counties	49,052,120	718,307	180,470	537,837	1.1	1,111,714	262,230	849,484	2.3

[1/] U.S. Department of Commerce, Bureau of the Census. 1980.

Table 8.--Area of commercial forest land by ownership class and Forest Survey Unit, Nebraska, 1983

(In thousand acres)

Ownership class	All Units	Forest Survey Unit	
		Eastern Unit	Western Unit
National Forest	30.8	--	30.8
State	21.8	5.8	16.0
County and municipal	3.8	--	3.8
Indian	8.8	8.8	--
Farmer	381.0	205.7	175.3
Misc. private corporation	12.0	10.5	1.5
Misc. private individual	79.6	48.1	31.5
All owners	537.8	278.9	258.9

Table 9.--Area of commercial forest land by ownership class and forest type, Nebraska, 1983

(In thousand acres)

Ownership class	All types	Forest type							
		Ponderosa pine	Eastern redcedar-hardwood	Oak-hickory	Bur oak	Elm-ash-cottonwood	Cottonwood	Lowland plains hardwoods	Nonstocked
National Forest	30.8	30.8	--	--	--	--	--	--	--
State	21.8	7.7	4.9	--	--	3.4	5.8	--	--
County and municipal	3.8	--	--	--	--	3.8	--	--	--
Indian	8.8	--	--	3.5	--	--	2.8	2.5	--
Farmer	381.0	89.6	27.2	3.7	25.6	104.9	64.6	63.1	2.3
Misc. private corporation	12.0	--	1.5	3.4	3.7	--	3.4	--	--
Misc. private individual	79.6	18.0	8.6	14.1	8.1	9.9	6.2	10.9	3.8
All owners	537.8	146.1	42.2	24.7	37.4	122.0	82.8	76.5	6.1

Table 10.--Area of commercial forest land by ownership class and site class, Nebraska, 1983

(In thousand acres)

Ownership class	All classes	Site class (cubic feet of growth/acre/year)			
		119+	85-119	50-84	20-49
National Forest	30.8	2.7	16.0	9.0	3.1
State	21.8	--	7.7	--	14.1
County and municipal	3.8	--	--	--	3.8
Indian	8.8	--	--	3.5	5.3
Farmer	381.0	9.1	55.6	87.2	229.1
Misc. private corporation	12.0	--	--	3.4	8.6
Misc. private individual	79.6	--	5.9	23.1	50.6
All owners	537.8	11.8	85.2	126.2	314.6

Table 11.--Area of commercial forest land by ownership class and ownership size class, Nebraska, 1983

(In thousand acres)

Ownership class	All classes	Ownership size class (acres)								
		1-5	5-10	10-20	20-50	50-100	100-500	500-2,500	2,500-5,000	5,000+
National Forest	30.8	--	--	--	--	--	--	--	--	30.8
State	21.8	--	--	--	--	--	--	--	--	21.8
County and municipal	3.8	--	--	--	--	--	--	--	3.8	--
Indian	8.8	--	--	--	--	--	--	--	--	8.8
Farmer	381.0	32.3	35.6	100.0	83.0	52.9	48.6	28.6	--	--
Misc. private corporation	12.0	--	--	--	7.1	--	4.9	--	--	--
Misc. private individual	79.6	12.7	6.2	13.6	9.2	17.6	16.9	--	3.4	--
All owners	537.8	45.0	41.8	113.6	99.3	70.5	70.4	28.6	7.2	61.4

Table 12.--Area of commercial forest land by ownership class, stand-size class, and Forest Survey Unit, Nebraska, 1983

(In thousand acres)

Ownership class	All stands	Stand-size class			
		Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked areas
ALL UNITS					
National Forest	30.8	27.7	--	3.1	--
State	21.8	18.4	--	3.4	--
County and municipal	3.8	3.8	--	--	--
Indian	8.8	--	6.0	2.8	--
Farmer	381.0	261.0	57.5	60.2	2.3
Misc. private corporation	12.0	8.6	3.4	--	--
Misc. private individual	79.6	50.4	22.0	3.4	3.8
All owners	537.8	369.9	88.9	72.9	6.1
EASTERN UNIT					
National Forest	--	--	--	--	--
State	5.8	5.8	--	--	--
County and municipal	--	--	--	--	--
Indian	8.8	--	6.0	2.8	--
Farmer	205.7	128.7	28.4	48.6	--
Misc. private corporation	10.5	7.1	3.4	--	--
Misc. private individual	48.1	27.6	13.3	3.4	3.8
All owners	278.9	169.2	51.1	54.8	3.8
WESTERN UNIT					
National Forest	30.8	27.7	--	3.1	--
State	16.0	12.6	--	3.4	--
County and municipal	3.8	3.8	--	--	--
Indian	--	--	--	--	--
Farmer	175.3	132.3	29.1	11.6	2.3
Misc. private corporation	1.5	1.5	--	--	--
Misc. private individual	31.5	22.8	8.7	--	--
All owners	258.9	200.7	37.8	18.1	2.3

Table 13.--Area of commercial forest land by ownership class and area-condition class, Nebraska, 1983

(In thousand acres)

Ownership class	All classes	Area-condition class			
		70	60	50	40 or better
National Forest	30.8	5.9	17.7	7.2	--
State	21.8	6.3	12.6	2.9	--
County and municipal	3.8	3.8	--	--	--
Indian	8.8	5.3	3.5	--	--
Farmer	381.0	149.1	185.3	46.6	--
Misc. private corporation	12.0	3.7	4.9	3.4	--
Misc. private individual	79.6	33.3	37.0	9.3	--
All owners	537.8	207.4	261.0	69.4	--

Table 14.--Area of commercial forest land by ownership class and stand-volume class, Nebraska, 1983

(In thousand acres)

Ownership class	All classes	Stand-volume class (board feet[1] per acre)		
		Less than 1,500	1,500 to 5,000	5,000+
National Forest	30.8	5.9	13.0	11.9
State	21.8	3.4	7.8	10.6
County and municipal	3.8	3.8	--	--
Indian	8.8	8.8	--	--
Farmer	381.0	146.2	181.4	53.4
Misc. private corporation	12.0	8.6	3.4	--
Misc. private individual	79.6	43.3	36.3	--
All owners	537.8	220.0	241.9	75.9

[1] International 1/4-inch rule.

Table 15.--Area of commercial forest land by county and forest type, Nebraska, 1983

(In acres)

EASTERN UNIT

County	All types	Forest type							
		Ponderosa pine	Eastern redcedar-hardwood	Oak-hickory	Bur oak	Elm-ash-cottonwood	Cottonwood	Lowland plains hardwoods	Nonstocked
Adams	2,285	--	68	250	346	966	341	306	8
Boone	2,567	--	4	323	306	1,145	214	571	4
Buffalo	6,765	--	641	26	263	1,872	2,337	1,470	156
Burt	4,856	--	77	655	775	1,404	745	1,192	8
Butler	3,560	--	144	557	194	1,294	682	637	52
Cass	12,390	--	673	941	1,001	4,789	2,041	2,812	133
Cedar	5,793	--	74	192	1,104	1,805	328	2,274	16
Clay	1,678	--	40	303	211	611	360	149	4
Colfax	3,507	--	82	625	115	1,134	746	723	82
Cuming	5,473	--	362	574	416	2,108	1,027	950	36
Custer	13,016	--	357	724	647	5,151	1,680	4,273	184
Dakota	5,954	--	164	442	1,251	1,990	694	1,365	48
Dawson	6,171	--	453	260	138	975	1,982	2,264	99
Dixon	7,845	--	43	246	1,872	2,437	240	2,996	11
Dodge	6,046	--	544	73	316	2,428	1,334	1,244	107
Douglas	6,833	--	31	982	1,520	1,977	771	1,533	19
Fillmore	742	--	34	28	37	313	83	235	12
Franklin	3,487	--	70	378	476	1,362	393	796	12
Frontier	1,430	--	20	172	200	632	155	243	8
Furnas	3,329	--	282	146	161	1,081	791	811	57
Gage	7,716	--	30	900	1,250	2,933	632	1,963	8
Gosper	477	--	16	45	16	163	84	137	16
Greeley	323	--	12	--	12	115	36	136	12
Hall	3,698	--	396	--	153	1,062	1,419	617	51
Hamilton	1,960	--	94	225	53	595	530	427	36
Harlan	2,934	--	89	445	89	976	623	623	89
Hitchcock	2,768	--	50	460	313	1,084	430	415	16
Howard	3,943	--	125	510	125	1,327	783	948	125
Jefferson	10,775	--	318	865	895	4,385	1,173	3,043	96
Johnson	7,373	--	305	731	490	2,966	1,387	1,397	97
Kearney	152	--	8	--	8	56	24	48	8
Lancaster	4,837	--	249	585	293	2,005	861	777	67
Madison	2,294	--	66	355	66	762	482	497	66
Merrick	4,596	--	414	196	197	1,006	1,605	1,125	53
Nance	7,673	--	411	826	414	2,779	1,502	1,576	165
Nemaha	8,363	--	216	1,345	282	2,739	1,724	1,841	216
Nuckolls	4,094	--	361	233	253	1,443	983	770	51
Otoe	8,714	--	326	1,618	502	2,960	1,904	1,312	92
Pawnee	6,851	--	570	194	382	2,553	1,533	1,498	121
Phelps	461	--	22	--	153	143	33	110	--
Pierce	1,931	--	82	--	82	697	246	742	82
Platte	3,805	--	269	315	342	1,494	738	606	41
Polk	2,406	--	166	140	69	823	515	672	21
Red Willow	2,971	--	235	198	185	1,149	615	538	51
Richardson	9,851	--	291	1,530	291	3,267	2,097	2,084	291
Saline	5,577	--	325	597	380	2,111	988	1,093	83
Sarpy	6,688	--	91	416	1,753	1,877	552	1,972	27

(Table 15 continued on next page)

(Table 15 continued)

County	All types	Forest type							
		Ponderosa pine	Eastern redcedar-hardwood	Oak-hickory	Bur oak	Elm-ash-cottonwood	Cottonwood	Lowland plains hardwoods	Nonstocked
Saunders	7,167	--	638	151	339	2,218	2,086	1,568	167
Seward	4,287	--	167	613	258	1,703	823	672	51
Sherman	2,117	--	138	173	97	633	601	435	40
Stanton	3,776	--	205	--	118	1,799	639	960	55
Thayer	3,620	--	151	270	151	1,268	676	953	151
Thurston	11,010	--	392	904	423	2,564	2,043	4,559	125
Valley	1,037	--	43	45	43	367	165	331	43
Washington	10,674	--	114	1,014	3,299	3,001	926	2,308	12
Wayne	1,485	--	--	303	303	396	234	249	--
Webster	5,910	--	304	560	429	2,373	913	1,259	72
York	898	--	62	28	59	356	149	216	28
Total	278,939	--	11,914	24,687	25,916	95,622	49,698	67,321	3,781
				WESTERN UNIT					
Antelope	9,889	1,039	2,251	--	1,268	2,283	2,561	487	--
Arthur	323	--	54	--	--	108	161	--	--
Banner	3,356	3,149	--	--	--	--	--	--	207
Blaine	1,131	60	336	--	188	101	399	47	--
Box Butte	84	--	--	--	--	28	56	--	--
Boyd	9,251	2,309	1,750	--	607	1,577	2,443	565	--
Brown	10,398	3,609	2,322	--	993	901	1,459	1,114	--
Chase	225	--	59	--	--	54	112	--	--
Cherry	12,598	5,606	1,592	--	1,027	1,434	2,125	759	55
Cheyenne	688	--	--	--	--	688	--	--	--
Dawes	48,064	45,270	454	--	43	1,059	1,155	--	83
Deuel	282	--	62	--	--	53	167	--	--
Dundy	1,542	75	335	--	63	399	616	54	--
Garden	748	275	184	--	--	54	235	--	--
Garfield	1,556	450	313	--	144	165	427	57	--
Grant	--	--	--	--	--	--	--	--	--
Hayes	920	320	83	--	20	181	279	37	--
Holt	20,461	4,289	4,275	--	1,915	4,191	4,257	1,534	--
Hooker	781	105	180	--	84	120	172	120	--
Keith	3,555	--	735	--	21	1,323	1,476	--	--
Keya Paha	15,965	6,367	2,940	--	1,623	1,697	2,230	1,108	--
Kimball	358	358	--	--	--	--	--	--	--
Knox	21,353	4,010	5,892	--	2,110	2,813	4,675	1,853	--
Lincoln	9,159	500	2,261	--	--	3,140	2,758	500	--
Logan	881	235	254	--	81	84	67	160	--
Loup	618	30	146	--	83	91	231	37	--
McPherson	250	75	42	--	21	28	56	28	--
Morrill	2,746	--	506	--	--	470	940	--	830
Perkins	--	--	--	--	--	--	--	--	--
Rock	4,305	1,019	976	--	494	593	843	380	--
Scotts Bluff	4,566	--	824	--	--	1,438	1,192	--	1,112
Sheridan	31,453	29,929	262	--	124	407	667	64	--
Sioux	35,987	34,063	361	--	188	703	456	216	--
Thomas	3,424	2,769	217	--	103	63	182	63	27
Wheeler	1,981	175	593	--	293	181	702	37	--
Total	258,898	146,086	30,259	--	11,493	26,427	33,099	9,220	2,314
All Units	537,837	146,086	42,173	24,687	37,409	122,049	82,797	76,541	6,095

Table 16.--Area of commercial forest land by forest type and stand-age class, Nebraska, 1983

(In thousand acres)

Forest type	All classes	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Ponderosa pine	146.1	--	--	3.1	3.1	9.8	6.5	20.1	18.3	14.1	28.6	22.9	10.5	9.1
Eastern redcedar-hardwood	42.2	3.4	--	3.3	2.3	--	7.4	3.8	7.3	9.9	1.5	3.3	--	--
Oak-hickory	24.7	--	3.4	--	3.5	10.6	7.2	--	--	--	--	--	--	--
Bur oak	37.4	--	--	--	4.9	3.7	2.6	6.5	6.5	3.3	6.2	3.7	--	--
Elm-ash-cottonwood	122.0	20.2	6.0	7.5	6.6	12.8	6.8	17.1	15.5	16.8	7.2	2.6	2.9	--
Cottonwood	82.8	--	7.7	8.4	--	6.1	9.6	22.8	16.9	2.9	8.4	--	--	--
Lowland plains hardwoods	76.5	10.0	18.3	--	9.0	5.4	11.6	5.9	2.9	6.8	3.7	--	2.9	--
Nonstocked	6.1	--	--	--	--	2.3	--	--	3.8	--	--	--	--	--
All types	537.8	33.6	35.4	22.3	29.4	50.7	51.7	76.2	71.2	53.8	55.6	32.5	16.3	9.1

Table 17.--Area of commercial forest land by forest type, stand-size class, and Forest Survey Unit, Nebraska, 1983

(In thousand acres)

Forest type	All stands	Stand-size class			
		Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked areas
ALL UNITS					
Ponderosa pine	146.1	129.7	13.3	3.1	--
Eastern redcedar-hardwood	42.2	24.5	11.0	6.7	--
Oak-hickory	24.7	7.2	14.1	3.4	--
Bur oak	37.4	22.3	15.1	--	--
Elm-ash-cottonwood	122.0	85.8	12.5	23.7	--
Cottonwood	82.8	69.0	6.1	7.7	--
Lowland plains hardwoods	76.5	31.4	16.8	28.3	--
Nonstocked	6.1	--	--	--	6.1
All types	537.8	369.9	88.9	72.9	6.1
EASTERN UNIT					
Ponderosa pine	--	--	--	--	--
Eastern redcedar-hardwood	11.9	5.8	6.1	--	--
Oak-hickory	24.7	7.2	14.1	3.4	--
Bur oak	25.9	15.7	10.2	--	--
Elm-ash-cottonwood	95.6	66.1	9.2	20.3	--
Cottonwood	49.7	46.9	--	2.8	--
Lowland plains hardwoods	67.3	27.5	11.5	28.3	--
Nonstocked	3.8	--	--	--	3.8
All types	278.9	169.2	51.1	54.8	3.8
WESTERN UNIT					
Ponderosa pine	146.1	129.7	13.3	3.1	--
Eastern redcedar-hardwood	30.3	18.7	4.9	6.7	--
Oak-hickory	--	--	--	--	--
Bur oak	11.5	6.6	4.9	--	--
Elm-ash-cottonwood	26.4	19.7	3.3	3.4	--
Cottonwood	33.1	22.1	6.1	4.9	--
Lowland plains hardwoods	9.2	3.9	5.3	--	--
Nonstocked	2.3	--	--	--	2.3
All types	258.9	200.7	37.8	18.1	2.3

Table 18.--Area of commercial forest land by forest type, stand-size class, and site class, Nebraska, 1983

(In thousand acres)

Forest type and stand-size class	All classes	Site class (cubic feet of growth/acre/year)			
		120+	85-119	50-84	20-49
Ponderosa pine					
Sawtimber	129.7	11.8	69.8	37.4	10.7
Poletimber	13.3	--	3.1	4.0	6.2
Sapling & seedling	3.1	--	--	3.1	--
All stands	146.1	11.8	72.9	44.5	16.9
Eastern redcedar-hardwood					
Sawtimber	24.5	--	--	--	24.5
Poletimber	11.0	--	--	--	11.0
Sapling & seedling	6.7	--	--	3.3	3.4
All stands	42.2	--	--	3.3	38.9
Oak-hickory					
Sawtimber	7.2	--	--	7.2	--
Poletimber	14.1	--	--	14.1	--
Sapling & seedling	3.4	--	--	--	3.4
All stands	24.7	--	--	21.3	3.4
Bur oak					
Sawtimber	22.3	--	--	3.3	19.0
Poletimber	15.1	--	4.9	--	10.2
Sapling & seedling	--	--	--	--	--
All stands	37.4	--	4.9	3.3	29.2
Elm-ash-cottonwood					
Sawtimber	85.8	--	3.7	13.2	68.9
Poletimber	12.5	--	--	3.7	8.8
Sapling & seedling	23.7	--	--	--	23.7
All stands	122.0	--	3.7	16.9	101.4
Cottonwood					
Sawtimber	69.0	--	--	11.4	57.6
Poletimber	6.1	--	--	--	6.1
Sapling & seedling	7.7	--	--	--	7.7
All stands	82.8	--	--	11.4	71.4
Lowland plains hardwoods					
Sawtimber	31.4	--	3.7	11.7	16.0
Poletimber	16.8	--	--	6.4	10.4
Sapling & seedling	28.3	--	--	7.4	20.9
All stands	76.5	--	3.7	25.5	47.3
Nonstocked	6.1	--	--	--	6.1
All types					
Sawtimber	369.9	11.8	77.2	84.2	196.7
Poletimber	88.9	--	8.0	28.2	52.7
Sapling & seedling	72.9	--	--	13.8	59.1
Nonstocked	6.1	--	--	--	6.1
All stands	537.8	11.8	85.2	126.2	314.6

Table 19.--Area of commercial forest land by forest type, stand-size class, and stocking percent, Nebraska, 1983

(In thousand acres)

