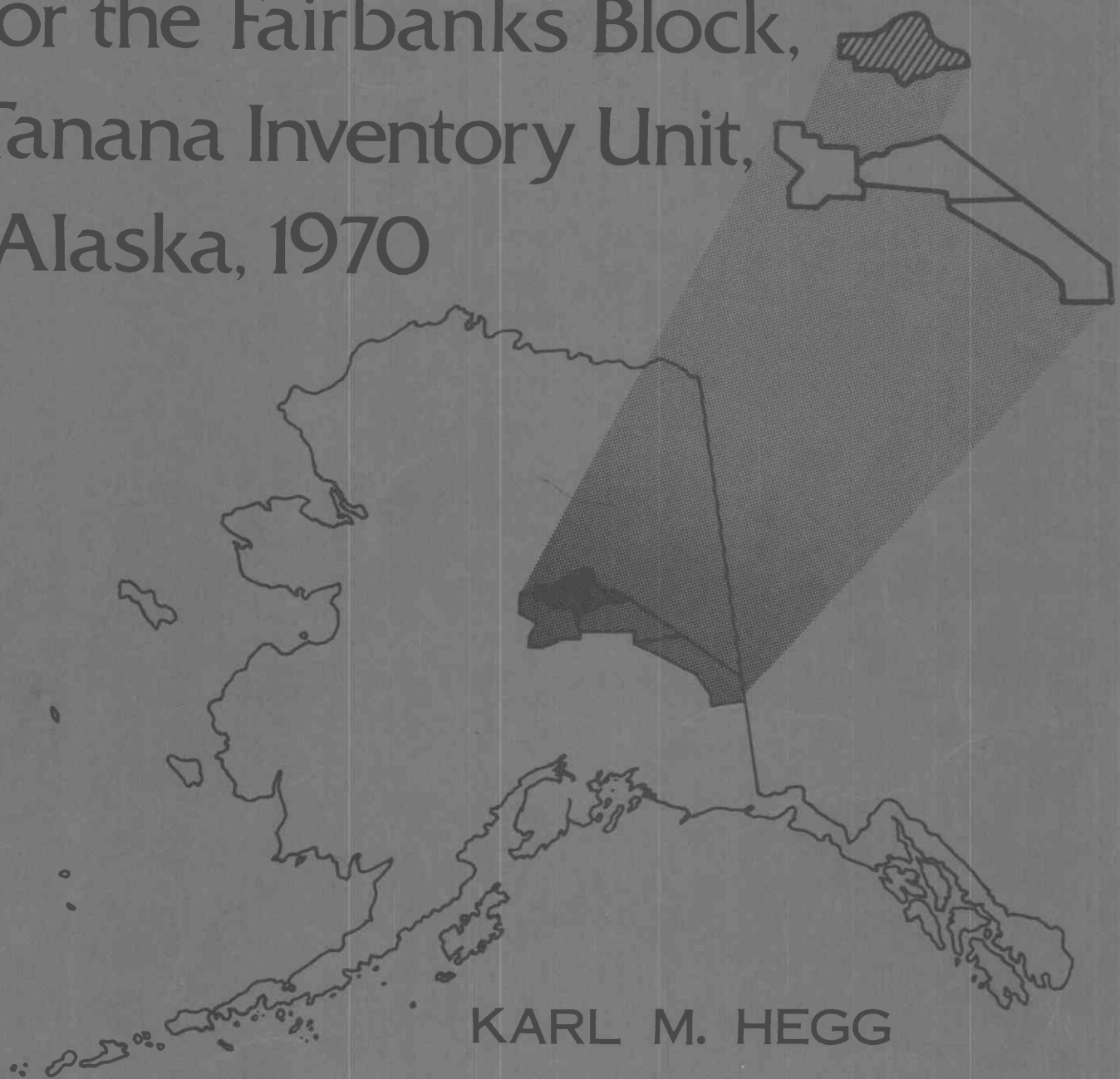
1975
USDA FOREST SERVICE RESOURCE BULLETIN PNW-59

TIMBER RESOURCE STATISTICS for the Fairbanks Block, Tanana Inventory Unit, Alaska, 1970



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ABSTRACT

This report for the 3-million-acre Fairbanks block is the first of four on the 14-million-acre Tanana Valley inventory unit. Observations are made on forest condition, defect, stand regeneration, fire history, and present use. Data are provided for an operable noncommercial forest land category as well as for standard Forest Survey area and volume statistics. Commercial forest land occupies three-quarters of a million acres and has a net volume of 578 million cubic feet. Growing-stock volume on 51,000 acres of operable noncommercial forest land is 49.6 million cubic feet.