Forest type and stand-size class	All classes	Stocking percent of growing-stock trees				
		Less than 16.7	16.7-60	61-100	101-133	134+
Ponderosa pine						
Sawtimber	129.7	--	36.8	72.9	20.0	--
Poletimber	13.3	--	7.1	6.2	--	--
Sapling & seedling	3.1	--	--	--	3.1	--
All stands	146.1	--	43.9	79.1	23.1	--
Eastern redcedar-hardwood						
Sawtimber	24.5	--	10.2	14.3	--	--
Poletimber	11.0	--	7.2	3.8	--	--
Sapling & seedling	6.7	--	6.7	--	--	--
All stands	42.2	--	24.1	18.1	--	--
Oak-hickory						
Sawtimber	7.2	--	--	3.7	3.5	--
Poletimber	14.1	--	--	10.7	3.4	--
Sapling & seedling	3.4	--	3.4	--	--	--
All stands	24.7	--	3.4	14.4	6.9	--
Bur oak						
Sawtimber	22.3	--	12.5	9.8	--	--
Poletimber	15.1	--	--	15.1	--	--
Sapling & seedling	--	--	--	--	--	--
All stands	37.4	--	12.5	24.9	--	--
Elm-ash-cottonwood						
Sawtimber	85.8	--	47.7	28.6	9.5	--
Poletimber	12.5	--	5.9	6.6	--	--
Sapling & seedling	23.7	--	17.4	3.4	2.9	--
All stands	122.0	--	71.0	38.6	12.4	--
Cottonwood						
Sawtimber	69.0	--	12.7	38.1	12.4	5.8
Poletimber	6.1	--	3.7	2.4	--	--
Sapling & seedling	7.7	--	2.8	4.9	--	--
All stands	82.8	--	19.2	45.4	12.4	5.8
Lowland plains hardwoods						
Sawtimber	31.4	--	7.6	22.2	1.6	--
Poletimber	16.8	--	10.0	6.8	--	--
Sapling & seedling	28.3	--	15.6	12.7	--	--
All stands	76.5	--	33.2	41.7	1.6	--
Nonstocked	6.1	6.1	--	--	--	--
All types						
Sawtimber	369.9	--	127.5	189.6	47.0	5.8
Poletimber	88.9	--	33.9	51.6	3.4	--
Sapling & seedling	72.9	--	45.9	21.0	6.0	--
Nonstocked	6.1	6.1	--	--	--	--
All stands	537.8	6.1	207.3	262.2	56.4	5.8

Table 20.--Area of commercial forest land by forest type, site-index class, and Forest Survey Unit, Nebraska, 1983

(In thousand acres)

Forest type	All classes	Site-index class (feet) 21-30	31-40	41-50	51-60	61-70	71-80	81-90	91+
ALL UNITS									
Ponderosa pine	146.1	--	3.1	28.8	29.5	64.5	14.4	5.8	--
Eastern redcedar-hardwood	42.2	10.2	11.8	6.7	10.2	3.3	--	--	--
Oak-hickory	24.7	--	--	--	10.3	14.4	--	--	--
Bur oak	37.4	--	15.5	7.2	6.5	--	8.2	--	--
Elm-ash-cottonwood	122.0	--	22.3	40.1	28.0	13.9	14.0	--	3.7
Cottonwood	82.8	--	14.6	20.3	24.1	18.6	5.2	--	--
Lowland plains hardwoods	76.5	--	11.5	19.0	16.8	14.0	15.2	--	--
Nonstocked	6.1	--	2.3	3.8	--	--	--	--	--
All types	537.8	10.2	81.1	125.9	125.4	128.7	57.0	5.8	3.7
EASTERN UNIT									
Ponderosa pine	--	--	--	--	--	--	--	--	--
Eastern redcedar-hardwood	11.9	3.8	2.9	--	5.2	--	--	--	--
Oak-hickory	24.7	--	--	--	10.3	14.4	--	--	--
Bur oak	25.9	--	15.5	3.9	6.5	--	--	--	--
Elm-ash-cottonwood	95.6	--	11.8	32.8	19.4	13.9	14.0	--	3.7
Cottonwood	49.7	--	7.3	15.4	15.5	6.3	5.2	--	--
Lowland plains hardwoods	67.3	--	11.5	13.7	13.5	14.0	14.6	--	--
Nonstocked	3.8	--	--	3.8	--	--	--	--	--
All types	278.9	3.8	49.0	69.6	70.4	48.6	33.8	--	3.7
WESTERN UNIT									
Ponderosa pine	146.1	--	3.1	28.8	29.5	64.5	14.4	5.8	--
Eastern redcedar-hardwood	30.3	6.4	8.9	6.7	5.0	3.3	--	--	--
Oak-hickory	--	--	--	--	--	--	--	--	--
Bur oak	11.5	--	--	3.3	--	--	8.2	--	--
Elm-ash-cottonwood	26.4	--	10.5	7.3	8.6	--	--	--	--
Cottonwood	33.1	--	7.3	4.9	8.6	12.3	--	--	--
Lowland plains hardwoods	9.2	--	--	5.3	3.3	--	0.6	--	--
Nonstocked	2.3	--	2.3	--	--	--	--	--	--
All types	258.9	6.4	32.1	56.3	55.0	80.1	23.2	5.8	--

Table 21.--Area of commercial forest land by forest type and basal-area class, Nebraska, 1983

(In thousand acres)

Forest type	All classes	Basal-area class (square feet per acre)												
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151+
Ponderosa pine	146.1	--	5.0	6.2	2.8	3.1	26.6	27.6	19.5	23.4	4.0	24.6	3.3	--
Eastern redcedar-hardwood	42.2	--	1.5	3.4	--	8.2	6.9	8.7	5.6	7.9	--	--	--	--
Oak-hickory	24.7	--	--	--	--	3.4	--	--	7.1	7.0	7.2	--	--	--
Bur oak	37.4	--	--	--	--	3.3	3.7	12.7	7.5	10.2	--	--	--	--
Elm-ash-cottonwood	122.0	3.4	6.8	3.8	13.5	20.1	8.8	5.8	13.5	10.8	6.3	15.4	13.8	--
Cottonwood	82.8	--	2.8	--	2.9	--	17.0	3.8	12.0	10.5	7.3	15.8	4.9	5.8
Lowland plains hardwoods	76.5	--	4.8	3.4	3.8	13.8	10.1	12.7	1.6	2.5	3.4	18.8	1.0	0.6
Nonstocked	6.1	--	2.3	--	--	3.8	--	--	--	--	--	--	--	--
All types	537.8	3.4	23.2	16.8	23.0	55.7	73.1	71.3	66.8	72.3	28.2	74.6	23.0	6.4

Table 22.--Area of commercial forest land by forest type and distance to road[1/], Nebraska, 1983

(In thousand acres)

Forest type	All distances	Distance to road (miles)							
		0-1/8	1/8-1/4	1/4-1	1-2 1/2	2 1/2-5	5-10	10-20	20+
Ponderosa pine	146.1	17.7	17.1	91.5	19.8	--	--	--	--
Eastern redcedar-hardwood	42.2	7.9	13.8	15.7	4.8	--	--	--	--
Oak-hickory	24.7	10.3	7.3	7.1	--	--	--	--	--
Bur oak	37.4	--	5.5	23.3	3.7	4.9	--	--	--
Elm-ash-cottonwood	122.0	33.5	39.2	45.9	3.4	--	--	--	--
Cottonwood	82.8	13.3	11.0	44.3	14.2	--	--	--	--
Lowland plains hardwoods	76.5	34.8	13.6	28.1	--	--	--	--	--
Nonstocked	6.1	--	--	6.1	--	--	--	--	--
All types	537.8	117.5	107.5	262.0	45.9	4.9	--	--	--

[1/] A permanent road that is maintained at least once a year.

Table 23.--Area of commercial forest land by forest type and distance to water[1/], Nebraska, 1983

(In thousand acres)

Forest type	All distances	Distance to water (miles)							
		0-1/8	1/8-1/4	1/4-1	1-2 1/2	2 1/2-5	5-10	10-20	20+
Ponderosa pine	146.1	3.8	3.8	7.7	10.5	3.4	3.1	--	113.8
Eastern redcedar-hardwood	42.2	3.3	5.2	9.8	10.0	5.0	--	8.9	--
Oak-hickory	24.7	--	--	10.4	7.2	--	7.1	--	--
Bur oak	37.4	--	8.2	7.6	8.9	7.2	5.5	--	--
Elm-ash-cottonwood	122.0	22.1	10.3	22.6	15.2	18.1	9.7	6.3	17.7
Cottonwood	82.8	34.5	17.7	11.1	6.0	--	--	6.2	7.3
Lowland plains hardwoods	76.5	3.4	10.2	15.7	24.6	7.1	--	15.5	--
Nonstocked	6.1	--	3.8	2.3	--	--	--	--	--
All types	537.8	67.1	59.2	87.2	82.4	40.8	25.4	36.9	138.8

[1/]Lakes or ponds 5 acres or larger in area, and streams or rivers at least 66 feet in width.

Table 24.--Area of commercial forest land by forest type and stand-area class, Nebraska, 1983

(In thousand acres)

Forest type	All classes	Stand-area class (acres)								
		1-4	5-9	10-19	20-39	40-79	80-159	160-319	320-639	640+
Ponderosa pine	146.1	88.1	27.0	31.0	--	--	--	--	--	--
Eastern redcedar-hardwood	42.2	10.4	15.5	3.3	--	--	8.1	4.9	--	--
Oak-hickory	24.7	--	3.4	10.5	--	3.8	3.5	--	--	3.5
Bur oak	37.4	4.9	7.0	14.0	7.6	--	3.9	--	--	--
Elm-ash-cottonwood	122.0	36.6	51.1	24.8	2.9	2.9	3.7	--	--	--
Cottonwood	82.8	20.9	12.2	5.2	10.0	8.9	13.6	6.1	5.9	--
Lowland plains hardwoods	76.5	20.9	8.1	40.2	3.8	--	--	2.5	--	1.0
Nonstocked	6.1	--	--	6.1	--	--	--	--	--	--
All types	537.8	181.8	124.3	135.1	24.3	15.6	32.8	13.5	5.9	4.5

Table 25.--Area of commercial forest land by stocking class based on selected stand components, Nebraska, 1983

(In thousand acres)

Stocking percentage	Stocking classified in terms of		
	All live trees	Growing-stock trees	Rough and rotten trees
0-10	--	--	198.3
11-20	--	6.1	124.7
21-30	2.3	19.4	82.0
31-40	20.4	56.0	64.5
41-50	10.8	59.1	39.6
51-60	50.6	66.8	20.7
61-70	47.5	68.8	5.5
71-80	58.4	69.1	--
81-90	65.1	75.2	2.5
91-100	81.1	47.9	--
101-110	77.1	31.3	--
111-120	72.8	21.0	--
121-130	26.2	11.3	--
131-140	17.1	--	--
141-150	5.5	5.8	--
151-160	2.9	--	--
161+	--	--	--
Total	537.8	537.8	537.8

Table 26.--Area of commercial forest land by forest type, physiographic class, and ownership class, Nebraska, 1983

(In thousand acres)

Forest type and physiographic class	All classes	Ownership class						
		National Forest	State	County and municipal	Indian	Farmer	Misc. private coporation	Misc. private individual
Ponderosa pine								
Xeric	14.7	--	--	--	--	14.7	--	--
Xeromesic	111.5	30.8	--	--	--	65.8	--	14.9
Mesic	19.9	--	7.7	--	--	9.1	--	3.1
Hydromesic	--	--	--	--	--	--	--	--
Hydric	--	--	--	--	--	--	--	--
All classes	146.1	30.8	7.7	--	--	89.6	--	18.0
Eastern redcedar-hardwood								
Xeric	8.2	--	--	--	--	8.2	--	--
Xeromesic	10.7	--	--	--	--	6.7	1.5	2.5
Mesic	12.3	--	--	--	--	12.3	--	--
Hydromesic	11.0	--	4.9	--	--	--	--	6.1
Hydric	--	--	--	--	--	--	--	--
All classes	42.2	--	4.9	--	--	27.2	1.5	8.6
Oak-hickory								
Xeric	--	--	--	--	--	--	--	--
Xeromesic	--	--	--	--	--	--	--	--
Mesic	24.7	--	--	--	3.5	3.7	3.4	14.1
Hydromesic	--	--	--	--	--	--	--	--
Hydric	--	--	--	--	--	--	--	--
All classes	24.7	--	--	--	3.5	3.7	3.4	14.1
Bur oak								
Xeric	4.9	--	--	--	--	4.9	--	--
Xeromesic	10.1	--	--	--	--	7.2	--	2.9
Mesic	18.5	--	--	--	--	9.6	3.7	5.2
Hydromesic	3.9	--	--	--	--	3.9	--	--
Hydric	--	--	--	--	--	--	--	--
All classes	37.4	--	--	--	--	25.6	3.7	8.1
Elm-ash-cottonwood								
Xeric	--	--	--	--	--	--	--	--
Xeromesic	3.4	--	--	--	--	3.4	--	--
Mesic	60.3	--	3.4	--	--	56.9	--	--
Hydromesic	54.9	--	--	3.8	--	41.2	--	9.9
Hydric	3.4	--	--	--	--	3.4	--	--
All classes	122.0	--	3.4	3.8	--	104.9	--	9.9
Cottonwood								
Xeric	3.8	--	--	--	--	3.8	--	--
Xeromesic	--	--	--	--	--	--	--	--
Mesic	32.4	--	2.9	--	--	25.7	--	3.8
Hydromesic	43.2	--	2.9	--	2.8	35.1	--	2.4
Hydric	3.4	--	--	--	--	--	3.4	--
All classes	82.8	--	5.8	--	2.8	64.6	3.4	6.2
Lowland plains hardwoods								
Xeric	--	--	--	--	--	--	--	--
Xeromesic	8.3	--	--	--	--	3.4	--	4.9
Mesic	60.0	--	--	--	2.5	51.5	--	6.0
Hydromesic	8.2	--	--	--	--	8.2	--	--
Hydric	--	--	--	--	--	--	--	--
All classes	76.5	--	--	--	2.5	63.1	--	10.9
Nonstocked								
Xeric	2.3	--	--	--	--	2.3	--	--
Xeromesic	--	--	--	--	--	--	--	--
Mesic	--	--	--	--	--	--	--	--
Hydromesic	3.8	--	--	--	--	--	--	3.8
Hydric	--	--	--	--	--	--	--	--
All classes	6.1	--	--	--	--	2.3	--	3.8
All types								
Xeric	33.9	--	--	--	--	33.9	--	--
Xeromesic	144.0	30.8	--	--	--	86.5	1.5	25.2
Mesic	228.1	--	14.0	--	6.0	168.8	7.1	32.2
Hydromesic	125.0	--	7.8	3.8	2.8	88.4	--	22.2
Hydric	6.8	--	--	--	--	3.4	3.4	--
All classes	537.8	30.8	21.8	3.8	8.8	381.0	12.0	79.6

Table 27.--Area of noncommercial forest land by ownership class, Nebraska, 1983

(In thousand acres)

Ownership class	Total	Unproductive	Productive-reserved
National Forest	3.1	3.1	--
Miscellaneous federal	5.1	3.8	1.3
State	28.3	11.8	16.5
County and municipal	0.4	--	0.4
Indian	3.5	3.5	--
Farmer	104.7	104.7	--
Misc. private corporation	8.4	8.4	--
Misc. private individual	27.0	27.0	--
All owners	180.5	162.3	18.2

Table 28.--Area of noncommercial forest land by forest type and Forest Survey Unit, Nebraska, 1983

(In thousand acres)

Forest type	Total	Unproductive	Productive-reserved
ALL UNITS			
Ponderosa pine	29.5	24.7	4.8
Eastern redcedar-hardwood	32.7	30.4	2.3
Oak-hickory	3.3	3.3	--
Bur oak	25.8	25.8	--
Elm-ash-cottonwood	31.6	28.7	2.9
Cottonwood	46.8	38.6	8.2
Lowland plains hardwoods	10.8	10.8	--
Nonstocked	--	--	--
All types	180.5	162.3	18.2
EASTERN UNIT			
Ponderosa pine	--	--	--
Eastern redcedar-hardwood	22.3	22.3	--
Oak-hickory	--	--	--
Bur oak	3.5	3.5	--
Elm-ash-cottonwood	26.7	24.6	2.1
Cottonwood	39.7	31.5	8.2
Lowland plains hardwoods	10.8	10.8	--
Nonstocked	--	--	--
All types	103.0	92.7	10.3
WESTERN UNIT			
Ponderosa pine	29.5	24.7	4.8
Eastern redcedar-hardwood	10.4	8.1	2.3
Oak-hickory	3.3	3.3	--
Bur oak	22.3	22.3	--
Elm-ash-cottonwood	4.9	4.1	0.8
Cottonwood	7.1	7.1	--
Lowland plains hardwoods	--	--	--
Nonstocked	--	--	--
All types	77.5	69.6	7.9

Table 29.--Area of nonforest land with trees by land use, forest type, and Forest Survey Unit, Nebraska, 1983

(In thousand acres)

Land use	All types	Ponderosa pine	Eastern redcedar-hardwood	Oak-hickory	Bur oak	Elm-ash-cottonwood	Cottonwood	Lowland plains hardwoods	Nonstocked
ALL UNITS									
		Forest type							
Cropland	41.8	--	--	3.5	--	34.9	3.4	--	--
Improved pasture	582.5	161.3	79.4	6.8	13.9	215.0	78.7	10.2	17.2
Wooded strips	262.2	25.3	13.2	10.2	20.5	113.9	68.9	10.2	--
Marsh	7.8	--	--	--	--	7.8	--	--	--
Windbreaks	139.1	--	21.3	6.9	--	82.1	25.3	3.5	--
Wooded pasture	78.3	6.2	--	3.8	16.0	10.5	18.9	5.3	17.6
All uses	1,111.7	192.8	113.9	31.2	50.4	464.2	195.2	29.2	34.8
EASTERN UNIT									
Cropland	31.5	--	--	--	--	31.5	--	--	--
Improved pasture	221.6	--	38.7	3.4	--	135.2	34.1	10.2	--
Wooded strips	159.0	--	9.8	3.4	6.8	89.2	43.0	6.8	--
Marsh	2.3	--	--	--	--	2.3	--	--	--
Windbreaks	90.8	--	12.8	6.9	--	57.6	13.5	--	--
Wooded pasture	35.2	--	--	3.8	9.3	10.5	2.9	2.9	5.8
All uses	540.4	--	61.3	17.5	16.1	326.3	93.5	19.9	5.8
WESTERN UNIT									
Cropland	10.3	--	--	3.5	--	3.4	3.4	--	--
Improved pasture	360.9	161.3	40.7	3.4	13.9	79.8	44.6	--	17.2
Wooded strips	103.2	25.3	3.4	6.8	13.7	24.7	25.9	3.4	--
Marsh	5.5	--	--	--	--	5.5	--	--	--
Windbreaks	48.3	--	8.5	--	--	24.5	11.8	3.5	--
Wooded pasture	43.1	6.2	--	--	6.7	--	16.0	2.4	11.8
All uses	571.3	192.8	52.6	13.7	34.3	137.9	101.7	9.3	29.0

Table 30.--Area of nonforest land with trees by forest type and stand-size class, Nebraska, 1983

(In thousand acres)

Forest type	All stands	Stand-size class			
		Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked areas
Ponderosa pine	192.8	93.4	72.8	26.6	--
Eastern redcedar-hardwood	113.9	6.6	45.7	61.6	--
Oak-hickory	31.2	6.9	13.7	10.6	--
Bur oak	50.4	20.2	24.2	6.0	--
Elm-ash-cottonwood	464.2	149.6	240.8	73.8	--
Cottonwood	195.2	121.7	63.3	10.2	--
Lowland plains hardwoods	29.2	13.6	10.3	5.3	--
Nonstocked	34.8	--	--	--	34.8
All types	1,111.7	412.0	470.8	194.1	34.8

Table 31.--Area of windbreaks by forest type, stand-size class, and Forest Survey Unit, Nebraska, 1983

(In thousand acres)

Forest type	All stands	Stand-size class: Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked areas
ALL UNITS					
Ponderosa pine	--	--	--	--	--
Eastern redcedar-hardwood	21.3	--	12.9	8.4	--
Oak-hickory	6.9	3.4	3.5	--	--
Bur oak	--	--	--	--	--
Elm-ash-cottonwood	82.1	23.6	44.6	13.9	--
Cottonwood	25.3	18.5	6.8	--	--
Lowland plains hardwoods	3.5	--	3.5	--	--
Nonstocked	--	--	--	--	--
All types	139.1	45.5	71.3	22.3	--
EASTERN UNIT					
Ponderosa pine	--	--	--	--	--
Eastern redcedar-hardwood	12.8	--	9.4	3.4	--
Oak-hickory	6.9	3.4	3.5	--	--
Bur oak	--	--	--	--	--
Elm-ash-cottonwood	57.6	20.2	30.6	6.8	--
Cottonwood	13.5	10.1	3.4	--	--
Lowland plains hardwoods	--	--	--	--	--
Nonstocked	--	--	--	--	--
All types	90.8	33.7	46.9	10.2	--
WESTERN UNIT					
Ponderosa pine	--	--	--	--	--
Eastern redcedar-hardwood	8.5	--	3.5	5.0	--
Oak-hickory	--	--	--	--	--
Bur oak	--	--	--	--	--
Elm-ash-cottonwood	24.5	3.4	14.0	7.1	--
Cottonwood	11.8	8.4	3.4	--	--
Lowland plains hardwoods	3.5	--	3.5	--	--
Nonstocked	--	--	--	--	--
All types	48.3	11.8	24.4	12.1	--

Table 32.--Area of wooded strips by forest type, stand-size class, and ownership class, Nebraska, 1983

(In thousand acres)

Forest type and stand-size class	All classes	Ownership class						
		National Forest	State	County and municipal	Indian	Farmer	Misc. private coporation	Misc. private individual
Ponderosa pine								
Sawtimber	15.3	--	--	--	--	15.3	--	--
Poletimber	10.0	3.6	--	--	--	6.4	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	25.3	3.6	--	--	--	21.7	--	--
Eastern redcedar-hardwood								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	13.2	--	--	--	--	13.2	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	13.2	--	--	--	--	13.2	--	--
Oak-hickory								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	6.8	--	--	--	--	6.8	--	--
Sapling & seedling	3.4	--	--	--	--	--	--	3.4
All stands	10.2	--	--	--	--	6.8	--	3.4
Bur oak								
Sawtimber	6.8	--	3.4	--	--	3.4	--	--
Poletimber	13.7	--	--	--	--	13.7	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	20.5	--	3.4	--	--	17.1	--	--
Elm-ash-cottonwood								
Sawtimber	34.4	--	--	--	--	34.4	--	--
Poletimber	69.2	--	--	--	--	69.2	--	--
Sapling & seedling	10.3	--	--	--	--	10.3	--	--
All stands	113.9	--	--	--	--	113.9	--	--
Cottonwood								
Sawtimber	33.2	--	--	--	--	30.3	--	2.9
Poletimber	32.3	--	--	--	--	28.8	--	3.5
Sapling & seedling	3.4	--	--	--	--	3.4	--	--
All stands	68.9	--	--	--	--	62.5	--	6.4
Lowland plains hardwoods								
Sawtimber	3.4	--	--	--	--	3.4	--	--
Poletimber	6.8	--	--	--	--	3.4	--	3.4
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	10.2	--	--	--	--	6.8	--	3.4
Nonstocked	--	--	--	--	--	--	--	--
All types								
Sawtimber	93.1	--	3.4	--	--	86.8	--	2.9
Poletimber	152.0	3.6	--	--	--	141.5	--	6.9
Sapling & seedling	17.1	--	--	--	--	13.7	--	3.4
Nonstocked	--	--	--	--	--	--	--	--
All stands	262.2	3.6	3.4	--	--	242.0	--	13.2

Table 33.--Area of wooded strips by forest type and site-index class, Nebraska, 1983

(In thousand acres)

Forest type	All classes	Site-index class (feet)							
		21-30	31-40	41-50	51-60	61-70	71-80	81-90	91+
Ponderosa pine	25.3	--	--	--	2.7	17.4	5.2	--	--
Eastern redcedar-hardwood	13.2	--	13.2	--	--	--	--	--	--
Oak-hickory	10.2	--	--	--	3.4	6.8	--	--	--
Bur oak	20.5	--	3.4	3.4	13.7	--	--	--	--
Elm-ash-cottonwood	113.9	--	3.4	30.8	58.5	7.6	13.6	--	--
Cottonwood	68.9	--	--	13.6	27.6	24.8	2.9	--	--
Lowland plains hardwoods	10.2	--	--	--	--	3.4	6.8	--	--
Nonstocked	--	--	--	--	--	--	--	--	--
All types	262.2	--	20.0	47.8	105.9	60.0	28.5	--	--

Table 34.--Area of wooded strips by forest type, basal-area class, and Forest Survey Unit, Nebraska, 1983

(In thousand acres)

ALL UNITS

Forest type	All classes	Basal-area class (square feet per acre) 0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101+
Ponderosa pine	25.3	--	6.3	4.1	--	5.2	3.6	6.1	--	--	--	--
Eastern redcedar-hardwood	13.2	--	6.8	--	3.5	--	2.9	--	--	--	--	--
Oak-hickory	10.2	--	6.8	--	--	3.4	--	--	--	--	--	--
Bur oak	20.5	6.8	--	10.3	--	--	3.4	--	--	--	--	--
Elm-ash-cottonwood	113.9	17.1	24.2	17.3	9.5	14.4	14.4	3.4	6.8	3.4	3.4	--
Cottonwood	68.9	17.0	25.6	6.8	7.1	--	6.1	--	3.4	--	--	2.9
Lowland plains hardwoods	10.2	--	3.4	3.4	--	--	--	--	--	3.4	--	--
Nonstocked	--	--	--	--	--	--	--	--	--	--	--	--
All types	262.2	40.9	73.1	41.9	20.1	23.0	30.4	9.5	10.2	6.8	3.4	2.9

EASTERN UNIT

Ponderosa pine	--	--	--	--	--	--	--	--	--	--	--	--
Eastern redcedar-hardwood	9.8	--	3.4	--	3.5	--	2.9	--	--	--	--	--
Oak-hickory	3.4	--	3.4	--	--	--	--	--	--	--	--	--
Bur oak	6.8	--	--	3.4	--	--	3.4	--	--	--	--	--
Elm-ash-cottonwood	89.2	13.6	20.8	10.2	6.0	14.4	7.2	3.4	6.8	3.4	3.4	--
Cottonwood	43.0	13.6	10.2	3.4	3.4	--	6.1	--	3.4	--	--	2.9
Lowland plains hardwoods	6.8	--	3.4	--	--	--	--	--	--	3.4	--	--
Nonstocked	--	--	--	--	--	--	--	--	--	--	--	--
All types	159.0	27.2	41.2	17.0	12.9	14.4	19.6	3.4	10.2	6.8	3.4	2.9

WESTERN UNIT

Ponderosa pine	25.3	--	6.3	4.1	--	5.2	3.6	6.1	--	--	--	--
Eastern redcedar-hardwood	3.4	--	3.4	--	--	--	--	--	--	--	--	--
Oak-hickory	6.8	--	3.4	--	--	3.4	--	--	--	--	--	--
Bur oak	13.7	6.8	--	6.9	--	--	--	--	--	--	--	--
Elm-ash-cottonwood	24.7	3.5	3.4	7.1	3.5	--	7.2	--	--	--	--	--
Cottonwood	25.9	3.4	15.4	3.4	3.7	--	--	--	--	--	--	--
Lowland plains hardwoods	3.4	--	--	3.4	--	--	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--	--	--	--	--	--	--
All types	103.2	13.7	31.9	24.9	7.2	8.6	10.8	6.1	--	--	--	--

Table 35.--Area of wooded strips by forest type and stand-age class, Nebraska, 1983

(In thousand acres)

Forest type	All classes	Stand-age class (years) 21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101+
Ponderosa pine	25.3	--	--	--	--	10.0	--	--	11.2	4.1
Eastern redcedar-hardwood	13.2	--	3.4	--	3.5	--	2.9	3.4	--	--
Oak-hickory	10.2	--	3.4	6.8	--	--	--	--	--	--
Bur oak	20.5	--	--	--	--	3.4	13.7	--	--	3.4
Elm-ash-cottonwood	113.9	10.3	17.5	34.6	12.8	14.1	3.4	13.6	7.6	--
Cottonwood	68.9	--	--	13.6	13.7	21.5	16.7	3.4	--	--
Lowland plains hardwoods	10.2	--	3.4	--	3.4	--	--	3.4	--	--
Nonstocked	--	--	--	--	--	--	--	--	--	--
All types	262.2	10.3	27.7	55.0	33.4	49.0	36.7	23.8	18.8	7.5

Table 36.--Area of wooded strips by forest type, stand-size class, and ownership class, Nebraska, 1983

(In thousand acres)

Forest type and stand-size class	All classes	Ownership class						
		National Forest	State	County and municipal	Indian	Farmer	Misc. private coporation	Misc. private individual
Ponderosa pine								
Sawtimber	15.3	--	--	--	--	15.3	--	--
Poletimber	10.0	3.6	--	--	--	6.4	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	25.3	3.6	--	--	--	21.7	--	--
Eastern redcedar-hardwood								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	13.2	--	--	--	--	13.2	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	13.2	--	--	--	--	13.2	--	--
Oak-hickory								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	6.8	--	--	--	--	6.8	--	--
Sapling & seedling	3.4	--	--	--	--	--	--	3.4
All stands	10.2	--	--	--	--	6.8	--	3.4
Bur oak								
Sawtimber	6.8	--	3.4	--	--	3.4	--	--
Poletimber	13.7	--	--	--	--	13.7	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	20.5	--	3.4	--	--	17.1	--	--
Elm-ash-cottonwood								
Sawtimber	34.4	--	--	--	--	34.4	--	--
Poletimber	69.2	--	--	--	--	69.2	--	--
Sapling & seedling	10.3	--	--	--	--	10.3	--	--
All stands	113.9	--	--	--	--	113.9	--	--
Cottonwood								
Sawtimber	33.2	--	--	--	--	30.3	--	2.9
Poletimber	32.3	--	--	--	--	28.8	--	3.5
Sapling & seedling	3.4	--	--	--	--	3.4	--	--
All stands	68.9	--	--	--	--	62.5	--	6.4
Lowland plains hardwoods								
Sawtimber	3.4	--	--	--	--	3.4	--	--
Poletimber	6.8	--	--	--	--	3.4	--	3.4
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	10.2	--	--	--	--	6.8	--	3.4
Nonstocked	--	--	--	--	--	--	--	--
All types								
Sawtimber	93.1	--	3.4	--	--	86.8	--	2.9
Poletimber	152.0	3.6	--	--	--	141.5	--	6.9
Sapling & seedling	17.1	--	--	--	--	13.7	--	3.4
Nonstocked	--	--	--	--	--	--	--	--
All stands	262.2	3.6	3.4	--	--	242.0	--	13.2

Table 37.--Area of wooded strips in private ownership by ownership class, owner tenure, and size of holding, Nebraska, 1983

(In thousand acres)

Ownership class and owner tenure	All sizes	Size of holding (acres) 1-5	5-10	10-20	20-50	50+
ALL UNITS						
Farmer						
1-4 years	214.2	63.9	79.0	54.3	17.0	--
5-9 years	--	--	--	--	--	--
10-19 years	3.5	--	--	--	3.5	--
20+ years	24.3	7.2	5.3	--	11.8	--
Total	242.0	71.1	84.3	54.3	32.3	--
Miscellaneous private corporation						
1-4 years	--	--	--	--	--	--
5-9 years	--	--	--	--	--	--
10-19 years	--	--	--	--	--	--
20+ years	--	--	--	--	--	--
Total	--	--	--	--	--	--
Miscellaneous private individual						
1-4 years	9.8	--	6.4	3.4	--	--
5-9 years	--	--	--	--	--	--
10-19 years	3.4	--	--	3.4	--	--
20+ years	--	--	--	--	--	--
Total	13.2	--	6.4	6.8	--	--
All owners						
1-4 years	224.0	63.9	85.4	57.7	17.0	--
5-9 years	--	--	--	--	--	--
10-19 years	6.9	--	--	3.4	3.5	--
20+ years	24.3	7.2	5.3	--	11.8	--
Total	255.2	71.1	90.7	61.1	32.3	--
EASTERN UNIT						
Farmer						
1-4 years	139.8	41.1	64.5	24.0	10.2	--
5-9 years	--	--	--	--	--	--
10-19 years	--	--	--	--	--	--
20+ years	9.4	3.4	2.6	--	3.4	--
Total	149.2	44.5	67.1	24.0	13.6	--
Miscellaneous private corporation						
1-4 years	--	--	--	--	--	--
5-9 years	--	--	--	--	--	--
10-19 years	--	--	--	--	--	--
20+ years	--	--	--	--	--	--
Total	--	--	--	--	--	--
Miscellaneous private individual						
1-4 years	9.8	--	6.4	3.4	--	--
5-9 years	--	--	--	--	--	--
10-19 years	--	--	--	--	--	--
20+ years	--	--	--	--	--	--
Total	9.8	--	6.4	3.4	--	--
All owners						
1-4 years	149.6	41.1	70.9	27.4	10.2	--
5-9 years	--	--	--	--	--	--
10-19 years	--	--	--	--	--	--
20+ years	9.4	3.4	2.6	--	3.4	--
Total	159.0	44.5	73.5	27.4	13.6	--

(Table 37 continued on next page)

(Table 37 continued)

WESTERN UNIT

Ownership class and owner tenure	All sizes	Size of holding (acres) 1-5	5-10	10-20	20-50	50+
Farmer						
1-4 years	74.4	22.8	14.5	30.3	6.8	--
5-9 years	--	--	--	--	--	--
10-19 years	3.5	--	--	--	3.5	--
20+ years	14.9	3.8	2.7	--	8.4	--
Total	92.8	26.6	17.2	30.3	18.7	--
Miscellaneous private corporation						
1-4 years	--	--	--	--	--	--
5-9 years	--	--	--	--	--	--
10-19 years	--	--	--	--	--	--
20+ years	--	--	--	--	--	--
Total	--	--	--	--	--	--
Miscellaneous private individual						
1-4 years	--	--	--	--	--	--
5-9 years	--	--	--	--	--	--
10-19 years	3.4	--	--	3.4	--	--
20+ years	--	--	--	--	--	--
Total	3.4	--	--	3.4	--	--
All owners						
1-4 years	74.4	22.8	14.5	30.3	6.8	--
5-9 years	--	--	--	--	--	--
10-19 years	6.9	--	--	3.4	3.5	--
20+ years	14.9	3.8	2.7	--	8.4	--
Total	96.2	26.6	17.2	33.7	18.7	--

Table 38.--Number of all live trees on commercial forest land by species group and diameter class, Nebraska, 1983

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height) 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	23.0-28.9	29.0-38.9	39.0+
Softwoods															
Ponderosa pine	38,729	13,053	8,083	5,980	4,117	2,651	2,058	1,304	698	500	175	59	51	--	--
Eastern redcedar	20,274	11,809	4,533	2,209	1,210	316	144	37	--	16	--	--	--	--	--
Rocky mountain juniper	149	--	--	--	96	29	24	--	--	--	--	--	--	--	--
Total	59,152	24,862	12,616	8,189	5,423	2,996	2,226	1,341	698	516	175	59	51	--	--
Hardwoods															
White oak	15,475	2,675	5,271	2,759	1,528	1,315	768	464	317	105	134	58	59	22	--
Red oak	1,194	341	341	52	89	136	109	77	26	5	6	4	6	2	--
Hickory	4,505	2,046	1,385	562	324	127	42	15	--	--	--	4	--	--	--
Basswood	3,289	2,557	--	134	117	105	133	123	50	29	25	10	4	--	2
Soft maple	2,315	682	341	323	463	320	68	78	24	--	6	--	10	--	--
Boxelder	9,031	5,054	1,087	678	539	734	381	236	175	80	35	16	16	--	--
Elm	19,357	9,523	5,977	2,222	859	467	167	70	49	9	6	4	--	4	--
Green ash	16,905	9,519	1,860	2,432	1,210	599	550	328	184	81	48	25	49	20	--
Cottonwood	10,725	2,717	1,421	1,545	636	837	540	820	596	499	326	229	353	156	50
Black willow	2,438	245	580	270	423	507	190	55	58	60	21	16	13	--	--
Hackberry	10,241	5,216	2,097	1,142	847	339	312	103	49	62	25	15	30	4	--
Black walnut	2,634	1,121	377	351	322	228	142	23	37	23	6	4	--	--	--
Other hardwoods	11,277	5,338	2,963	1,729	552	257	191	104	57	46	18	5	17	--	--
Noncommercial species	7,393	6,446	375	312	11	92	80	28	11	7	26	5	--	--	--
Total	116,779	53,480	24,075	14,511	7,920	6,063	3,673	2,524	1,633	1,006	682	395	557	208	52
All species	175,931	78,342	36,691	22,700	13,343	9,059	5,899	3,865	2,331	1,522	857	454	608	208	52

Table 39.--Number of growing-stock trees on commercial forest land by species group and diameter class, Nebraska, 1983

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height) 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	23.0-28.9	29.0-38.9	39.0+
Softwoods															
Ponderosa pine	32,421	11,849	6,305	4,204	3,309	2,221	1,836	1,270	680	489	152	59	47	--	--
Eastern redcedar	18,722	11,658	3,847	1,905	942	235	109	10	--	16	--	--	--	--	--
Total	51,143	23,507	10,152	6,109	4,251	2,456	1,945	1,280	680	505	152	59	47	--	--
Hardwoods															
White oak	10,395	2,675	3,336	1,373	878	873	480	373	208	40	77	38	26	18	--
Red oak	1,100	341	341	52	47	136	94	53	16	5	6	4	3	2	--
Hickory	4,292	2,046	1,385	419	324	76	23	15	--	--	--	4	--	--	--
Basswood	3,031	2,557	--	70	69	69	93	104	34	15	10	4	4	--	2
Soft maple	1,932	682	341	323	318	138	68	42	8	--	6	--	6	--	--
Boxelder	2,879	1,826	375	145	131	224	81	45	28	13	11	--	--	--	--
Elm	16,744	9,188	5,003	1,414	572	359	122	58	13	9	--	4	--	2	--
Green ash	14,148	9,519	1,368	1,149	794	318	424	241	151	66	44	20	49	5	--
Cottonwood	8,945	1,967	1,046	1,545	595	599	414	728	568	456	308	219	333	132	35
Black willow	2,081	245	580	126	350	458	176	33	43	33	12	16	9	--	--
Hackberry	9,789	5,216	2,097	1,031	693	317	191	103	36	54	18	15	14	4	--
Black walnut	2,409	1,121	377	295	315	180	77	--	19	15	6	4	--	--	--
Other hardwoods	8,109	4,963	1,832	812	150	194	70	27	40	7	6	--	8	--	--
Total	85,854	42,346	18,081	8,754	5,236	3,941	2,313	1,822	1,164	713	504	328	452	163	37
All species	136,997	65,853	28,233	14,863	9,487	6,397	4,258	3,102	1,844	1,218	656	387	499	163	37

Table 40.--Number of short-log trees on commercial forest land by species group and diameter class, Nebraska, 1983

(In thousand trees)

Species group	All classes	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	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
Softwoods											
Ponderosa pine	367	171	148	24	18	6	--	--	--	--	--
Eastern redcedar	93	45	35	13	--	--	--	--	--	--	--
Total	460	216	183	37	18	6	--	--	--	--	--
Hardwoods											
White oak	309	--	132	72	52	14	23	11	5	--	--
Red oak	37	--	15	12	10	--	--	--	--	--	--
Hickory	--	--	--	--	--	--	--	--	--	--	--
Basswood	26	--	24	--	--	2	--	--	--	--	--
Soft maple	48	--	--	36	8	--	--	--	4	--	--
Boxelder	94	--	49	--	29	8	8	--	--	--	--
Elm	50	--	19	12	17	--	--	--	--	2	--
Green ash	176	--	85	49	27	15	--	--	--	--	--
Cottonwood	215	--	63	68	--	24	18	7	14	16	5
Black willow	35	--	14	--	15	6	--	--	--	--	--
Hackberry	106	--	74	--	13	--	7	--	12	--	--
Black walnut	41	--	31	--	10	--	--	--	--	--	--
Other hardwoods	58	--	34	13	--	8	--	--	3	--	--
Total	1,195	--	540	262	181	77	56	18	38	18	5
All species	1,655	216	723	299	199	83	56	18	38	18	5

Table 41.--Net volume of growing stock on commercial forest land by species group, Nebraska, 1955 and 1983[1/]

(In thousand cubic feet)

Species group	Growing stock 1955	1983
Softwoods		
Ponderosa pine	79,800	160,316
Eastern redcedar	3,800	9,940
Jack pine	1,000	--
Total	84,600	170,256
Hardwoods		
White oak	31,900	39,400
Red oak	3,400	5,167
Hickory	1,400	4,135
Basswood	5,800	5,992
Soft maple	1,700	5,381
Boxelder	1,600	5,294
Elm	51,300	12,413
Green ash	27,800	25,900
Cottonwood	140,100	142,218
Black willow	6,400	11,060
Hackberry	6,500	16,516
Black walnut	3,400	5,131
Other hardwoods	4,300	7,148
Total	285,600	285,755
All species	370,200	456,011

[1/] Figures have been adjusted from those published after the 1955 survey to conform to 1983 areas because of changes in survey definitions and procedures.