Keywords: Forest surveys (Tanana Valley, Alaska).

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PREFACE

This resource bulletin presents the findings of the first intensive inventory of that portion of the Tanana River drainage around the city of Fairbanks. This 3-million-acre area is identified as the Fairbanks block (fig. 1, p. viii).

Preparations for the Tanana inventory began in 1968 when a cooperatively funded contract was let for aerial photography of 11.3 million acres of the Tanana River Valley, which, with a 2.3-million-acre area previously photographed, make up the 13.6-million-acre Tanana drainage. Cooperators were Economic Development Administration (EDA), U.S. Department of Commerce; Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM), U.S. Department of the Interior; and Alaska Division of Lands (ADL), State of Alaska. The original intent was to inventory the valley as one unit, but poor flying weather and smoke haze slowed the photo project, so "blocks" within the Tanana River Valley inventory unit have been inventoried as photos became available.

This report is on the Fairbanks block, completed in 1971. The second block, the Kantishna, was completed in 1973 and will be the subject of the second report in this series. Reports on inventories of the other two blocks, Upper Tanana and Wood-Salcha, will be published as data become available.

Work on the Fairbanks block began in 1969 with photo interpretation of about 5,600 1-acre photo points. Photo interpretation, ownership determination, preparation, and fieldwork were a cooperative effort of ADL, BLM, BIA, and Forestry Sciences Laboratory (Juneau) of the Pacific Northwest Forest and Range Experiment Station. Supervision and editing of plot records were done by the Forestry Sciences Laboratory. Data processing was handled by the Pacific Northwest Forest and Range Experiment Station at Portland.

Forest Survey, authorized by the McSweeney-McNary Act in 1928 and extended to Alaska in 1954, is a nationwide effort conducted at various locations to obtain information on forest lands--their extent, condition, volume, growth, and depletion. The first inventories of the interior portion of Alaska were begun in 1956 and completed in 1962. These were extremely extensive inventories, and subsequently, areas with concentrations of commercial forest land have been defined for more intensive effort. In addition to the Fairbanks block, areas for which intensive inventories have been conducted and for which reports are available or pending are:[1/] Susitna Valley, Kuskokwim River, Copper River, Koyukuk, Tuxedni Bay, the Norton Bay Indian Reservation, and the Kantishna, Upper Tanana, and Wood-Salcha blocks of the Tanana unit.

1/ The Susitna Valley and Koyukuk reports by Karl M. Hegg have been published by the Pacific Northwest Forest and Range Experiment Station: "Forest Resources of the Susitna Valley, Alaska" (USDA Forest Service Resource Bulletin PNW-32, 42 p., illus., 1970) and "Forest Statistics for the Upper Koyukuk River, Alaska, 1971" (USDA Forest Service Resource Bulletin PNW-54, 26 p., illus., 1974). The other reports will be prepared for publication by Forestry Sciences Laboratory, Juneau, Alaska, as data become available.

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TABLES

METRIC CONVERSIONS

1 acre	= 0.4047 hectare
1 hectare	= 2.47 acres
1 cubic foot	= 0.0283 cubic meter
1 cubic meter	= 35.3145 cubic feet
1 cubic foot per acre	= 0.06997 cubic meter per hectare
1 cubic meter per hectare	= 14.29 cubic feet per acre
20 cubic feet per acre	= 1.3994 cubic meter per hectare
1 square foot basal area per acre	= 0.2296 square meter per hectare
1 square meter per hectare	= 4.356 square feet per acre

TIMBER RESOURCE STATISTICS FOR THE FAIRBANKS BLOCK, TANANA INVENTORY UNIT, ALASKA, 1970

Reference Abstract

Hegg, Karl M.
1975. Timber resource statistics for the Fairbanks block, Tanana inventory unit, Alaska, 1970. USDA For. Serv. Resour. Bull. PNW-59, 36 p.