Table 42.--Net volume of all live trees on commercial forest land by species group and diameter class, Nebraska, 1983

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 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	23.0-28.9	29.0-38.9	39.0+
Softwoods													
Ponderosa pine	172,362	15,009	19,942	23,317	29,511	29,613	21,561	19,080	7,713	3,359	3,257	--	--
Eastern redcedar	12,271	3,839	4,559	2,091	1,249	250	--	283	--	--	--	--	--
Rocky mountain juniper	698	--	386	162	150	--	--	--	--	--	--	--	--
Total	185,331	18,848	24,887	25,570	30,910	29,863	21,561	19,363	7,713	3,359	3,257	--	--
Hardwoods													
White oak	63,269	10,205	8,459	8,876	7,436	6,629	5,982	2,425	4,248	2,690	3,508	2,811	--
Red oak	6,131	253	395	1,167	1,415	1,340	541	176	274	169	209	192	--
Hickory	4,622	1,272	1,639	946	326	278	--	--	--	161	--	--	--
Basswood	7,731	202	436	736	1,640	1,930	915	656	606	341	155	--	114
Soft maple	8,148	730	2,059	2,213	788	1,076	419	--	303	--	560	--	--
Boxelder	17,903	2,010	2,188	4,313	2,676	2,080	1,800	1,288	1,015	246	287	--	--
Elm	17,769	5,512	3,585	3,613	1,915	1,183	956	323	94	181	--	407	--
Green ash	34,448	5,366	4,121	2,853	4,291	3,973	3,026	2,252	1,848	1,065	4,207	1,446	--
Cottonwood	148,967	3,380	2,338	4,951	4,784	10,769	10,929	12,598	11,631	11,056	28,583	27,531	20,417
Black willow	12,546	667	1,662	3,043	2,036	620	1,226	1,170	542	1,060	520	--	--
Hackberry	19,807	2,592	3,310	2,174	2,742	1,344	826	1,828	954	1,171	2,107	759	--
Black walnut	6,521	706	1,230	1,388	1,419	110	600	611	318	139	--	--	--
Other hardwoods	15,771	4,852	2,705	1,824	1,831	1,032	1,152	719	521	91	1,044	--	--
Noncommercial species	3,372	1,084	55	460	694	225	188	101	462	103	--	--	--
Total	367,005	38,831	34,182	38,557	33,993	32,589	28,560	24,147	22,816	18,473	41,180	33,146	20,531
All species	552,336	57,679	59,069	64,127	64,903	62,452	50,121	43,510	30,529	21,832	44,437	33,146	20,531

Table 43.--Net volume of timber on commercial forest land by class of timber and softwoods and hardwoods, Nebraska, 1983

(In thousand cubic feet)

Class of timber	All species	Softwoods	Hardwoods
LIVE TREES			
Growing-stock trees			
Sawtimber			
Saw log portion	291,381	131,017	160,364
Upper stem portion	61,667	5,053	56,614
Subtotal	353,048	136,070	216,978
Poletimber	102,963	34,186	68,777
Total growing stock	456,011	170,256	285,755
Cull trees			
Rough and rotten cull trees			
Sawtimber	24,498	2,841	21,657
Poletimber	52,342	9,549	42,793
Subtotal	76,840	12,390	64,450
Short-log trees	19,485	2,685	16,800
Total cull	96,325	15,075	81,250
TOTAL LIVE TREES	552,336	185,331	367,005
SALVABLE DEAD TREES	9,295	1,316	7,979
ALL CLASSES	561,631	186,647	374,984

Table 44.--Net volume of growing stock, sawtimber, short-log, and rough and rotten trees on commercial forest land by individual species, Nebraska, 1983

Species	Total all live	Growing stock	Short-log cull	Rough and rotten cull	Total all live	Sawtimber	Short-log
	Thousand cubic feet				Thousand board feet[1]		
Softwoods							
Ponderosa pine	172,362	160,316	2,198	9,848	807,240	781,654	25,586
Eastern redcedar	12,271	9,940	487	1,844	23,278	18,000	5,278
Rocky mountain juniper	698	--	--	698	--	--	--
Total	185,331	170,256	2,685	12,390	830,518	799,654	30,864
Hardwoods							
White oak	2,128	1,967	161	--	9,763	9,054	709
Bur oak	60,567	36,859	4,496	19,212	127,033	112,770	14,263
Chinkapin oak	461	461	--	--	--	--	--
Post oak	113	113	--	--	565	565	--
Northern red oak	5,097	4,596	205	296	16,309	15,614	695
Black oak	1,034	571	350	113	2,135	953	1,182
Shagbark hickory	2,929	2,629	--	300	652	652	--
Bitternut hickory	1,693	1,506	--	187	2,711	2,711	--
American basswood	7,731	5,992	321	1,418	26,914	25,795	1,119
Red maple	239	131	108	--	258	--	258
Silver maple	7,909	5,250	540	2,119	13,021	11,301	1,720
American elm	13,575	9,768	503	3,304	15,584	14,178	1,406
Siberian elm	1,476	725	136	615	798	365	433
Slippery elm	2,416	1,802	--	614	2,849	2,849	--
Rock elm	302	118	--	184	--	--	--
Green ash	34,448	25,900	1,731	6,817	94,704	89,308	5,396
Eastern cottonwood	148,967	142,218	4,112	2,637	520,930	510,947	9,983
Black willow	12,546	11,060	424	1,062	32,783	31,457	1,326
Hackberry	19,807	16,516	1,404	1,887	48,578	44,675	3,903
Paper birch	577	577	--	--	1,058	1,058	--
Black walnut	6,521	5,131	263	1,127	11,850	11,030	820
Boxelder	17,903	5,294	1,271	11,338	16,763	12,823	3,940
Texas buckeye	1,240	882	89	269	826	545	281
Northern catalpa	225	--	--	225	--	--	--
Honeylocust	2,927	2,155	403	369	8,738	7,495	1,243
Kentucky coffeetree	1,740	1,616	--	124	4,054	4,054	--
Osage-orange	1,249	--	--	1,249	--	--	--
Black locust	91	--	--	91	--	--	--
White mulberry	7,722	1,918	283	5,521	2,833	2,020	813
Total[2]	363,633	285,755	16,800	61,078	961,709	912,219	49,490
All species	548,964	456,011	19,485	73,468	1,792,227	1,711,873	80,354

[1] International 1/4-inch rule.

[2] Does not include noncommercial species. See Table 45 for volumes of noncommercial species.

Table 45.--Net volume of noncommercial species (nongrowing-stock volume) on commercial forest land by individual species, Nebraska, 1983

(In thousand cubic feet)

Species	Nongrowing-stock (rough tree) volume
Peachleaf willow	158
Diamond willow	2,075
Eastern hophornbeam	1,139
All species	3,372

Table 46.--Net volume of growing stock on commercial forest land, by species group and Forest Survey Unit, Nebraska, 1983

(In thousand cubic feet)

Species group	All Units	Forest Survey Unit	
		Eastern Unit	Western Unit
Softwoods			
Ponderosa pine	160,316	--	160,316
Eastern redcedar	9,940	6,172	3,768
Total	170,256	6,172	164,084
Hardwoods			
White oak	39,400	28,691	10,709
Red oak	5,167	5,167	--
Hickory	4,135	4,135	--
Basswood	5,992	5,159	833
Soft maple	5,381	5,381	--
Boxelder	5,294	4,872	422
Elm	12,413	11,317	1,096
Green ash	25,900	19,768	6,132
Cottonwood	142,218	100,334	41,884
Black willow	11,060	7,846	3,214
Hackberry	16,516	15,617	899
Black walnut	5,131	4,917	214
Other hardwoods	7,148	6,372	776
Total	285,755	219,576	66,179
All species	456,011	225,748	230,263

Table 47.--Net volume of sawtimber on commercial forest land, by species group and Forest Survey Unit, Nebraska, 1983

(In thousand board feet)[1/]

Species group	All Units	Forest Survey Unit	
		Eastern Unit	Western Unit
Softwoods			
Ponderosa pine	781,654	--	781,654
Eastern redcedar	18,000	10,044	7,956
Total	799,654	10,044	789,610
Hardwoods			
White oak	122,389	90,110	32,279
Red oak	16,567	16,567	--
Hickory	3,363	3,363	--
Basswood	25,795	22,650	3,145
Soft maple	11,301	11,301	--
Boxelder	12,823	12,823	--
Elm	17,392	16,679	713
Green ash	89,308	73,619	15,689
Cottonwood	510,947	350,427	160,520
Black willow	31,457	23,232	8,225
Hackberry	44,675	42,958	1,717
Black walnut	11,030	10,239	791
Other hardwoods	15,172	14,114	1,058
Total	912,219	688,082	224,137
All species	1,711,873	698,126	1,013,747

[1/] International 1/4-inch rule.

Table 48.--Net volume of growing stock on commercial forest land by county and species group, Nebraska, 1983

(In thousand cubic feet)

EASTERN UNIT

County	All species	Species group														
		Ponderosa pine	Eastern redcedar	Oak	Hickory	Basswood	Soft maple	Elm	Ash	Cotton-wood	Willow	Boxelder	Hackberry	Black walnut	Other hardwoods
Adams	1,870	--	39	369	42	25	51	118	202	696	51	31	154	53	39
Boone	1,840	--	11	440	48	29	66	151	211	541	51	48	146	44	54
Buffalo	5,449	--	362	201	29	57	92	160	371	3,369	203	96	298	80	131
Burt	3,627	--	85	992	102	70	55	177	302	1,230	66	75	247	88	138
Butler	3,307	--	62	390	72	65	110	195	255	1,575	140	71	206	79	87
Cass	11,278	--	303	1,288	158	194	332	638	1,130	5,297	434	226	802	198	278
Cedar	3,773	--	97	1,184	82	128	41	227	369	890	49	133	332	72	169
Clay	1,338	--	29	289	40	17	23	59	134	523	30	15	100	50	29
Colfax	2,512	--	33	378	75	37	45	61	245	1,162	101	55	160	86	74
Cuming	5,627	--	168	632	82	125	154	293	425	2,848	214	102	340	85	159
Custer	8,068	--	209	1,384	158	322	120	269	962	3,105	245	306	616	164	208
Dakota	4,775	--	87	1,165	109	74	109	256	465	1,657	137	103	387	86	140
Dawson	3,682	--	295	247	40	25	38	61	184	2,348	98	51	145	68	82
Dixon	4,756	--	101	1,857	110	100	22	307	426	819	31	141	444	113	285
Dodge	5,700	--	241	289	32	107	130	242	457	3,244	244	99	376	87	152
Douglas	5,359	--	57	1,613	166	68	131	364	402	1,570	124	107	407	142	208
Fillmore	619	--	14	60	6	13	17	32	96	264	24	18	52	9	14
Franklin	2,671	--	46	611	61	44	61	149	288	937	71	58	201	56	88
Frontier	1,046	--	12	248	28	18	34	77	68	374	34	23	72	25	33
Furnas	2,999	--	140	186	27	48	72	124	207	1,729	121	52	172	43	78
Gage	5,725	--	46	1,520	153	90	161	385	759	1,561	134	146	489	120	161
Gosper	320	--	6	37	6	7	8	9	29	150	15	10	23	11	9
Greeley	186	--	5	17	3	9	3	6	15	81	9	12	16	5	5
Hall	3,353	--	211	136	13	59	62	106	206	2,112	120	50	170	28	80
Hamilton	1,466	--	49	162	32	33	26	39	121	764	54	32	84	34	36
Harlan	2,095	--	30	251	57	20	40	51	205	1,020	97	46	142	75	61
Hitchcock	2,441	--	24	428	64	35	83	176	255	921	82	47	193	77	56
Howard	2,738	--	42	317	69	37	53	70	263	1,321	129	71	188	96	82
Jefferson	8,662	--	152	1,341	155	200	232	474	1,257	3,234	281	247	734	166	189
Johnson	6,327	--	131	704	111	122	198	409	584	2,870	254	139	473	171	161
Kearney	98	--	2	3	1	--	4	3	9	51	6	3	8	4	4
Lancaster	4,684	--	103	457	80	82	158	304	379	2,272	200	92	320	115	122
Madison	1,633	--	23	206	44	21	31	39	160	785	74	37	108	58	47
Merrick	3,629	--	265	257	35	49	59	115	182	2,222	99	56	157	49	84
Nance	6,834	--	171	635	117	103	204	353	534	3,478	309	142	440	159	189
Nemaha	5,927	--	85	839	168	89	109	147	573	2,764	250	137	388	204	174
Nuckolls	4,195	--	183	289	42	78	125	232	265	2,334	167	77	239	57	107
Otoe	8,306	--	163	1,032	197	134	307	556	590	3,930	334	163	490	204	206
Pawnee	6,347	--	274	400	51	115	170	310	474	3,514	264	129	393	89	164
Phelps	415	--	14	118	7	6	5	22	25	148	9	6	32	5	18
Pierce	1,167	--	30	83	17	37	21	38	99	545	66	55	100	38	38
Platte	4,076	--	114	379	54	81	142	261	283	2,083	175	78	257	61	108
Polk	2,003	--	89	179	21	41	33	54	250	1,043	62	40	128	22	41
Red Willow	3,020	--	105	222	34	55	89	160	218	1,631	131	58	187	49	81
Richardson	7,030	--	101	866	189	74	136	170	688	3,408	324	155	466	249	204
Saline	5,535	--	135	507	88	99	198	366	396	2,773	248	114	355	107	149
Sarpy	4,878	--	107	1,590	121	56	89	339	370	1,283	82	107	407	108	219
Saunders	6,137	--	331	297	47	82	135	238	392	3,635	250	120	351	100	159
Seward	3,989	--	70	436	80	67	148	289	320	1,845	165	81	276	110	102

(Table 48 continued on next page)

(Table 48 continued)

County	All species	Species group: Ponderosa pine	Eastern redcedar	Oak	Hickory	Basswood	Soft maple	Elm	Ash	Cotton-wood	Willow	Boxelder	Hackberry	Black walnut	Other hardwoods
Sherman	1,673	--	72	153	24	21	29	49	126	929	63	28	98	34	47
Stanton	2,656	--	93	149	13	52	44	132	394	1,214	93	59	264	92	57
Thayer	2,452	--	46	190	45	11	51	72	231	1,242	135	67	189	90	83
Thurston	8,887	--	218	1,840	125	1,387	112	410	509	3,106	209	121	525	161	164
Valley	670	--	14	51	11	14	13	20	61	327	37	23	54	23	22
Washington	8,247	--	116	2,921	258	106	171	514	582	2,134	156	154	672	171	292
Wayne	1,149	--	10	372	43	14	19	53	91	359	22	16	77	32	41
Webster	5,699	--	128	604	85	96	186	343	612	2,641	232	125	409	98	140
York	803	--	23	47	8	11	24	43	62	426	41	19	58	17	24
Total	225,748	--	6,172	33,858	4,135	5,159	5,381	11,317	19,768	100,334	7,846	4,872	15,617	4,917	6,372
WESTERN UNIT															
Antelope	7,718	1,206	257	1,178	--	35	--	85	630	3,930	241	21	67	11	57
Arthur	352	--	3	8	--	--	--	--	12	282	42	--	5	--	--
Banner	3,050	3,050	--	--	--	--	--	--	--	--	--	--	--	--	--
Blaine	994	74	26	211	--	8	--	5	104	530	15	3	9	1	8
Box Butte	54	--	--	--	--	--	--	2	10	35	7	--	--	--	--
Boyd	6,268	2,143	216	522	--	10	--	102	425	2,477	270	27	40	8	28
Brown	7,273	3,367	284	881	--	210	--	25	355	1,746	87	59	91	42	126
Chase	206	--	5	4	--	--	--	--	6	166	22	--	3	--	--
Cherry	9,903	5,483	265	808	--	16	--	55	356	2,564	207	41	46	13	49
Cheyenne	189	--	--	--	--	--	--	--	42	147	--	--	--	--	--
Dawes	52,487	49,846	29	101	--	4	--	52	149	2,009	260	--	34	--	3
Deuel	159	--	7	--	--	--	--	4	19	116	13	--	--	--	--
Dundy	1,254	64	25	105	--	3	--	19	87	851	81	6	11	--	2
Garden	529	215	19	4	--	--	--	--	5	263	21	--	2	--	--
Garfield	1,316	407	31	145	--	4	--	1	64	600	43	3	11	1	6
Grant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hayes	587	275	13	14	--	--	--	14	39	206	22	3	--	--	1
Holt	14,248	4,324	596	1,632	--	32	--	130	883	5,856	494	69	120	23	89
Hooker	569	106	16	115	--	3	--	--	49	252	7	13	4	--	4
Keith	2,571	--	70	52	--	1	--	104	174	1,956	194	--	19	--	1
Keya Paha	10,957	6,025	430	1,121	--	17	--	64	439	2,465	194	48	51	24	79
Kimball	397	397	--	--	--	--	--	--	--	--	--	--	--	--	--
Knox	15,989	3,957	681	2,178	--	446	--	106	1,059	6,474	435	55	254	82	262
Lincoln	3,915	415	322	126	--	--	--	127	284	2,428	166	6	41	--	--
Logan	515	231	48	85	--	1	--	10	26	90	4	6	9	1	4
Loup	502	37	12	94	--	3	--	5	58	267	16	3	4	--	3
McPherson	200	63	3	33	--	1	--	--	14	79	2	3	1	--	1
Morrill	1,125	109	58	--	--	--	--	45	95	764	54	--	--	--	--
Perkins	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rock	3,216	1,063	140	454	--	11	--	34	195	1,179	67	18	28	5	22
Scotts Bluff	1,601	146	92	4	--	--	--	26	70	1,201	60	--	2	--	--
Sheridan	34,562	33,319	22	143	--	4	--	22	133	802	89	8	12	1	7
Sioux	41,945	40,608	47	201	--	6	--	47	127	798	68	21	12	2	8
Thomas	3,739	3,229	17	125	--	4	--	--	52	293	4	6	5	--	4
Wheeler	1,873	157	34	365	--	14	--	12	171	1,058	29	3	18	--	12
Total	230,263	160,316	3,768	10,709	--	833	--	1,096	6,132	41,884	3,214	422	899	214	776
All Units	456,011	160,316	9,940	44,567	4,135	5,992	5,381	12,413	25,900	142,218	11,060	5,294	16,516	5,131	7,148

Table 49.--Net volume of sawtimber on commercial forest land by county and species group, Nebraska, 1983

(In thousand board feet)[1/]