This resource bulletin reports on the findings of the first intensive forest inventory of a 3-million-acre unit near Fairbanks, Alaska. Included are comments on forest condition, defect, regeneration, fire history, and present use. Standard Forest Survey data are presented for commercial forest land and a special noncommercial forest land class.

Keywords: Forest surveys (Tanana Valley, Alaska).

HIGHLIGHTS
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	Thousand acres	Thousand hectares
Total Fairbanks block area:	3,010.0	1 218.6
with forests	2,566.9	1 039.2
with nonforest	322.6	130.6
with noncensus water	41.3	16.7
with census water	79.2	32.1
Forested area breakdown:		
commercial forest land	748.0	302.8
noncommercial forest land:		
more than 800 cubic feet per acre	50.6	20.5
less than 800 cubic feet per acre	1,768.3	716.0

Commercial forest composition:

sawtimber	120.0	48.6
poletimber	246.6	99.8
seedlings and saplings	361.9	146.5
nonstocked	19.5	7.9

Volumes on commercial forest land:

	Thousand cubic feet	Thousand cubic meters	Thousand board feet [2/]	Thousand cubic meters [2/]
Total net volume	577,754.5	16 350.4	1,396,353.2	7 416.9
Total gross volume	607,252.2	17 185.2	1,483,900.6	7 727.5
Annual net growth	20,513.3	580.5	54,687.8	84.6
Annual net mortality	2,416.8	68.4	7,776.8	42.1

[2/] Volume in roundwood and softwood trees > 9.0-inch d.b.h. and hardwood trees > 11.0-inch d.b.h.

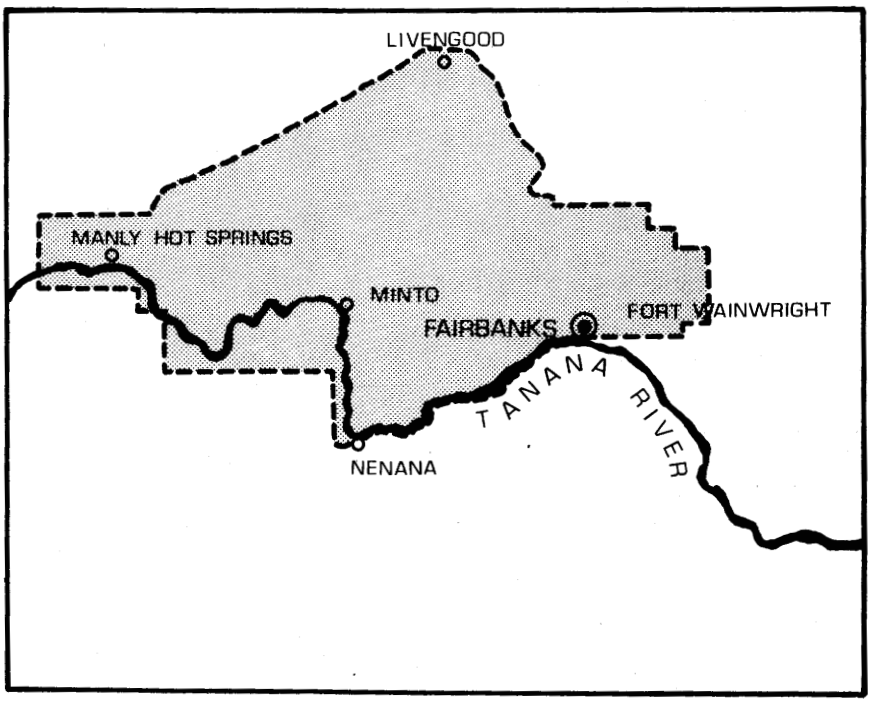

Figure 1.--The Fairbanks block of the Tanana Valley inventory unit.

OBSERVATIONS

Area and Location

The Fairbanks block (fig. 1) lies generally north of the Tanana River being bounded on the east and north by the heights of land dividing the Tanana and Yukon drainages. Geographically it lies within 64°30' and 65°30' north latitude, and 147° and 151° west longitude.