EASTERN UNIT

County	All species	Species group: Ponderosa pine	Eastern redcedar	Oak	Hickory	Basswood	Soft maple	Elm	Ash	Cotton-wood	Willow	Boxelder	Hackberry	Black walnut	Other hardwoods
Adams	5,708	--	58	1,188	30	105	107	146	789	2,354	184	98	429	151	69
Boone	5,478	--	12	1,296	55	137	138	222	900	1,732	226	184	344	122	110
Buffalo	16,956	--	615	833	30	270	228	220	1,246	11,611	501	175	881	73	273
Burt	10,661	--	110	2,762	95	308	77	262	1,222	4,166	218	262	611	206	362
Butler	10,288	--	99	1,344	47	289	228	295	918	5,490	446	179	590	191	172
Cass	35,726	--	448	4,398	172	909	777	865	4,375	18,765	1,297	563	2,202	483	472
Cedar	11,292	--	164	3,343	137	650	90	282	1,513	3,124	162	467	814	116	430
Clay	3,992	--	42	883	11	65	29	69	500	1,758	95	43	283	144	70
Colfax	7,614	--	65	1,110	6	137	44	129	864	4,059	274	127	409	166	224
Cuming	17,959	--	226	2,173	95	577	354	398	1,565	10,272	586	208	994	222	289
Custer	25,652	--	499	4,412	73	1,588	222	374	3,673	10,988	649	888	1,478	260	548
Dakota	14,731	--	120	3,641	98	348	241	358	1,841	5,809	432	310	1,047	181	305
Dawson	10,869	--	533	659	7	108	61	110	591	7,742	255	107	411	90	195
Dixon	13,477	--	94	4,848	230	499	33	382	1,784	2,944	98	534	1,092	164	775
Dodge	18,490	--	368	1,268	57	507	336	281	1,553	11,817	576	134	1,166	158	269
Douglas	15,566	--	32	4,638	169	293	242	536	1,602	5,239	485	386	1,091	338	515
Fillmore	2,013	--	26	209	8	63	41	43	387	946	71	54	122	17	26
Franklin	8,132	--	51	1,775	64	199	122	215	1,187	3,273	230	187	494	134	201
Frontier	3,116	--	17	755	27	83	71	113	251	1,258	128	74	204	65	70
Furnas	9,548	--	226	732	31	226	172	171	708	6,138	315	89	521	78	141
Gage	17,332	--	50	4,519	147	423	330	563	3,263	5,140	561	551	1,118	323	344
Gosper	988	--	16	115	--	31	9	17	93	536	40	23	64	15	29
Greeley	600	--	17	72	--	49	7	8	39	293	24	26	46	3	16
Hall	10,677	--	347	618	27	282	164	128	693	7,384	273	67	528	37	129
Hamilton	4,565	--	90	537	5	148	42	64	421	2,658	141	70	231	65	93
Harlan	6,369	--	62	751	--	64	49	110	696	3,589	258	97	376	126	191
Hitchcock	7,421	--	31	1,383	45	153	168	240	995	3,099	306	149	528	217	107
Howard	8,376	--	100	977	--	147	68	142	869	4,663	342	153	516	149	250
Jefferson	27,636	--	282	4,427	126	971	516	645	5,167	11,330	910	767	1,734	407	354
Johnson	19,692	--	213	2,479	96	575	439	533	2,115	9,991	795	354	1,377	423	302
Kearney	300	--	6	11	--	--	5	6	24	187	16	6	26	2	11
Lancaster	14,673	--	155	1,655	73	375	352	414	1,350	8,003	622	214	953	290	217
Madison	4,978	--	50	622	--	75	36	84	543	2,758	197	82	287	99	145
Merrick	11,070	--	460	867	33	234	131	161	624	7,462	267	124	461	85	161
Nance	21,367	--	277	2,243	80	461	435	532	1,842	12,281	901	310	1,290	314	401
Nemaha	18,021	--	175	2,492	10	337	118	307	1,984	9,691	672	316	1,014	370	535
Nuckolls	13,331	--	293	1,170	63	374	307	314	928	8,212	487	159	735	130	159
Otoe	25,381	--	256	3,491	141	585	632	850	2,184	13,298	1,173	455	1,389	548	379
Pawnee	20,287	--	450	1,627	79	558	422	414	1,666	12,486	718	259	1,176	152	280
Phelps	1,277	--	14	350	14	28	15	25	96	555	19	16	97	7	41
Pierce	3,694	--	91	338	--	192	45	59	260	1,981	167	128	298	21	114
Platte	13,012	--	163	1,471	72	386	340	356	1,007	7,417	528	166	792	157	157
Polk	6,497	--	145	609	13	191	75	72	1,013	3,710	146	97	300	49	77
Red Willow	9,644	--	161	870	41	255	213	219	755	5,847	366	110	567	99	141
Richardson	21,375	--	205	2,590	--	243	158	364	2,347	11,979	857	329	1,242	427	634
Saline	17,456	--	200	1,906	96	468	457	520	1,399	9,796	775	265	1,070	253	251
Sarpy	14,070	--	114	4,461	188	268	188	460	1,517	4,317	321	400	1,085	212	539

(Table 49 continued on next page)

[1/] International 1/4-inch rule.

(Table 49 continued)

County	All species	Species group: Ponderosa pine	Eastern redcedar	Oak	Hickory	Basswood	Soft maple	Elm	Ash	Cotton-wood	Willow	Boxelder	Hackberry	Black walnut	Other hardwoods
Saunders	19,235	--	574	1,219	51	392	326	330	1,261	12,691	655	217	1,076	127	316
Seward	12,293	--	104	1,537	70	301	320	399	1,155	6,347	567	209	814	291	179
Sherman	5,175	--	118	490	13	91	58	77	437	3,242	155	53	272	57	112
Stanton	8,482	--	161	587	17	254	113	96	1,454	4,379	216	129	748	216	112
Thayer	7,489	--	104	601	--	39	83	135	712	4,440	352	130	542	101	250
Thurston	27,698	--	382	5,024	47	5,244	190	1,175	1,790	10,735	562	283	1,517	337	412
Valley	2,083	--	39	181	--	55	24	35	176	1,179	96	53	157	22	66
Washington	24,281	--	106	8,732	249	487	344	722	2,299	7,183	608	560	1,893	400	698
Wayne	3,334	--	--	1,053	26	50	20	85	362	1,207	77	59	197	85	113
Webster	18,148	--	188	2,141	90	449	431	486	2,418	9,337	721	331	1,083	241	232
York	2,551	--	40	194	9	54	58	61	196	1,539	113	37	176	23	51
Total	698,126	--	10,044	106,677	3,363	22,650	11,301	16,679	73,619	350,427	23,232	12,823	42,958	10,239	14,114
WESTERN UNIT															
Antelope	27,919	6,108	328	3,701	--	181	--	79	1,449	15,264	578	--	98	54	79
Arthur	1,222	--	--	40	--	--	--	--	59	1,040	58	--	25	--	--
Banner	14,094	14,094	--	--	--	--	--	--	--	--	--	--	--	--	--
Blaine	3,510	377	19	654	--	40	--	--	253	2,085	73	--	--	3	6
Box Butte	166	--	--	--	--	--	--	--	33	100	33	--	--	--	--
Boyd	24,085	10,681	500	1,535	--	51	--	57	1,217	9,028	861	--	62	37	56
Brown	29,189	16,798	444	2,578	--	700	--	--	920	7,058	224	--	212	118	137
Chase	730	--	14	20	--	--	--	--	29	625	29	--	13	--	--
Cherry	41,639	27,107	423	2,450	--	81	--	34	929	9,885	481	--	87	65	97
Cheyenne	601	--	--	--	--	--	--	--	--	601	--	--	--	--	--
Dawes	248,606	239,628	30	395	--	12	--	69	477	7,437	421	--	137	--	--
Deuel	546	--	29	--	--	--	--	--	63	391	63	--	--	--	--
Dundy	4,437	320	59	339	--	17	--	22	246	3,228	169	--	37	--	--
Garden	2,128	947	72	20	--	--	--	--	29	1,019	28	--	13	--	--
Garfield	5,163	2,014	42	462	--	23	--	--	173	2,345	66	--	24	6	8
Grant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hayes	2,381	1,363	39	38	--	--	--	11	106	716	104	--	--	2	2
Holt	54,227	21,645	1,237	4,904	--	176	--	57	2,158	22,436	1,135	--	197	113	169
Hooker	2,101	535	25	335	--	17	--	--	117	1,033	35	--	--	2	2
Keith	8,879	--	234	223	--	6	--	136	451	7,318	425	--	86	--	--
Keya Paha	45,798	30,055	662	3,384	--	90	--	33	1,161	9,611	437	--	61	121	183
Kimball	1,893	1,893	--	--	--	--	--	--	--	--	--	--	--	--	--
Knox	59,087	19,824	1,271	6,541	--	1,523	--	12	2,676	25,279	925	--	567	220	249
Lincoln	14,087	2,051	1,358	132	--	--	--	33	798	8,910	805	--	--	--	--
Logan	1,976	1,165	152	205	--	6	--	--	51	366	17	--	--	6	8
Loup	1,743	192	10	289	--	17	--	--	149	1,009	73	--	--	2	2
McPherson	781	312	--	98	--	6	--	--	35	321	9	--	--	--	--
Morrill	4,040	463	235	--	--	--	--	45	253	2,787	257	--	--	--	--
Perkins	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rock	12,356	5,288	286	1,343	--	57	--	22	462	4,634	175	--	25	26	38
Scotts Bluff	6,092	623	370	20	--	--	--	21	213	4,619	215	--	11	--	--
Sheridan	165,662	161,587	19	452	--	23	--	12	372	2,899	266	--	24	3	5
Sioux	204,763	200,459	64	591	--	23	--	58	295	3,049	177	--	25	9	13
Thomas	17,097	15,344	24	380	--	22	--	--	118	1,188	17	--	--	2	2
Wheeler	6,749	781	10	1,150	--	74	--	12	397	4,239	69	--	13	2	2
Total	1,013,747	781,654	7,956	32,279	--	3,145	--	713	15,689	160,520	8,225	--	1,717	791	1,058
All Units	1,711,873	781,654	18,000	138,956	3,363	25,795	11,301	17,392	89,308	510,947	31,457	12,823	44,675	11,030	15,172

Table 50.--Net volume of growing stock on commercial forest land by species group and diameter class, Nebraska, 1983

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 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	23.0-28.9	29.0-38.9	39.0+
Softwoods													
Ponderosa pine	160,316	10,318	17,131	21,133	27,936	29,346	21,432	18,976	7,470	3,359	3,215	--	--
Eastern redcedar	9,940	3,233	3,504	1,726	1,071	123	--	283	--	--	--	--	--
Total	170,256	13,551	20,635	22,859	29,007	29,469	21,432	19,259	7,470	3,359	3,215	--	--
Hardwoods													
White oak	39,400	4,268	4,600	5,769	4,805	5,540	4,289	1,016	2,716	1,923	1,971	2,503	--
Red oak	5,167	253	282	1,167	1,244	868	362	176	274	169	180	192	--
Hickory	4,135	1,131	1,639	672	254	278	--	--	--	161	--	--	--
Basswood	5,992	135	304	566	1,243	1,793	752	433	341	156	155	--	114
Soft maple	5,381	730	1,287	997	788	631	193	--	303	--	452	--	--
Boxelder	5,294	411	529	1,462	907	663	512	320	490	--	--	--	--
Elm	12,413	2,958	2,519	2,956	1,629	1,047	542	323	--	181	--	258	--
Green ash	25,900	2,016	2,735	1,908	3,441	3,060	2,652	2,027	1,835	953	4,207	1,066	--
Cottonwood	142,218	3,380	2,151	3,831	3,986	9,928	10,762	11,953	11,264	10,836	28,066	26,567	19,494
Black willow	11,060	230	1,402	2,910	1,875	492	1,057	1,015	515	1,060	504	--	--
Hackberry	16,516	2,136	2,676	2,063	1,920	1,344	667	1,681	781	1,171	1,318	759	--
Black walnut	5,131	557	1,197	1,135	937	--	399	449	318	139	--	--	--
Other hardwoods	7,148	1,745	681	1,389	668	449	949	246	322	--	699	--	--
Total	285,755	19,950	22,002	26,825	23,697	26,093	23,136	19,639	19,159	16,749	37,552	31,345	19,608
All species	456,011	33,501	42,637	49,684	52,704	55,562	44,568	38,898	26,629	20,108	40,767	31,345	19,608

Table 51.--Net volume of sawtimber on commercial forest land by species group and diameter class, Nebraska, 1983

(In thousand board feet)[1/]

Species group	All classes	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	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
Softwoods											
Ponderosa pine	781,654	116,659	156,505	169,470	128,198	117,485	48,139	22,676	22,522	--	--
Eastern redcedar	18,000	9,535	5,992	709	--	1,764	--	--	--	--	--
Total	799,654	126,194	162,497	170,179	128,198	119,249	48,139	22,676	22,522	--	--
Hardwoods											
White oak	122,389	--	26,883	29,262	21,613	4,918	12,717	8,654	8,430	9,912	--
Red oak	16,567	--	6,280	4,535	1,912	850	1,261	677	606	446	--
Hickory	3,363	--	1,315	1,396	--	--	--	652	--	--	--
Basswood	25,795	--	6,560	8,838	3,630	2,121	1,784	830	932	--	1,100
Soft maple	11,301	--	3,791	3,166	983	--	1,454	--	1,907	--	--
Boxelder	12,823	--	3,788	2,912	2,305	1,491	2,327	--	--	--	--
Elm	17,392	--	6,725	4,589	2,477	1,487	--	864	--	1,250	--
Green ash	89,308	--	16,548	15,424	13,521	10,212	8,874	4,424	16,896	3,409	--
Cottonwood	510,947	--	19,205	49,945	54,855	59,963	54,452	49,722	112,077	77,757	32,971
Black willow	31,457	--	9,007	2,489	5,383	5,099	2,483	4,807	2,189	--	--
Hackberry	44,675	--	9,187	6,784	3,404	8,442	3,760	5,373	5,606	2,119	--
Black walnut	11,030	--	4,593	--	2,034	2,266	1,520	617	--	--	--
Other hardwoods	15,172	--	2,794	2,061	4,254	1,153	1,530	--	3,380	--	--
Total	912,219	--	116,676	131,401	116,371	98,002	92,162	76,620	152,023	94,893	34,071
All species	1,711,873	126,194	279,173	301,580	244,569	217,251	140,301	99,296	174,545	94,893	34,071

[1/] International 1/4-inch rule.

Table 52.--Net volume of growing stock on commercial forest land by species group and forest type, Nebraska, 1983

(In thousand cubic feet)

Species group	All types	Forest type							
		Ponderosa pine	Eastern redcedar-hardwood	Oak-hickory	Bur oak	Elm-ash-cottonwood	Cottonwood	Lowland plains hardwoods	Nonstocked
Softwoods									
Ponderosa pine	160,316	156,470	488	--	1,471	287	--	1,295	305
Eastern redcedar	9,940	--	6,378	--	84	712	1,890	876	--
Total	170,256	156,470	6,866	--	1,555	999	1,890	2,171	305
Hardwoods									
White oak	39,400	260	3,057	6,457	16,504	2,717	--	10,405	--
Red oak	5,167	--	349	3,753	--	340	--	725	--
Hickory	4,135	--	--	2,670	653	161	--	651	--
Basswood	5,992	--	676	1,314	--	118	--	3,884	--
Soft maple	5,381	--	--	--	--	5,237	--	144	--
Boxelder	5,294	--	--	--	--	4,025	--	1,269	--
Elm	12,413	--	155	703	89	8,632	712	2,122	--
Green ash	25,900	--	962	508	1,353	15,953	2,236	4,888	--
Cottonwood	142,218	--	4,477	299	--	36,968	96,407	2,993	1,074
Black willow	11,060	--	127	--	--	7,830	2,857	246	--
Hackberry	16,516	--	87	514	1,203	2,211	249	12,252	--
Black walnut	5,131	--	139	1,138	121	937	--	2,796	--
Other hardwoods	7,148	--	293	246	241	2,362	--	4,006	--
Total	285,755	260	10,322	17,602	20,164	87,491	102,461	46,381	1,074
All species	456,011	156,730	17,188	17,602	21,719	88,490	104,351	48,552	1,379

Table 53.--Net volume of sawtimber on commercial forest land by species group and forest type, Nebraska, 1983

(In thousand board feet)[1/]

Species group	All types	Forest type							
		Ponderosa pine	Eastern redcedar-hardwood	Oak-hickory	Bur oak	Elm-ash-cottonwood	Cottonwood	Lowland plains hardwoods	Nonstocked
Softwoods									
Ponderosa pine	781,654	761,990	3,030	--	6,042	1,754	--	7,604	1,234
Eastern redcedar	18,000	--	12,339	--	--	1,625	2,705	1,331	--
Total	799,654	761,990	15,369	--	6,042	3,379	2,705	8,935	1,234
Hardwoods									
White oak	122,389	--	14,395	22,227	42,454	12,355	--	30,958	--
Red oak	16,567	--	1,283	11,075	--	1,715	--	2,494	--
Hickory	3,363	--	--	1,396	1,315	652	--	--	--
Basswood	25,795	--	2,841	5,033	--	582	--	17,339	--
Soft maple	11,301	--	--	--	--	11,301	--	--	--
Boxelder	12,823	--	--	--	--	9,891	--	2,932	--
Elm	17,392	--	--	896	365	11,140	812	4,179	--
Green ash	89,308	--	3,367	1,226	3,256	56,467	6,463	18,529	--
Cottonwood	510,947	--	18,698	850	--	118,506	363,057	6,447	3,389
Black willow	31,457	--	--	--	--	22,144	8,237	1,076	--
Hackberry	44,675	--	--	--	3,187	7,277	1,252	32,959	--
Black walnut	11,030	--	617	3,255	596	905	--	5,657	--
Other hardwoods	15,172	--	--	1,153	545	3,999	--	9,475	--
Total	912,219	--	41,201	47,111	51,718	256,934	379,821	132,045	3,389
All species	1,711,873	761,990	56,570	47,111	57,760	260,313	382,526	140,980	4,623

[1/] International 1/4-inch rule.

Table 54.--Net volume of growing stock on commercial forest land by species group and ownership class, Nebraska, 1983

(In thousand cubic feet)

Species group	All classes	Ownership class						
		National Forest	State	County and municipal	Indian	Farmer	Misc. private coporation	Misc. private individual
Softwoods								
Ponderosa pine	160,316	37,438	13,721	--	--	97,160	--	11,997
Eastern redcedar	9,940	--	2,105	--	--	3,729	470	3,636
Total	170,256	37,438	15,826	--	--	100,889	470	15,633
Hardwoods								
White oak	39,400	--	--	--	1,441	28,721	1,238	8,000
Red oak	5,167	--	--	--	556	1,414	--	3,197
Hickory	4,135	--	--	--	--	1,489	1,161	1,485
Basswood	5,992	--	--	--	860	5,132	--	--
Soft maple	5,381	--	--	--	--	5,381	--	--
Boxelder	5,294	--	--	--	--	5,294	--	--
Elm	12,413	--	--	118	207	11,255	--	833
Green ash	25,900	--	--	1,343	--	20,644	231	3,682
Cottonwood	142,218	--	9,678	--	263	116,011	2,735	13,531
Black willow	11,060	--	--	--	--	7,576	997	2,487
Hackberry	16,516	--	--	--	151	15,009	--	1,356
Black walnut	5,131	--	--	--	--	3,015	--	2,116
Other hardwoods	7,148	--	--	--	--	5,533	241	1,374
Total	285,755	--	9,678	1,461	3,478	226,474	6,603	38,061
All species	456,011	37,438	25,504	1,461	3,478	327,363	7,073	53,694

Table 55.--Net volume of sawtimber on commercial forest land by species group and ownership class, Nebraska, 1983

(In thousand board feet)[1/]

Species group	All classes	Ownership class						
		National Forest	State	County and municipal	Indian	Farmer	Misc. private coporation	Misc. private individual
Softwoods								
Ponderosa pine	781,654	173,169	79,275	--	--	475,849	--	53,361
Eastern redcedar	18,000	--	4,011	--	--	5,984	1,932	6,073
Total	799,654	173,169	83,286	--	--	481,833	1,932	59,434
Hardwoods								
White oak	122,389	--	--	--	1,587	95,487	4,762	20,553
Red oak	16,567	--	--	--	1,261	5,492	--	9,814
Hickory	3,363	--	--	--	--	2,048	--	1,315
Basswood	25,795	--	--	--	2,833	22,962	--	--
Soft maple	11,301	--	--	--	--	11,301	--	--
Boxelder	12,823	--	--	--	--	12,823	--	--
Elm	17,392	--	--	--	896	16,131	--	365
Green ash	89,308	--	--	4,410	--	71,487	84	13,327
Cottonwood	510,947	--	46,308	--	--	404,406	10,391	49,842
Black willow	31,457	--	--	--	--	26,757	2,894	1,806
Hackberry	44,675	--	--	--	--	42,596	--	2,079
Black walnut	11,030	--	--	--	--	3,856	--	7,174
Other hardwoods	15,172	--	--	--	--	11,038	545	3,589
Total	912,219	--	46,308	4,410	6,577	726,384	18,676	109,864
All species	1,711,873	173,169	129,594	4,410	6,577	1,208,217	20,608	169,298

[1/] International 1/4-inch rule.