The major population center of the unit is Fairbanks and adjoining Fort Wainwright, with smaller populations at Livengood, Manly Hot Springs, Nenana, and Minto. Several semiabandoned gold mine towns also have a few permanent residents.

Gold mining left its mark on this area in several ways. Numerous trails criss-cross the area, and most river channels show old placer or dredge mining activities. The effect of these widespread activities is evident today in the varied age classes of timber stands creating a patchwork pattern. Man-caused fires probably have added significantly to this pattern.

Forest Description

Although fires have burned across a major portion of this unit, some of the finest mature white spruce[3/] stands in the State are found on the riverbanks and hillsides near Fairbanks (fig. 2). These remnant stands illustrate growth potential of the forests of this area. One stand a few miles west of Fairbanks has been reserved for study and research as the Bonanza Creek Experimental Forest. Sawtimber stands total about 120,000 acres or 16 percent of the commercial forest land in the Fairbanks block. Volumes of 15,000 board feet per acre are not uncommon, with an average volume per acre of 7,500 board feet for all sawtimber stands.

3/ Scientific names for trees are shown on page 5.

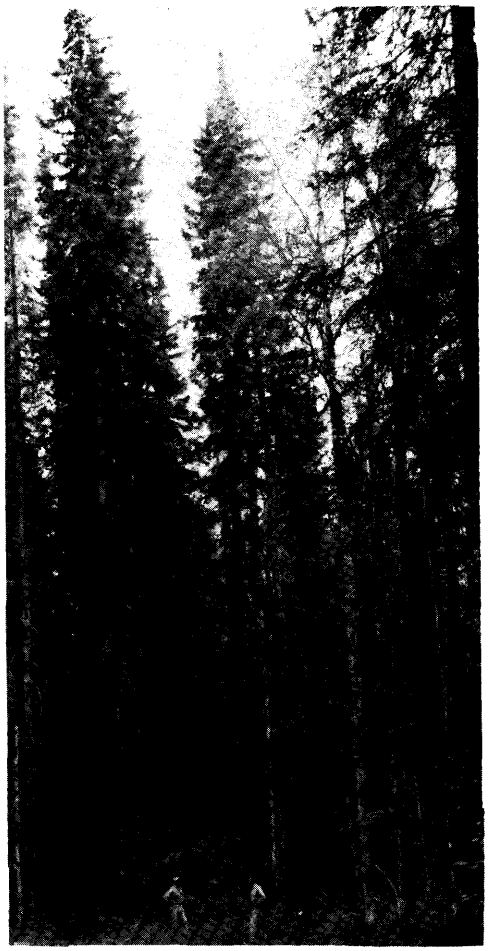

Figure 2.--A mature stand of white spruce in the vicinity of Fairbanks. Total height is about 100 feet with diameters to 25 inches.

The fire history of this unit shows more graphically in the seedling-sapling and poletimber stands. These stands comprise 608,500 acres (81 percent) of the 748,000 acres of commercial forest land.

Fire also appears to have changed land productivity and resulted in more commercial forest land. There is visual evidence that fires change marginal sites to a commercial category by removing the insulating duff and organic layer. The removal of this insulating layer increases insolation and increases depth to permafrost. Such sites, if presently classed as commercial, may in time revert to noncommercial black spruce or brush as the closing crown cover and accumulating duff increase ground insulation.

Commercial stands are found on almost all exposures and drainages. Generally, north slopes rounding to southeast and gently sloping to flat undrained areas are least likely to be or remain commercial. Commercial stands do, however, occur on all exposures, including north.

The best stands in this unit are located in the hills west of Fairbanks to Nenana and lying north of the Tanana River to the Chatanika drainage. Outside of that region, the other notable area is the Dugan Hills just west of the Minto Flats. The perimeter is bounded by the White Mountains on the east, north, and west; and only minor areas of commercial forest land are found there.

Forest Uses

Fairbanks is the trade center of northern Alaska and as such supports several basic industries. Among these is a sawmill and planing mill (the largest mill north of the Alaska Range), producing over 2 million board feet of lumber per year (fig. 3). There are several small sawmills in the Fairbanks vicinity, producing turned and sawn house logs, lumber, timbers, and pilings. However, some of these mills operate on an intermittent basis. Minor amounts of timber are also cut for fuelwood, generally as a byproduct of land clearing.

What impact the trans-Alaska pipeline may have on the timber economy is difficult to ascertain. At present, lumber shipped from the Pacific Northwest is competitive on the local market and may continue to be so. Large discount purchasing in the "lower 48" by the pipeline companies and shipment on their own vessels may make Alaska timber noncompetitive. The present lack of stumpage for sale in the Fairbanks area, as a result of the unsettled land ownership, can only aggravate the situation. Currently, available stumpage is selling for about $100 per thousand board feet, Scribner scale.

Already, there are indications of a more enduring market from Pacific Rim demands for logs, chips, cants, lumber, and pulp.

Major uses of the forests of this block are for recreation, hunting, and fishing. A fairly large population of moose is in the area, and many game fish are in the various rivers and lakes. Above all, the forests and land provide a scenic backdrop of dark evergreens contrasted with lighter green hardwoods with autumn change to gold.

Figure 3.--This Fairbanks sawmill produces about 2 million feet, board measure, per year. Output is in the form of standard dimension lumber, squared timber, and three-sided house logs.

Defect

The amount of defect in the stands of the Fairbanks block is, as would be expected for young stands, quite low. The deduction from gross volume for defect is: white spruce, 2 percent; balsam poplar, 11 percent; birch, 5 percent; and aspen, 4 percent. More mature stands have defect rates of about 3 percent for white spruce to 10-25 percent for hardwoods.

Regeneration

Less than 3 percent of the commercial forest area was classified as nonstocked, indicating little problem with regeneration. This is particularly so with hardwoods since all hardwood species have potential for prolific regeneration (fig. 4). However, white spruce continues to be a favored species in the marketplace, and management aimed at increasing space occupied by white spruce faces problems. White spruce regeneration is a principal study of the Institute of Northern Forestry at Fairbanks. Preliminary findings point up the highly cyclical nature of good seed years, the need for predicting them, and perhaps timber and sales management based on these predictions.

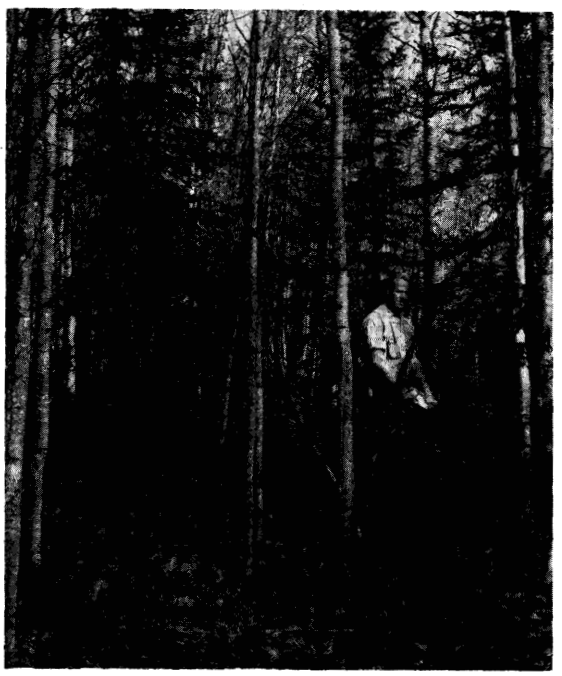

Figure 4.--Dense stands of hardwood regeneration are commonplace in interior Alaska. This aspen stand illustrates a well-stocked condition plus the initial stages of replacement by white spruce.

Growth and Mortality

In terms of cubic-foot growing stock, softwoods are growing at 2.0 percent of net volume and hardwoods at 5.2 percent. Because softwood stands contain a much higher volume per acre than hardwoods, the actual growth per acre is about the same--roughly 27 cubic feet annually. Growth rates in terms of sawtimber (board feet) show softwoods growing at 3.5 percent and hardwoods at 7.3 percent of net volume. Because softwoods average over 5,000 board feet per acre and hardwoods less than 1,000, the actual board-foot growth of sawtimber in softwood stands is much greater than in hardwood stands.