Table 56.--Net volume of growing stock on commercial forest land by forest type and stand-age class, Nebraska, 1983

(In thousand cubic feet)

Forest type	All classes	Stand-age class (years)												
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Ponderosa pine	156,730	--	--	2,258	2,752	6,781	8,032	19,802	22,192	9,640	29,621	33,341	14,880	7,431
Eastern redcedar-hardwood	17,188	278	--	1,243	1,813	--	1,037	1,780	3,252	6,335	505	945	--	--
Oak-hickory	17,602	--	647	--	2,572	8,098	6,285	--	--	--	--	--	--	--
Bur oak	21,719	--	--	--	4,776	1,836	1,227	3,838	5,919	1,842	1,874	407	--	--
Elm-ash-cottonwood	88,490	6,263	561	4,657	8,413	13,903	5,091	14,346	20,340	6,918	3,974	1,938	2,086	--
Cottonwood	104,351	--	1,758	5,851	--	6,537	7,127	39,722	22,525	6,824	14,007	--	--	--
Lowland plains hardwoods	48,552	3,089	2,415	--	6,485	3,452	7,038	4,493	3,160	8,485	4,528	--	5,407	--
Nonstocked	1,379	--	--	--	--	305	--	--	1,074	--	--	--	--	--
All types	456,011	9,630	5,381	14,009	26,811	40,912	35,837	83,981	78,462	40,044	54,509	36,631	22,373	7,431

Table 57.--Net volume of sawtimber on commercial forest land by forest type and stand-age class, Nebraska, 1983

(In thousand board feet)[1/]

Forest type	All classes	Stand-age class (years)												
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Ponderosa pine	761,990	--	--	11,944	7,100	21,215	38,880	91,455	90,191	48,326	146,995	182,416	85,188	38,280
Eastern redcedar-hardwood	56,570	770	--	2,950	2,978	--	2,414	4,503	9,345	28,572	1,932	3,106	--	--
Oak-hickory	47,111	--	1,803	--	5,652	15,667	23,989	--	--	--	--	--	--	--
Bur oak	57,760	--	--	--	7,699	4,529	510	8,932	20,056	7,548	7,150	1,336	--	--
Elm-ash-cottonwood	260,313	22,865	1,381	9,032	24,651	37,765	14,117	39,600	67,410	23,041	9,253	5,667	5,531	--
Cottonwood	382,526	--	7,017	16,283	--	26,050	25,878	138,975	95,561	27,000	45,762	--	--	--
Lowland plains hardwoods	140,980	7,162	7,536	--	15,323	6,407	18,649	16,237	13,166	28,596	16,876	--	11,028	--
Nonstocked	4,623	--	--	--	--	1,234	--	--	3,389	--	--	--	--	--
All types	1,711,873	30,797	17,737	40,209	63,403	112,867	124,437	299,702	299,118	163,083	227,968	192,525	101,747	38,280

[1/] International 1/4-inch rule.

Table 58.--Net volume of growing stock on commercial forest land by forest type, stand-size class, and basal-area class, Nebraska, 1983

(In thousand cubic feet)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre) 0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Ponderosa pine															
Sawtimber	146,188	--	880	3,170	1,242	811	18,413	24,975	20,524	16,130	7,200	49,161	3,682	--	--
Poletimber	8,284	--	--	--	--	--	2,097	--	1,395	4,792	--	--	--	--	--
Sapling & seedling	2,258	--	--	--	--	--	--	--	--	2,258	--	--	--	--	--
All stands	156,730	--	880	3,170	1,242	811	20,510	24,975	21,919	23,180	7,200	49,161	3,682	--	--
Eastern redcedar-hardwood															
Sawtimber	11,714	--	131	--	--	--	2,364	2,993	945	5,281	--	--	--	--	--
Poletimber	3,953	--	--	--	--	360	--	1,780	1,813	--	--	--	--	--	--
Sapling & seedling	1,521	--	--	278	--	1,243	--	--	--	--	--	--	--	--	--
All stands	17,188	--	131	278	--	1,603	2,364	4,773	2,758	5,281	--	--	--	--	--
Oak-hickory															
Sawtimber	6,285	--	--	--	--	--	--	--	2,803	3,482	--	--	--	--	--
Poletimber	10,670	--	--	--	--	--	--	--	2,429	2,572	5,669	--	--	--	--
Sapling & seedling	647	--	--	--	--	647	--	--	--	--	--	--	--	--	--
All stands	17,602	--	--	--	--	647	--	--	5,232	6,054	5,669	--	--	--	--
Bur oak															
Sawtimber	12,053	--	--	--	--	1,471	407	4,256	--	5,919	--	--	--	--	--
Poletimber	9,666	--	--	--	--	--	--	1,827	6,003	1,836	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	21,719	--	--	--	--	1,471	407	6,083	6,003	7,755	--	--	--	--	--
Elm-ash-cottonwood															
Sawtimber	75,355	--	--	2,397	950	6,073	3,659	3,051	8,590	8,301	1,595	16,117	24,622	--	--
Poletimber	7,385	--	--	--	373	561	3,940	--	--	--	2,511	--	--	--	--
Sapling & seedling	5,750	308	943	--	287	717	--	--	3,495	--	--	--	--	--	--
All stands	88,490	308	943	2,397	1,610	7,351	7,599	3,051	12,085	8,301	4,106	16,117	24,622	--	--
Cottonwood															
Sawtimber	98,984	--	--	--	1,379	--	6,620	3,100	8,845	14,664	6,363	24,081	10,167	23,765	--
Poletimber	3,609	--	--	--	--	--	3,609	--	--	--	--	--	--	--	--
Sapling & seedling	1,758	--	263	--	--	--	1,495	--	--	--	--	--	--	--	--
All stands	104,351	--	263	--	1,379	--	11,724	3,100	8,845	14,664	6,363	24,081	10,167	23,765	--
Lowland plains hardwoods															
Sawtimber	33,713	--	--	--	--	1,507	2,746	1,518	--	--	3,748	20,807	2,127	1,260	--
Poletimber	9,335	--	--	--	--	1,501	801	2,727	725	643	--	2,938	--	--	--
Sapling & seedling	5,504	--	--	463	413	1,539	299	2,790	--	--	--	--	--	--	--
All stands	48,552	--	--	463	413	4,547	3,846	7,035	725	643	3,748	23,745	2,127	1,260	--
Nonstocked	1,379	--	305	--	--	1,074	--	--	--	--	--	--	--	--	--
All types															
Sawtimber	384,292	--	1,011	5,567	3,571	9,862	34,209	39,893	41,707	53,777	18,906	110,166	40,598	25,025	--
Poletimber	52,902	--	--	--	373	2,422	10,447	6,334	12,365	9,843	8,180	2,938	--	--	--
Sapling & seedling	17,438	308	1,206	741	700	4,146	1,794	2,790	3,495	2,258	--	--	--	--	--
Nonstocked	1,379	--	305	--	--	1,074	--	--	--	--	--	--	--	--	--
All stands	456,011	308	2,522	6,308	4,644	17,504	46,450	49,017	57,567	65,878	27,086	113,104	40,598	25,025	--

Table 59.--Net volume of sawtimber on commercial forest land by forest type, stand-size class, and basal-area class, Nebraska, 1983

(In thousand board feet)[1/]

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Ponderosa pine															
Sawtimber	730,398	--	3,746	18,648	5,888	3,171	94,689	117,696	104,743	80,094	36,913	251,042	13,768	--	--
Poletimber	19,648	--	--	--	--	--	5,389	--	2,705	11,554	--	--	--	--	--
Sapling & seedling	11,944	--	--	--	--	--	--	--	--	11,944	--	--	--	--	--
All stands	761,990	--	3,746	18,648	5,888	3,171	100,078	117,696	107,448	103,592	36,913	251,042	13,768	--	--
Eastern redcedar-hardwood															
Sawtimber	45,369	--	537	--	--	--	7,721	13,977	3,106	20,028	--	--	--	--	--
Poletimber	7,481	--	--	--	--	--	--	4,503	2,978	--	--	--	--	--	--
Sapling & seedling	3,720	--	--	770	--	2,950	--	--	--	--	--	--	--	--	--
All stands	56,570	--	537	770	--	2,950	7,721	18,480	6,084	20,028	--	--	--	--	--
Oak-hickory															
Sawtimber	23,989	--	--	--	--	--	--	--	12,490	11,499	--	--	--	--	--
Poletimber	21,319	--	--	--	--	--	--	--	4,055	5,652	11,612	--	--	--	--
Sapling & seedling	1,803	--	--	--	--	1,803	--	--	--	--	--	--	--	--	--
All stands	47,111	--	--	--	--	1,803	--	--	16,545	17,151	11,612	--	--	--	--
Bur oak															
Sawtimber	42,173	--	--	--	--	6,042	1,336	14,739	--	20,056	--	--	--	--	--
Poletimber	15,587	--	--	--	--	--	--	2,849	8,209	4,529	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	57,760	--	--	--	--	6,042	1,336	17,588	8,209	24,585	--	--	--	--	--
Elm-ash-cottonwood															
Sawtimber	222,462	--	--	5,850	3,437	25,593	13,100	8,639	26,691	24,739	4,517	41,436	68,460	--	--
Poletimber	15,330	--	--	--	474	1,381	6,286	--	--	--	7,189	--	--	--	--
Sapling & seedling	22,521	812	4,757	--	931	2,746	--	--	13,275	--	--	--	--	--	--
All stands	260,313	812	4,757	5,850	4,842	29,720	19,386	8,639	39,966	24,739	11,706	41,436	68,460	--	--
Cottonwood															
Sawtimber	369,443	--	--	--	6,391	--	27,327	13,575	36,022	53,053	27,857	104,481	28,542	72,195	--
Poletimber	6,066	--	--	--	--	--	6,066	--	--	--	--	--	--	--	--
Sapling & seedling	7,017	--	--	--	--	--	7,017	--	--	--	--	--	--	--	--
All stands	382,526	--	--	--	6,391	--	40,410	13,575	36,022	53,053	27,857	104,481	28,542	72,195	--
Lowland plains hardwoods															
Sawtimber	108,122	--	--	--	--	4,225	7,358	5,623	--	--	13,546	66,734	7,369	3,267	--
Poletimber	18,160	--	--	--	--	2,863	1,127	6,068	339	925	--	6,838	--	--	--
Sapling & seedling	14,698	--	--	1,377	--	6,159	1,513	5,649	--	--	--	--	--	--	--
All stands	140,980	--	--	1,377	--	13,247	9,998	17,340	339	925	13,546	73,572	7,369	3,267	--
Nonstocked	4,623	--	1,234	--	--	3,389	--	--	--	--	--	--	--	--	--
All types															
Sawtimber	1,541,956	--	4,283	24,498	15,716	39,031	151,531	174,249	183,052	209,469	82,833	463,693	118,139	75,462	--
Poletimber	103,591	--	--	--	474	4,244	18,868	13,420	18,286	22,660	18,801	6,838	--	--	--
Sapling & seedling	61,703	812	4,757	2,147	931	13,658	8,530	5,649	13,275	11,944	--	--	--	--	--
Nonstocked	4,623	--	1,234	--	--	3,389	--	--	--	--	--	--	--	--	--
All stands	1,711,873	812	10,274	26,645	17,121	60,322	178,929	193,318	214,613	244,073	101,634	470,531	118,139	75,462	--

[1/] International 1/4-inch rule.

Table 60.--Net volume of sawtimber on commercial forest land by species group and butt log-grade, Nebraska, 1983

(In thousand board feet)[1/]

Species group	All grades	Butt log grade			
		1	2	3	Tie and timber
Softwoods					
Ponderosa pine	781,654	3,844	31,988	745,822	--
Eastern redcedar	18,000	--	--	18,000	--
Total	799,654	3,844	31,988	763,822	--
Hardwoods					
White oak	122,389	3,706	37,872	61,503	19,308
Red oak	16,567	--	2,767	13,800	--
Hickory	3,363	--	1,306	2,057	--
Basswood	25,795	1,677	5,738	18,380	--
Soft maple	11,301	--	--	10,262	1,039
Boxelder	12,823	--	563	8,850	3,410
Elm	17,392	1,859	5,291	5,927	4,315
Green ash	89,308	4,951	26,448	47,826	10,083
Cottonwood	510,947	203,039	157,036	130,074	20,798
Black willow	31,457	2,156	5,306	19,121	4,874
Hackberry	44,675	--	25,666	19,009	--
Black walnut	11,030	195	3,248	7,587	--
Other hardwoods	15,172	--	3,656	10,749	767
Total	912,219	217,583	274,897	355,145	64,594
All species	1,711,873	221,427	306,885	1,118,967	64,594

[1/] International 1/4-inch rule.

Table 61.--Net volume of short-log trees on commercial forest land by species group and diameter class, Nebraska, 1983

(In thousand cubic feet)

Species group	All classes	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	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
Softwoods											
Ponderosa pine	2,198	846	1,002	162	129	59	--	--	--	--	--
Eastern redcedar	487	233	178	76	--	--	--	--	--	--	--
Total	2,685	1,079	1,180	238	129	59	--	--	--	--	--
Hardwoods											
White oak	4,657	--	1,170	844	857	387	725	404	270	--	--
Red oak	555	--	171	205	179	--	--	--	--	--	--
Hickory	--	--	--	--	--	--	--	--	--	--	--
Basswood	321	--	267	--	--	54	--	--	--	--	--
Soft maple	648	--	--	445	95	--	--	--	108	--	--
Boxelder	1,271	--	447	--	387	187	250	--	--	--	--
Elm	639	--	105	136	249	--	--	--	--	149	--
Green ash	1,731	--	577	649	280	225	--	--	--	--	--
Cottonwood	4,112	--	456	794	--	480	367	136	381	867	631
Black willow	424	--	161	--	169	94	--	--	--	--	--
Hackberry	1,404	--	481	--	159	--	173	--	591	--	--
Black walnut	263	--	157	--	106	--	--	--	--	--	--
Other hardwoods	775	--	403	178	--	89	--	--	105	--	--
Total	16,800	--	4,395	3,251	2,481	1,516	1,515	540	1,455	1,016	631
All species	19,485	1,079	5,575	3,489	2,610	1,575	1,515	540	1,455	1,016	631

Table 62.--Net volume of short-log trees on commercial forest land by species group and diameter class, Nebraska, 1983

(In thousand board feet)[1/]

Species group	All classes	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	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
Softwoods											
Ponderosa pine	25,586	7,524	12,011	2,386	2,337	1,328	--	--	--	--	--
Eastern redcedar	5,278	2,217	1,993	1,068	--	--	--	--	--	--	--
Total	30,864	9,741	14,004	3,454	2,337	1,328	--	--	--	--	--
Hardwoods											
White oak	14,972	--	5,563	3,193	2,620	967	1,530	737	362	--	--
Red oak	1,877	--	571	695	611	--	--	--	--	--	--
Hickory	--	--	--	--	--	--	--	--	--	--	--
Basswood	1,119	--	927	--	--	192	--	--	--	--	--
Soft maple	1,978	--	--	1,416	304	--	--	--	258	--	--
Boxelder	3,940	--	1,385	--	1,234	583	738	--	--	--	--
Elm	1,839	--	318	433	794	--	--	--	--	294	--
Green ash	5,396	--	1,744	2,067	890	695	--	--	--	--	--
Cottonwood	9,983	--	1,405	2,522	--	1,500	1,088	383	986	1,459	640
Black willow	1,326	--	493	--	537	296	--	--	--	--	--
Hackberry	3,903	--	1,446	--	506	--	517	--	1,434	--	--
Black walnut	820	--	480	--	340	--	--	--	--	--	--
Other hardwoods	2,337	--	1,243	566	--	281	--	--	247	--	--
Total	49,490	--	15,575	10,892	7,836	4,514	3,873	1,120	3,287	1,753	640
All species	80,354	9,741	29,579	14,346	10,173	5,842	3,873	1,120	3,287	1,753	640

[1/] International 1/4-inch rule.

Table 63.--Net annual growth of growing stock on commercial forest land by softwoods and hardwoods, Nebraska, 1955 and 1982

(In thousand cubic feet)

Species	1955[1/]	1982
Softwoods	3,400	6,038
Hardwoods	5,100	5,061
All species	8,500	11,099

[1/] Figures have been adjusted from those published after the 1955 survey to conform to 1982 volumes because of changes in survey definitions and procedures.

Table 64.--Net annual growth of growing stock on commercial forest land by species group and Forest Survey Unit, Nebraska, 1982

(In thousand cubic feet)

Species group	All Units	Forest Survey Unit: Eastern Unit	Forest Survey Unit: Western Unit
Softwoods			
Ponderosa pine	5,415	--	5,415
Eastern redcedar	623	489	134
Total	6,038	489	5,549
Hardwoods			
White oak	718	494	224
Red oak	70	70	--
Hickory	125	125	--
Basswood	112	96	16
Soft maple	199	199	--
Boxelder	180	168	12
Elm	288	368	-80
Green ash	408	264	144
Cottonwood	1,703	1,278	425
Black willow	137	91	46
Hackberry	665	631	34
Black walnut	135	129	6
Other hardwoods	321	289	32
Total	5,061	4,202	859
All species	11,099	4,691	6,408

Table 65.--Net annual growth of sawtimber on commercial forest land by species group and Forest Survey Unit, Nebraska, 1982

(In thousand board feet)[1/]

Species group	All Units	Forest Survey Unit: Eastern Unit	Forest Survey Unit: Western Unit
Softwoods			
Ponderosa pine	27,197	--	27,197
Eastern redcedar	502	333	169
Total	27,699	333	27,366
Hardwoods			
White oak	3,543	1,953	1,590
Red oak	96	96	--
Hickory	28	28	--
Basswood	1,015	976	39
Soft maple	386	386	--
Boxelder	369	369	--
Elm	316	769	-453
Green ash	1,095	757	338
Cottonwood	4,690	4,320	370
Black willow	263	61	202
Hackberry	2,571	2,512	59
Black walnut	236	217	19
Other hardwoods	422	383	39
Total	15,030	12,827	2,203
All species	42,729	13,160	29,569

[1/] International 1/4-inch rule.

Table 66.--Net annual growth of growing stock on commercial forest land by species group and ownership class, Nebraska, 1982

(In thousand cubic feet)

Species group	All classes	Ownership class							
		National Forest	Misc. federal	State	County and municipal	Indian	Farmer	Misc. private coporation	Misc. private individual
Softwoods									
Ponderosa pine	5,415	1,479	--	350	--	--	3,281	--	305
Eastern redcedar	623	--	--	30	--	--	349	9	235
Total	6,038	1,479	--	380	--	--	3,630	9	540
Hardwoods									
White oak	718	--	--	--	--	27	462	19	210
Red oak	70	--	--	--	--	16	29	--	25
Hickory	125	--	--	--	--	--	54	33	38
Basswood	112	--	--	--	--	24	88	--	--
Soft maple	199	--	--	--	--	--	199	--	--
Boxelder	180	--	--	--	--	--	180	--	--
Elm	288	--	--	--	2	-59	334	--	11
Green ash	408	--	--	--	19	-72	394	6	61
Cottonwood	1,703	--	--	158	--	12	1,355	7	171
Black willow	137	--	--	--	--	--	87	-34	84
Hackberry	665	--	--	--	--	6	607	--	52
Black walnut	135	--	--	--	--	--	85	--	50
Other hardwoods	321	--	--	--	--	--	264	5	52
Total	5,061	--	--	158	21	-46	4,138	36	754
All species	11,099	1,479	--	538	21	-46	7,768	45	1,294

Table 67.--Net annual growth of sawtimber on commercial forest land by species group and ownership class, Nebraska, 1982

(In thousand board feet)[1/]

Species group	All classes	Ownership class							
		National Forest	Misc. federal	State	County and municipal	Indian	Farmer	Misc. private coporation	Misc. private individual
Softwoods									
Ponderosa pine	27,197	5,915	--	4,784	--	--	15,324	--	1,174
Eastern redcedar	502	--	--	103	--	--	178	30	191
Total	27,699	5,915	--	4,887	--	--	15,502	30	1,365
Hardwoods									
White oak	3,543	--	--	--	--	24	1,231	55	2,233
Red oak	96	--	--	--	--	19	107	--	-30
Hickory	28	--	--	--	--	--	22	--	6
Basswood	1,015	--	--	--	--	35	980	--	--
Soft maple	386	--	--	--	--	--	386	--	--
Boxelder	369	--	--	--	--	--	369	--	--
Elm	316	--	--	--	--	-237	547	--	6
Green ash	1,095	--	--	--	64	-367	1,231	2	165
Cottonwood	4,690	--	--	700	--	--	3,173	149	668
Black willow	263	--	--	--	--	--	449	-239	53
Hackberry	2,571	--	--	--	--	--	2,516	--	55
Black walnut	236	--	--	--	--	--	72	--	164
Other hardwoods	422	--	--	--	--	--	308	14	100
Total	15,030	--	--	700	64	-526	11,391	-19	3,420
All species	42,729	5,915	--	5,587	64	-526	26,893	11	4,785

[1/] International 1/4-inch rule.

Table 68.--Net annual growth of growing stock on commercial forest land by species group and forest type, Nebraska, 1982

(In thousand cubic feet)

Species group	All types	Forest type							
		Ponderosa pine	Eastern redcedar-hardwood	Oak-hickory	Bur oak	Elm-ash-cottonwood	Cottonwood	Lowland plains hardwoods	Nonstocked
Softwoods									
Ponderosa pine	5,415	5,336	5	--	32	3	--	29	10
Eastern redcedar	623	--	439	--	5	98	42	39	--
Total	6,038	5,336	444	--	37	101	42	68	10
Hardwoods									
White oak	718	8	47	110	442	35	--	76	--
Red oak	70	--	4	41	--	7	--	18	--
Hickory	125	--	--	74	13	--	--	38	--
Basswood	112	--	6	35	--	1	--	70	--
Soft maple	199	--	--	--	--	194	--	5	--
Boxelder	180	--	--	--	--	138	--	42	--
Elm	288	--	-90	-40	1	344	32	41	--
Green ash	408	--	18	-58	44	254	53	97	--
Cottonwood	1,703	--	49	8	-237	543	1,321	7	12
Black willow	137	--	5	--	--	146	-16	2	--
Hackberry	665	--	2	23	41	175	7	417	--
Black walnut	135	--	1	28	3	25	--	78	--
Other hardwoods	321	--	14	7	5	139	--	156	--
Total	5,061	8	56	228	312	2,001	1,397	1,047	12
All species	11,099	5,344	500	228	349	2,102	1,439	1,115	22

Table 69.--Net annual growth of sawtimber on commercial forest land by species group and forest type, Nebraska, 1982

(In thousand board feet)[1/]

Species group	All types	Forest type							
		Ponderosa pine	Eastern redcedar-hardwood	Oak-hickory	Bur oak	Elm-ash-cottonwood	Cottonwood	Lowland plains hardwoods	Nonstocked
Softwoods									
Ponderosa pine	27,197	26,847	34	--	74	23	--	178	41
Eastern redcedar	502	--	292	--	--	58	102	50	--
Total	27,699	26,847	326	--	74	81	102	228	41
Hardwoods									
White oak	3,543	--	185	291	1,468	144	--	1,455	--
Red oak	96	--	7	-11	--	29	--	71	--
Hickory	28	--	--	21	6	1	--	--	--
Basswood	1,015	--	23	84	--	3	--	905	--
Soft maple	386	--	--	--	--	386	--	--	--
Boxelder	369	--	--	--	--	258	--	111	--
Elm	316	--	-467	-237	6	136	812	66	--
Green ash	1,095	--	67	-332	99	809	155	297	--
Cottonwood	4,690	--	190	16	-1,067	1,613	3,895	18	25
Black willow	263	--	--	--	--	353	-95	5	--
Hackberry	2,571	--	--	--	64	194	34	2,279	--
Black walnut	236	--	2	86	15	11	--	122	--
Other hardwoods	422	--	--	33	14	51	--	324	--
Total	15,030	--	7	-49	605	3,988	4,801	5,653	25
All species	42,729	26,847	333	-49	679	4,069	4,903	5,881	66

[1/] International 1/4-inch rule.

Table 70.--Net annual growth of growing stock on commercial forest land by forest type and stand-age class, Nebraska, 1982

(In thousand cubic feet)

Forest type	All classes	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Ponderosa pine	5,344	--	--	300	436	419	430	694	654	246	604	922	314	325
Eastern redcedar-hardwood	500	8	--	-54	185	--	21	21	179	98	10	32	--	--
Oak-hickory	228	--	19	--	-67	192	84	--	--	--	--	--	--	--
Bur oak	349	--	--	--	153	27	17	201	112	28	-196	7	--	--
Elm-ash-cottonwood	2,102	254	13	105	163	367	44	328	476	138	105	99	10	--
Cottonwood	1,439	--	42	329	--	85	29	422	185	112	235	--	--	--
Lowland plains hardwoods	1,115	60	60	--	233	95	157	46	52	182	136	--	94	--
Nonstocked	22	--	--	--	--	10	--	--	12	--	--	--	--	--
All types	11,099	322	134	680	1,103	1,195	782	1,712	1,670	804	894	1,060	418	325

Table 71.--Net annual growth of sawtimber on commercial forest land by forest type and stand-age class, Nebraska, 1982

(In thousand board feet)[1/]

Forest type	All classes	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Ponderosa pine	26,847	--	--	223	204	618	2,387	2,970	5,148	1,201	2,749	6,276	4,512	559
Eastern redcedar-hardwood	333	15	--	-444	114	--	43	34	122	336	30	83	--	--
Oak-hickory	-49	--	43	--	-535	234	209	--	--	--	--	--	--	--
Bur oak	679	--	--	--	204	52	5	83	1,199	93	-981	24	--	--
Elm-ash-cottonwood	4,069	408	19	127	537	931	57	671	995	251	196	-138	15	--
Cottonwood	4,903	--	119	469	--	451	217	1,925	527	460	735	--	--	--
Lowland plains hardwoods	5,881	111	154	--	1,176	153	1,789	1,429	190	428	341	--	110	--
Nonstocked	66	--	--	--	--	41	--	--	25	--	--	--	--	--
All types	42,729	534	335	375	1,700	2,480	4,707	7,112	8,206	2,769	3,070	6,245	4,637	559

[1/] International 1/4-inch rule.

Table 72.--Net annual growth of growing stock on commercial forest land by forest type, stand-size class, and basal-area class, Nebraska, 1982

(In thousand cubic feet)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Ponderosa pine															
Sawtimber	4,463	--	24	92	32	27	419	1,354	676	600	-48	1,157	130	--	--
Poletimber	581	--	--	--	--	--	48	--	47	486	--	--	--	--	--
Sapling & seedling	300	--	--	--	--	--	--	--	--	300	--	--	--	--	--
All stands	5,344	--	24	92	32	27	467	1,354	723	1,386	-48	1,157	130	--	--
Eastern redcedar-hardwood															
Sawtimber	327	--	1	--	--	--	37	36	32	221	--	--	--	--	--
Poletimber	219	--	--	--	--	13	--	21	185	--	--	--	--	--	--
Sapling & seedling	-46	--	--	8	--	-54	--	--	--	--	--	--	--	--	--
All stands	500	--	1	8	--	-41	37	57	217	221	--	--	--	--	--
Oak-hickory															
Sawtimber	84	--	--	--	--	--	--	--	64	20	--	--	--	--	--
Poletimber	125	--	--	--	--	--	--	--	55	-67	137	--	--	--	--
Sapling & seedling	19	--	--	--	--	19	--	--	--	--	--	--	--	--	--
All stands	228	--	--	--	--	19	--	--	119	-47	137	--	--	--	--
Bur oak															
Sawtimber	119	--	--	--	--	-205	7	205	--	112	--	--	--	--	--
Poletimber	230	--	--	--	--	--	--	33	170	27	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	349	--	--	--	--	-205	7	238	170	139	--	--	--	--	--
Elm-ash-cottonwood															
Sawtimber	1,803	--	--	36	18	87	129	24	269	243	35	336	626	--	--
Poletimber	186	--	--	--	9	13	93	--	--	--	71	--	--	--	--
Sapling & seedling	113	4	22	--	9	12	--	--	66	--	--	--	--	--	--
All stands	2,102	4	22	36	36	112	222	24	335	243	106	336	626	--	--
Cottonwood															
Sawtimber	1,145	--	--	--	27	--	176	22	216	230	115	117	119	123	--
Poletimber	252	--	--	--	--	--	252	--	--	--	--	--	--	--	--
Sapling & seedling	42	--	12	--	--	--	30	--	--	--	--	--	--	--	--
All stands	1,439	--	12	--	27	--	458	22	216	230	115	117	119	123	--
Lowland plains hardwoods															
Sawtimber	736	--	--	--	--	52	109	-43	--	--	68	485	26	39	--
Poletimber	259	--	--	--	--	31	14	94	1	9	--	110	--	--	--
Sapling & seedling	120	--	--	10	11	39	14	46	--	--	--	--	--	--	--
All stands	1,115	--	--	10	11	122	137	97	1	9	68	595	26	39	--
Nonstocked	22	--	10	--	--	12	--	--	--	--	--	--	--	--	--
All types															
Sawtimber	8,677	--	25	128	77	-39	877	1,598	1,257	1,426	170	2,095	901	162	--
Poletimber	1,852	--	--	--	9	57	407	148	458	455	208	110	--	--	--
Sapling & seedling	548	4	34	18	20	16	44	46	66	300	--	--	--	--	--
Nonstocked	22	--	10	--	--	12	--	--	--	--	--	--	--	--	--
All stands	11,099	4	69	146	106	46	1,328	1,792	1,781	2,181	378	2,205	901	162	--

Table 73.--Net annual growth of sawtimber on commercial forest land by forest type, stand-size class, and basal-area class, Nebraska, 1982

(In thousand board feet)[1/]

Forest type and stand-size class	All classes	Basal-area class (square feet per acre) 0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Ponderosa pine															
Sawtimber	26,242	--	100	590	130	87	2,798	5,841	3,498	1,800	-91	11,059	430	--	--
Poletimber	382	--	--	--	--	--	25	--	80	277	--	--	--	--	--
Sapling & seedling	223	--	--	--	--	--	--	--	--	223	--	--	--	--	--
All stands	26,847	--	100	590	130	87	2,823	5,841	3,578	2,300	-91	11,059	430	--	--
Eastern redcedar-hardwood															
Sawtimber	614	--	4	--	--	--	96	165	83	266	--	--	--	--	--
Poletimber	148	--	--	--	--	--	--	34	114	--	--	--	--	--	--
Sapling & seedling	-429	--	--	15	--	-444	--	--	--	--	--	--	--	--	--
All stands	333	--	4	15	--	-444	96	199	197	266	--	--	--	--	--
Oak-hickory															
Sawtimber	209	--	--	--	--	--	--	--	207	2	--	--	--	--	--
Poletimber	-301	--	--	--	--	--	--	--	47	-535	187	--	--	--	--
Sapling & seedling	43	--	--	--	--	43	--	--	--	--	--	--	--	--	--
All stands	-49	--	--	--	--	43	--	--	254	-533	187	--	--	--	--
Bur oak															
Sawtimber	380	--	--	--	--	-993	24	150	--	1,199	--	--	--	--	--
Poletimber	299	--	--	--	--	--	--	38	209	52	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	679	--	--	--	--	-993	24	188	209	1,251	--	--	--	--	--
Elm-ash-cottonwood															
Sawtimber	3,420	--	--	43	55	310	-12	45	312	566	73	597	1,431	--	--
Poletimber	294	--	--	--	16	19	103	--	--	--	156	--	--	--	--
Sapling & seedling	355	8	114	--	35	24	--	--	174	--	--	--	--	--	--
All stands	4,069	8	114	43	106	353	91	45	486	566	229	597	1,431	--	--
Cottonwood															
Sawtimber	4,642	--	--	--	108	--	653	88	909	1,423	475	390	285	311	--
Poletimber	142	--	--	--	--	--	142	--	--	--	--	--	--	--	--
Sapling & seedling	119	--	--	--	--	--	119	--	--	--	--	--	--	--	--
All stands	4,903	--	--	--	108	--	914	88	909	1,423	475	390	285	311	--
Lowland plains hardwoods															
Sawtimber	4,564	--	--	--	--	864	320	39	--	--	188	2,271	814	68	--
Poletimber	1,052	--	--	--	--	34	14	150	3	9	--	842	--	--	--
Sapling & seedling	265	--	--	28	--	126	67	44	--	--	--	--	--	--	--
All stands	5,881	--	--	28	--	1,024	401	233	3	9	188	3,113	814	68	--
Nonstocked	66	--	41	--	--	25	--	--	--	--	--	--	--	--	--
All types															
Sawtimber	40,071	--	104	633	293	268	3,879	6,328	5,009	5,256	645	14,317	2,960	379	--
Poletimber	2,016	--	--	--	16	53	284	222	453	-197	343	842	--	--	--
Sapling & seedling	576	8	114	43	35	-251	186	44	174	223	--	--	--	--	--
Nonstocked	66	--	41	--	--	25	--	--	--	--	--	--	--	--	--
All stands	42,729	8	259	676	344	95	4,349	6,594	5,636	5,282	988	15,159	2,960	379	--

[1/] International 1/4-inch rule.

Table 74.--Timber removals from growing stock on commercial forest land, by species group and Forest Survey Unit, Nebraska, 1982

(In thousand cubic feet)

Species group	All Units	Forest Survey Unit	
		Eastern Unit	Western Unit
Softwoods			
Ponderosa pine	517	--	517
Eastern redcedar	56	34	22
Total	573	34	539
Hardwoods			
White oak	2,233	1,659	574
Red oak	247	247	--
Hickory	165	165	--
Basswood	30	28	2
Soft maple	27	27	--
Boxelder	319	301	18
Elm	281	262	19
Green ash	790	574	216
Cottonwood	3,190	2,904	286
Black willow	401	305	96
Hackberry	449	423	26
Black walnut	166	162	4
Other hardwoods	479	363	116
Total	8,777	7,420	1,357
All species	9,350	7,454	1,896

Table 75.--Timber removals from sawtimber on commercial forest land, by species group and Forest Survey Unit, Nebraska, 1982

(In thousand board feet)[1/]

Species group	All Units	Forest Survey Unit	
		Eastern Unit	Western Unit
Softwoods			
Ponderosa pine	2,376	--	2,376
Eastern redcedar	170	139	31
Total	2,546	139	2,407
Hardwoods			
White oak	6,190	4,618	1,572
Red oak	674	674	--
Hickory	435	435	--
Basswood	93	89	4
Soft maple	101	101	--
Boxelder	1,269	1,269	--
Elm	789	730	59
Green ash	2,161	1,576	585
Cottonwood	17,356	15,962	1,394
Black willow	1,084	823	261
Hackberry	1,217	1,145	72
Black walnut	1,044	1,016	28
Other hardwoods	1,305	989	316
Total	33,718	29,427	4,291
All species	36,264	29,566	6,698

[1/] International 1/4-inch rule.

Table 76.--Timber removals from growing stock and sawtimber on commercial forest land by species group, Nebraska, 1953 and 1982

Species group	Growing stock		Sawtimber	
	1953[1]	1982	1953[1]	1982
	Thousand cubic feet		Thousand board feet[2]	
Softwoods				
Ponderosa pine	63	517	372	2,376
Eastern redcedar	--	56	--	170
Total	63	573	372	2,546
Hardwoods				
Oak	901	2,480	3,960	6,864
Soft maple	229	27	1,011	101
Boxelder	173	319	689	1,269
Elm	410	281	1,685	789
Green ash	149	790	538	2,161
Cottonwood	1,172	3,190	6,716	17,356
Hackberry	5	449	27	1,217
Black walnut	289	166	1,584	1,044
Other hardwoods	390	1,075	1,391	2,917
Total	3,718	8,777	17,601	33,718
All species	3,781	9,350	17,973	36,264

[1] Figures have been adjusted from those published after the 1955 survey to conform to 1982 volumes because of changes in survey definitions and procedures.

[2] International 1/4-inch rule.

Table 77.--Timber removals from growing stock and sawtimber on commercial forest land by item and species category, Nebraska, 1982

Item	All species	Softwoods	Oak	Elm-hackberry	Ash	Cottonwood	Walnut	Other hardwoods
	GROWING STOCK							
	Species category							
	-Thousand cubic feet-							
ROUNDWOOD PRODUCTS								
Saw logs	2,915	313	55	5	8	2,377	140	17
Veneer logs	112	--	--	--	--	99	13	--
Cooperage logs	18	--	18	--	--	--	--	--
Fuelwood	5,167	9	2,327	683	756	248	--	1,144
Posts	79	60	11	1	--	1	--	6
Pulpwood	12	12	--	--	--	--	--	--
Other	94	94	--	--	--	--	--	--
Total	8,397	488	2,411	689	764	2,725	153	1,167
LOGGING RESIDUE	440	39	20	--	3	364	13	1
OTHER REMOVALS	513	46	49	41	23	101	--	253
ALL TIMBER REMOVALS	9,350	573	2,480	730	790	3,190	166	1,421
	SAWTIMBER							
	-Thousand board feet[1]-							
ROUNDWOOD PRODUCTS								
Saw logs	18,551	1,767	265	42	51	15,420	911	95
Veneer logs	518	--	--	--	--	433	85	--
Cooperage logs	106	--	106	--	--	--	--	--
Fuelwood	14,190	27	6,415	1,886	2,081	682	--	3,099
Posts	93	37	30	3	--	3	--	20
Pulpwood	18	18	--	--	--	--	--	--
Other	512	512	--	--	--	--	--	--
Total	33,988	2,361	6,816	1,931	2,132	16,538	996	3,214
LOGGING RESIDUE	905	77	32	--	7	739	48	2
OTHER REMOVALS	1,371	108	16	75	22	79	--	1,071
ALL TIMBER REMOVALS	36,264	2,546	6,864	2,006	2,161	17,356	1,044	4,287

[1] International 1/4-inch rule.

Table 78.--Net annual growth and removals of growing stock on commercial forest land by species group, Nebraska, 1982

(In thousand cubic feet)

Species group	Net annual growth	Annual timber removals
Softwoods		
Ponderosa pine	5,415	517
Eastern redcedar	623	56
Total	6,038	573
Hardwoods		
White oak	718	2,233
Red oak	70	247
Hickory	125	165
Basswood	112	30
Soft maple	199	27
Boxelder	180	319
Elm	288	281
Green ash	408	790
Cottonwood	1,703	3,190
Black willow	137	401
Hackberry	665	449
Black walnut	135	166
Other hardwoods	321	479
Total	5,061	8,777
All species	11,099	9,350

Table 79.--Net annual growth and removals of sawtimber on commercial forest land by species group, Nebraska, 1982

(In thousand board feet)[1/]

Species group	Net annual growth	Annual timber removals
Softwoods		
Ponderosa pine	27,197	2,376
Eastern redcedar	502	170
Total	27,699	2,546
Hardwoods		
White oak	3,543	6,190
Red oak	96	674
Hickory	28	435
Basswood	1,015	93
Soft maple	386	101
Boxelder	369	1,269
Elm	316	789
Green ash	1,095	2,161
Cottonwood	4,690	17,356
Black willow	263	1,084
Hackberry	2,571	1,217
Black walnut	236	1,044
Other hardwoods	422	1,305
Total	15,030	33,718
All species	42,729	36,264

[1/] International 1/4-inch rule.

Table 80.--Net annual growth and removals of growing stock on commercial forest land by ownership class and softwoods and hardwoods, Nebraska, 1982

(In thousand cubic feet)

Ownership class	Net annual growth			Annual timber removals		
	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
PUBLIC						
National Forest	1,479	1,479	--	10	10	--
State	538	380	158	16	--	16
County & municipal	21	--	21	--	--	--
Indian	-46	--	-46	58	--	58
Total	1,992	1,859	133	84	10	74
PRIVATE						
Farmer and Misc. private	9,107	4,179	4,928	9,266	563	8,703
All owners	11,099	6,038	5,061	9,350	573	8,777

Table 81.--Net annual growth and removals of sawtimber on commercial forest land by ownership class and softwoods and hardwoods, Nebraska, 1982

(In thousand board feet)[1/]

Ownership class	Net annual growth			Annual timber removals		
	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
PUBLIC						
National Forest	5,915	5,915	--	23	23	--
State	5,587	4,887	700	22	--	22
County & municipal	64	--	64	--	--	--
Indian	-526	--	-526	291	--	291
Total	11,040	10,802	238	336	23	313
PRIVATE						
Farmer and Misc. private	31,689	16,897	14,792	35,928	2,523	33,405
All owners	42,729	27,699	15,030	36,264	2,546	33,718

[1/] International 1/4-inch rule.