Since the softwood stands are much older than the hardwood stands, mortality follows a pattern similar to growth. Over half the area in softwood type is occupied by trees over 100 years old, whereas 66 percent of the hardwood stands are made up of trees less than 50 years old. The older trees are more susceptible to defect and mortality. some indication of this is found in table 28, which shows well over half the total mortality occurring in spruce.

SURVEY METHODS

The estimates of area and timber volumes are based on a double sampling procedure.[4/]

[4/] C. A. Bickford. The sampling design used in the forest survey of the Northeast. Journal of Forestry 50: 290-293, 1952.

Enough points to satisfy specific levels of statistical precision were uniformly distributed on aerial photographs. At each of these photo points, 1 acre was classified by land type, forest type, and volume strata. A subsample was drawn from all land types and reexamined. All points in the subsample which were originally classified as commercial forest land as well as any other points questionably classified were visited on the ground.

For the Fairbanks block, we interpreted 5,628 photo points and reexamined 435 noncommercial and nonforest points. This reexamination served as a substitute ground check and yielded 66 questionable points which, with the 174 commercial forest and operable noncommercial points, totaled 240 locations actually checked on the ground. The ground plot was located at the exact point established on the photo. At each ground location a 10-point cluster of plots was measured. A 40 basal-area factor gage was used to select sample trees at each point for detailed measurements of size and vigor. Through data processing procedures, the total sample and the individual tree volumes were expanded to obtain the various data needed or specified on area and volume. However, the tables herein depart from the standard Forest Survey tables with addition of a noncommercial forest category called "operable." During the initial inventory of interior Alaska, we found that much noncommercial forest land had a relatively high per-acre volume. When more intensive inventories were begun in the mid-1960's, we and our cooperators agreed that some of this noncommercial strata had potential value as a commercial wood supply. By extrapolation, from cutting minimums of 3 cords per acre used in the Lake States and Canada, we established 9 cords or 800 cubic feet per acre as a prudent level for Alaska. This threefold increase in the minimum economic operating level should help compensate for the higher production and shipping costs in Alaska. The operable noncommercial areas presently have more than 800 gross cubic feet per acre in poletimber and sawtimber trees. The area and volume in this classification, although considered adequate for some cutting operations, should not be included in allowable cut computations. Future studies may show, through logging or other silvicultural practices, if these marginal sites can be managed as commercial forest land. None of the reported areas and volumes (whether classed as commercial or other) should be used in any calculation of an allowable cut without consideration of possible management and land use alternatives.

SAMPLING ERROR

The reliability of the inventory is expressed in terms of relative sampling errors.

	Design sampling error	Sampling error achieved	Sampling error of total volume or area reported
		Percent	
Area:			
Commercial forest land per million acres	3.0	5.0	±6.0
Noncommercial forest land per million acres	10.0	8.0	±6.0
Volume:			
Commercial forest land per billion cubic feet	6.0	6.0	±8.0
Commercial forest land growth per billion cubic feet	5.0	2.0	±12.0

For the Fairbanks-Tanana block, we report 577.8 million cubic feet of net growing-stock volume ± 8 percent. If repeated samples were taken of this population, the chances are two in three that the true total volume is between 531.6 and 624.0 million cubic feet.

We exceeded our design sampling error for area (3.0) and met the design error (6.0) for commercial forest land volume.

PRINCIPAL TREE SPECIES OF ALASKA[5/]

Softwoods:	
Black spruce	*Picea mariana* (Mill.) B.S.P.
Tamarack	*Larix laricina* (Du Roi) K. Koch
White spruce	*Picea glauca* (Moench) Voss
Hardwoods:	
Balsam poplar	*Populus balsamifera* L.
Black cottonwood	*Populus trichocarpa* Torr. & Gray
Paper birch	*Betula papyrifera* Marsh.
Quaking aspen	*Populus tremuloides* Michx.

TERMINOLOGY

Allowable cut.--The volume of timber that would be cut on commercial forest land during a given period under specified management plans for sustained production such as those in effect on National Forests.