Table 82.--Net annual mortality of growing stock on commercial forest land by softwoods and hardwoods, Nebraska, 1955 and 1982

(In thousand cubic feet)

Species	1955[1/]	1982
Softwoods	200	438
Hardwoods	1,700	1,745
All species	1,900	2,183

[1/] Figures have been adjusted from those published after the 1955 survey to conform to 1982 volumes because of changes in survey definitons and procedures.

Table 83.--Annual mortality of growing stock on commercial forest land by species group and cause, Nebraska, 1982

(In thousand cubic feet)

Species group	All causes	Cause						
		Insects	Disease	Fire	Animals	Weather	Suppression	Unknown and other
Softwoods								
Ponderosa pine	401	72	84	--	--	--	--	245
Eastern redcedar	37	--	--	--	--	--	--	37
Total	438	72	84	--	--	--	--	282
Hardwoods								
White oak	77	--	--	--	--	--	--	77
Red oak	72	--	--	--	--	72	--	--
Hickory	--	--	--	--	--	--	--	--
Basswood	--	--	--	--	--	--	--	--
Soft maple	--	--	--	--	--	--	--	--
Boxelder	--	--	--	--	--	--	--	--
Elm	311	--	136	--	--	--	--	175
Green ash	106	--	--	--	--	--	--	106
Cottonwood	898	--	--	--	--	225	--	673
Black willow	208	--	96	--	--	--	--	112
Hackberry	--	--	--	--	--	--	--	--
Black walnut	--	--	--	--	--	--	--	--
Other hardwoods	73	--	--	--	--	--	--	73
Total	1,745	--	232	--	--	297	--	1,216
All species	2,183	72	316	--	--	297	--	1,498

Table 84.--Annual mortality of sawtimber on commercial forest land by species group and cause, Nebraska, 1982

(In thousand board feet)[1/]

Species group	All causes	Cause						
		Insects	Disease	Fire	Animals	Weather	Suppression	Unknown and other
Softwoods								
Ponderosa pine	1,566	403	--	--	--	--	--	1,163
Eastern redcedar	--	--	--	--	--	--	--	--
Total	1,566	403	--	--	--	--	--	1,163
Hardwoods								
White oak	--	--	--	--	--	--	--	--
Red oak	369	--	--	--	--	369	--	--
Hickory	--	--	--	--	--	--	--	--
Basswood	--	--	--	--	--	--	--	--
Soft maple	--	--	--	--	--	--	--	--
Boxelder	--	--	--	--	--	--	--	--
Elm	923	--	467	--	--	--	--	456
Green ash	367	--	--	--	--	--	--	367
Cottonwood	3,502	--	--	--	--	835	--	2,667
Black willow	564	--	--	--	--	--	--	564
Hackberry	--	--	--	--	--	--	--	--
Black walnut	--	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	--	--	--
Total	5,725	--	467	--	--	1,204	--	4,054
All species	7,291	403	467	--	--	1,204	--	5,217

[1/] International 1/4-inch rule.

Table 85.--Annual mortality of growing stock and sawtimber on commercial forest land by ownership class and softwoods and hardwoods, Nebraska, 1982

Ownership class	Growing stock			Sawtimber		
	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
	Thousand cubic feet			Thousand board feet[1]		
National Forest	121	121	--	385	385	--
State	37	37	--	--	--	--
County and municipal	--	--	--	--	--	--
Indian	134	--	134	620	--	620
Farmer	1,623	280	1,343	5,635	1,181	4,454
Misc. private corporation	98	--	98	282	--	282
Misc. private individual	170	--	170	369	--	369
All owners	2,183	438	1,745	7,291	1,566	5,725

[1] International 1/4-inch rule.

Table 86.--Output of timber products by product, softwoods and hardwoods, and source of material, Nebraska, 1980

Product and softwoods and hardwoods	Standard units	Total		Roundwood products				Plant byproducts	
				Growing stock		Nongrowing stock			
		No. of units	Thousand cubic feet	No. of units	Thousand cubic feet	No. of units	Thousand cubic feet	No. of units	Thousand cubic feet
SAW LOGS									
Softwood	[1]/Thousand	1,773	313	1,773	313	--	--	--	--
Hardwood	board feet	17,218	2,654	16,881	2,602	337	52	--	--
Total		18,991	2,967	18,654	2,915	337	52	--	--
VENEER LOGS									
Softwood	[1]/Thousand	--	--	--	--	--	--	--	--
Hardwood	board feet	531	112	531	112	--	--	--	--
Total		531	112	531	112	--	--	--	--
COOPERAGE									
Softwood	[1]/Thousand	--	--	--	--	--	--	--	--
Hardwood	board feet	118	20	106	18	12	2	--	--
Total		118	20	106	18	12	2	--	--
FUELWOOD									
Softwood	[2]/Standard	1,115	77	135	9	181	12	799	56
Hardwood	cords	174,604	12,227	73,654	5,158	95,030	6,655	5,920	414
Total		175,719	12,304	73,789	5,167	95,211	6,667	6,719	470
POSTS									
Softwood	Thousand	116	88	79	60	37	28	--	--
Hardwood	pieces	215	121	34	19	181	102	--	--
Total		331	209	113	79	218	130	--	--
PULPWOOD									
Softwood	[2]/Standard	166	12	166	12	--	--	--	--
Hardwood	cords	--	--	--	--	--	--	--	--
Total		166	12	166	12	--	--	--	--
OTHER[3]/									
Softwood	Thousand	159	159	94	94	--	--	65	65
Hardwood	cubic feet	608	608	--	--	--	--	608	608
Total		767	767	94	94	--	--	673	673
ALL PRODUCTS									
Softwood	Thousand	--	649	--	488	--	40	--	121
Hardwood	cubic feet	--	15,742	--	7,909	--	6,811	--	1,022
Total		--	16,391	--	8,397	--	6,851	--	1,143

[1]/International 1/4-inch rule.

[2]/One cord equals 128 cubic feet including wood, bark, and air space.

[3]/Includes cabin logs, livestock bedding, mulch, and specialty items.

Table 87.--Output of roundwood products by product, softwoods and hardwoods, and source of material, Nebraska, 1980

(In thousand cubic feet)

Product and softwoods and hardwoods	All sources	Growing-stock trees			Rough and rotten trees	Salvable dead trees	Other sources
		Total	Sawtimber	Poletimber			
INDUSTRIAL PRODUCTS							
Saw logs							
Softwood	313	313	313	--	--	--	--
Hardwood	2,654	2,602	2,601	1	32	--	20
Subtotal	2,967	2,915	2,914	1	32	--	20
Veneer logs							
Softwood	--	--	--	--	--	--	--
Hardwood	112	112	112	--	--	--	--
Subtotal	112	112	112	--	--	--	--
Cooperage							
Softwood	--	--	--	--	--	--	--
Hardwood	20	18	18	--	2	--	--
Subtotal	20	18	18	--	2	--	--
Posts (Round and split)							
Softwood	88	60	18	42	--	4	24
Hardwood	121	19	14	5	3	--	99
Subtotal	209	79	32	47	3	4	123
Pulpwood							
Softwood	12	12	3	9	--	--	--
Hardwood	--	--	--	--	--	--	--
Subtotal	12	12	3	9	--	--	--
Other							
Softwood	94	94	86	8	--	--	--
Hardwood	--	--	--	--	--	--	--
Subtotal	94	94	86	8	--	--	--
All industrial products							
Softwood	507	479	420	59	--	4	24
Hardwood	2,907	2,751	2,745	6	37	--	119
Total	3,414	3,230	3,165	65	37	4	143
FUELWOOD							
Softwood	21	9	5	4	5	--	7
Hardwood	11,813	5,158	2,844	2,314	2,502	183	3,970
Total	11,834	5,167	2,849	2,318	2,507	183	3,977
ALL PRODUCTS							
Softwood	528	488	425	63	5	4	31
Hardwood	14,720	7,909	5,589	2,320	2,539	183	4,089
Total	15,248	8,397	6,014	2,383	2,544	187	4,120

Table 88.--Timber products from roundwood by species group and product, Nebraska, 1980

Species group	All products	Saw logs		Veneer logs		Fuelwood		Posts		Other[2]
	Thousand cubic feet	Thousand board feet[1]	Thousand cubic feet	Thousand board feet[1]	Thousand cubic feet	Cords	Thousand cubic feet	Thousand pieces	Thousand cubic feet	Thousand cubic feet
Softwoods										
Ponderosa pine	472	1,621	282	--	--	316	21	83	63	106
Eastern redcedar	56	152	31	--	--	--	--	33	25	--
Total	528	1,773	313	--	--	316	21	116	88	106
Hardwoods										
White oak	4,813	430	73	--	--	67,324	4,713	13	7	20
Red oak	527	56	9	--	--	7,280	510	13	8	--
Hickory	354	--	--	--	--	5,061	354	--	--	--
Basswood	54	35	6	--	--	665	48	--	--	--
Soft maple	46	59	9	--	--	506	37	--	--	--
Boxelder	222	--	--	--	--	3,190	222	--	--	--
Elm	593	24	2	--	--	8,434	591	--	--	--
Green ash	1,702	56	8	--	--	24,192	1,694	--	--	--
Cottonwood	3,034	15,420	2,377	433	99	7,934	557	3	1	--
Black willow	881	--	--	--	--	12,560	881	--	--	--
Hackberry	948	23	3	--	--	13,495	944	3	1	--
Black walnut	195	1,097	164	98	13	255	18	--	--	--
Sycamore	121	15	3	--	--	1,687	118	--	--	--
Osage-orange	316	--	--	--	--	3,142	220	166	96	--
Other hardwoods	914	3	3/	--	--	12,959	906	17	8	--
Total	14,720	17,218	2,654	531	112	168,684	11,813	215	121	20
All species	15,248	18,991	2,967	531	112	169,000	11,834	331	209	126

1/ International 1/4-inch rule.

2/ Includes pulpwood, cooperage logs, and cabin logs.

3/ Less than 500 cubic feet.

Table 89.--Volume of primary plant residue by type of use and kind of material, Nebraska, 1980

(In thousand cubic feet)

Type of use	Kind of wood residue							
	Total		Coarse[1/]		Fine[2/]		Bark	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Fiber products	--	--	--	--	--	--	--	--
Industrial fuel	--	--	--	--	--	--	--	--
Domestic fuel	55.9	414.4	55.9	412.5	--	1.9	34.8	312.2
Miscellaneous[3/]	65.1	607.9	22.9	160.5	42.2	447.4	17.0	34.1
Not used[4/]	13.5	490.5	6.2	367.6	7.3	122.9	19.4	269.5
All uses	134.5	1,512.8	85.0	940.6	49.5	572.2	71.2	615.8

[1/] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2/] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3/] Livestock bedding, mulch, small dimension, charcoal, and specialty items.

[4/] Includes residue burned as waste.

Table 90.--All live tree biomass yields on commercial forest land by species group and forest type, Nebraska, 1983

(In pounds per acre green weight)

Species group	Forest type							
	Ponderosa pine	Eastern redcedar-hardwood	Oak-hickory	Bur oak	Elm-ash-cottonwood	Cottonwood	Lowland plains hardwoods	Nonstocked
Softwoods								
Ponderosa pine	100,200	1,345	--	3,098	301	--	1,337	6,033
Eastern redcedar	389	20,927	--	1,803	1,275	2,425	1,819	--
Rocky mountain juniper	--	--	--	--	--	783	--	--
Total	100,589	22,272	--	4,901	1,576	3,208	3,156	6,033
Hardwoods								
White oak	6,016	13,346	39,395	91,863	3,314	--	25,031	--
Red oak	--	1,060	24,169	--	313	--	1,053	--
Hickory	--	--	22,604	2,066	150	--	1,282	--
Basswood	--	1,513	6,986	--	83	--	6,384	--
Soft maple	--	--	--	--	6,530	--	369	--
Boxelder	469	2,241	1,236	1,882	11,278	429	6,129	--
Elm	--	2,048	10,808	340	12,825	2,093	7,931	--
Green ash	599	5,514	5,462	5,536	16,849	4,609	7,441	--
Cottonwood	--	12,523	1,785	294	29,598	122,692	3,768	26,408
Black willow	--	704	--	--	6,734	6,565	316	--
Hackberry	--	1,535	2,676	3,713	2,161	513	22,515	--
Black walnut	--	321	5,270	329	1,942	--	4,654	--
Other hardwoods	--	681	5,185	640	6,983	2,948	8,656	1,419
Noncommercial species	--	660	8,384	--	1,463	385	868	--
Total	7,084	42,146	133,960	106,663	100,223	140,234	96,397	27,827
All species	107,673	64,418	133,960	111,564	101,799	143,442	99,553	33,860

Table 91.--All live tree biomass weight on commercial forest land by species group and forest type, Nebraska, 1983

(In green tons)

County	All types	Forest type							
		Ponderosa pine	Eastern redcedar-hardwood	Oak-hickory	Bur oak	Elm-ash-cottonwood	Cottonwood	Lowland plains hardwoods	Nonstocked
Softwoods									
Ponderosa pine	7,493,871	7,319,631	28,385	--	57,924	18,378	--	51,151	18,402
Eastern redcedar	751,397	28,388	441,569	--	33,716	77,757	100,378	69,589	--
Rocky mountain juniper	32,434	--	--	--	--	--	32,434	--	--
Total	8,277,702	7,348,019	469,954	--	91,640	96,135	132,812	120,740	18,402
Hardwoods									
White oak	4,084,931	439,403	281,595	486,524	1,717,837	202,150	--	957,422	--
Red oak	380,240	--	22,376	298,501	--	19,072	--	40,291	--
Hickory	376,039	--	--	279,162	38,638	9,167	--	49,072	--
Basswood	367,495	--	31,929	86,271	--	5,093	--	244,202	--
Soft maple	412,436	--	--	--	--	398,322	--	14,114	--
Boxelder	1,072,172	34,284	47,284	15,261	35,202	687,944	17,780	234,417	--
Elm	1,355,404	--	43,205	133,476	6,351	782,351	86,647	303,374	--
Green ash	1,834,365	43,787	116,343	67,458	103,527	1,027,806	190,830	284,614	--
Cottonwood	7,401,309	--	264,229	22,042	5,489	1,805,471	5,079,410	144,124	80,544
Black willow	709,528	--	14,858	--	--	410,802	271,795	12,073	--
Hackberry	1,149,056	--	32,382	33,049	69,434	131,802	21,236	861,153	--
Black walnut	374,486	--	6,769	65,088	6,154	118,459	--	178,016	--
Other hardwoods	973,790	--	14,377	64,033	11,972	425,949	122,039	331,093	4,327
Noncommercial species	255,851	--	13,924	103,540	--	89,235	15,948	33,204	--
Total	20,747,102	517,474	889,271	1,654,405	1,994,604	6,113,623	5,805,685	3,687,169	84,871
All species	29,024,804	7,865,493	1,359,225	1,654,405	2,086,244	6,209,758	5,938,497	3,807,909	103,273

Table 92.--All live tree biomass weight on commercial forest land by species group and tree biomass component, Nebraska, 1983

(In green tons)

Species group	All components	Biomass component				
		1- to 5-inch trees	Growing stock		Cull	
			Boles	Tops and limbs	Boles	Tops and limbs
Softwoods						
Ponderosa pine	7,493,871	455,183	4,441,953	1,914,849	518,649	163,237
Eastern redcedar	751,397	369,165	193,225	78,397	90,441	20,169
Rocky mountain juniper	32,434	--	--	--	23,110	9,324
Total	8,277,702	824,348	4,635,178	1,993,246	632,200	192,730
Hardwoods						
White oak	4,084,931	206,659	1,612,445	667,692	1,153,468	444,667
Red oak	380,240	26,438	205,573	86,647	43,536	18,046
Hickory	376,039	94,435	172,615	71,705	26,671	10,613
Basswood	367,495	22,644	177,543	74,005	66,358	26,945
Soft maple	412,436	38,905	168,779	70,095	95,105	39,552
Boxelder	1,072,172	26,769	179,021	73,835	589,705	202,842
Elm	1,355,404	365,497	446,737	183,223	271,703	88,244
Green ash	1,834,365	165,096	839,456	347,322	348,685	133,806
Cottonwood	7,401,309	72,398	4,871,130	2,035,833	313,736	108,212
Black willow	709,528	48,485	399,120	162,153	72,447	27,323
Hackberry	1,149,056	132,470	591,317	241,813	130,700	52,756
Black walnut	374,486	41,055	180,941	74,518	55,679	22,293
Other hardwoods	973,790	135,743	242,034	100,571	362,562	132,880
Noncommercial species	255,851	136,262	--	--	102,025	17,564
Total	20,747,102	1,512,856	10,086,711	4,189,412	3,632,380	1,325,743
All species	29,024,804	2,337,204	14,721,889	6,182,658	4,264,580	1,518,473

Table 93.--Removals,[1/] net annual growth, and inventory of growing stock on commercial forest land, Nebraska, 1983 and low removals option projections[2/] to 2013.

(In million cubic feet)

Year	All species		
	Removals	Growth	Inventory
1983	9.1	11.1	456.0
1993	7.4	12.5	491.2
2003	7.2	13.3	550.2
2013	8.3	13.2	607.5

[1/] Timber removals include volume "lost" due to land clearing, flooding, thinning, or changes in land use, in addition to timber cut and used.

[2/] Based on the following assumptions: (a) that the overall removals rate will be lower than that for the high removals option; (b) that the area of commercial forest land will decline but at an insignificant rate; (c) that radial growth will decline over time in relation to increased stand density; (d) that the intensity of forest management practised will continue at the rate indicated by recent trends; and (e) that the volume of "other" removals will drop during the period as more of these trees are utilized.

Table 94.--Removals,[1] net annual growth, and inventory of growing stock on commercial forest land, Nebraska, 1983 and high removals option projections[2] to 2013.

(In million cubic feet)

Year	All species		
	Removals	Growth	Inventory
1983	9.1	11.1	456.0
1993	9.2	12.3	480.8
2003	10.3	13.1	513.5
2013	13.0	12.6	527.4

[1] Timber removals include volume "lost" due to land clearing, flooding, thinning, or changes in land use, in addition to timber cut and used.

[2] Based on the following assumptions: (a) that the overall removals rate will be lower than that for the high removals option; (b) that the area of commercial forest land will decline but at an insignificant rate; (c) that radial growth will decline over time in relation to increased stand density; (d) that the intensity of forest management practised will continue at the rate indicated by recent trends; and (e) that the volume of "other" removals will drop during the period as more of these trees are utilized.

Table 95.--Sampling errors[1] for estimates smaller than the State totals of volume, net growth, removals, and area of commercial forest land, Nebraska, 1983

Sampling error	Commercial forest area	Growing Stock			Sawtimber		
		Inventory	Growth	Removals	Inventory	Growth	Removals
Percent	Thousand acres	Million cubic feet			Million board feet[2]		
1	19,604.1	34,040.3	1,321.1	3,954.3	150,242.7	8,788.4	15,838.9
2	4,901.0	8,510.1	330.3	988.6	37,560.7	2,197.1	3,959.7
3	2,178.2	3,782.3	146.8	439.4	16,693.6	976.5	1,759.9
4	1,225.3	2,127.5	82.6	247.1	9,390.2	549.3	989.9
5	784.2	1,361.6	52.8	158.2	6,009.7	351.5	633.6
10	196.0	340.4	13.2	39.5	1,502.4	87.9	158.4
15	87.1	151.3	5.9	17.6	667.7	39.1	70.4
20	49.0	85.1	3.3	9.9	375.6	22.0	39.6
25	31.4	54.5	2.1	6.3	240.4	14.1	25.3
50	7.8	13.6	0.5	1.6	60.1	3.5	6.3
100	2.0	3.4	0.1	0.4	15.0	0.9	1.6

[1] At the 68-percent probability level.

[2] International 1/4-inch rule.

☆ U.S. Government Printing Office: 1986—755-149

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The second inventory of the timber resource of Nebraska shows a 25-percent decline in commercial forest area and a 23-percent gain in growing-stock volume between 1955 and 1983. Text and statistics are presented on area, volume, growth, mortality, removals, utilization, biomass, and future timber supply.

KEY WORDS: Area, volume, growth, mortality, removals.