Area condition class.--Area condition class provides a general stratification of commercial forest land by management opportunity class as indicated by the stocking or area controlled by tree and cover class.

Area Condition Classification

Code	
10	Areas 100 percent or more stocked with desirable trees and not overstocked. Stands in this category generally do not require any treatment at present to maintain high level of growth.
20	Areas 100 percent or more stocked with desirable trees and overstocked. Stands in this category need a treatment such as thinning to produce maximum levels of growth of desirable trees.

5/ Scientific names are according to Elbert L. Little, Jr., Check list of native and naturalized trees of the United States (including Alaska). Agriculture Handbook No. 41, 472 p. USDA Forest Service, Washington, D.C., 1953.

30 Areas 60 to 100 percent stocked with desirable trees and with less than 30 percent of the area controlled by acceptable growing-stock trees, cull trees, inhibiting vegetation, slash, or nonstockable conditions. Stands in this category generally have conditions favorable for natural improvement of stocking without special treatment.

40 Areas 60 to 100 percent stocked with desirable trees and with 30 percent or more of the area controlled by other trees (or overstocked areas) or conditions that ordinarily prevent occupancy by desirable trees. Stands in this category generally have little prospect for improvement in desirable tree stocking without special treatment such as thinning, cull tree removal, etc.

50 Areas less than 60 percent stocked with desirable trees but with 100-percent or more stocking with growing-stock trees. Stands in this category generally have little prospect for improved desirable tree stocking without special treatment. Stands almost to rotation age would usually not be treated.

60 Areas less than 60 percent stocked with desirable trees but with 60- to 100-percent stocking with growing-stock trees. Stands in this category generally have little prospect for improved desirable tree stocking without special treatment such as timber stand improvement or planting.

70 Areas less than 60 percent stocked with desirable trees and with less than 60-percent stocking with growing-stock trees. Stands in this category generally have little prospect for improved desirable tree or growing-stock stocking without treatment such as site preparation and regeneration, etc.

Commercial species.--Trees presently or prospectively suitable for industrial products.

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

Cull trees.--Live trees of sawtimber or poletimber size unmerchantable for saw logs now or prospectively because of defect, rot, or species.

Rough trees: Live trees of 5.0-inch and larger d.b.h. that do not contain a saw log now or prospectively, primarily because of roughness, poor form, or because they are a noncommercial species.

Rotten trees: Live trees of 5.0-inch and larger d.b.h. that do not contain a saw log now or prospectively, primarily because of rot.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having such tree cover, and not currently developed for nonforest use.

Commercial forest land: Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. Areas qualifying as commercial forest land have the capability of producing in excess of 20 cubic feet per acre per year of industrial wood under management.

Noncommercial forest land: Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions (producing less than 20 cubic feet per acre per year) and productive forest land withdrawn from commercial timber

use through statute or administrative regulation.

Noncommercial operable--noncommercial forest land with a gross volume in excess of 800 cubic feet per acre.

Noncommercial inoperable--noncommercial forest land with a gross volume of less than 800 cubic feet per acre.

Forest types.--A classification of forest land based on the species forming a plurality of the live tree stocking.

Spruce: Forests in which a plurality of the stand is white spruce. Common associates include birch, aspen, and cottonwood.

Cottonwood: Forests in which a plurality of the stand is black cottonwood or balsam poplar or both. Common associates include white spruce and birch.

Aspen or birch: Forests in which a plurality of the stand is aspen or paper birch, or both. Common associates include black cottonwood and white spruce.

Growing-stock trees.--Sawtimber trees, poletimber trees, saplings, and seedlings; that is, all live trees except cull trees.

Desirable trees: Growing-stock trees with no serious defects in quality limiting present or prospective use, relatively high vigor, and no pathogens that could result in death or serious deterioration before rotation age. They include the type of trees forest managers aim to grow; that is, the trees left in silvicultural cutting or favored in cultural operations.

Acceptable trees: Trees meeting the specifications for growing stock but not qualifying as desirable.

Hardwoods.--Dicotyledonous trees, usually broad leaved and deciduous. Alaska hardwood species are paper birch, quaking aspen, black cottonwood and balsam poplar.

Inhibiting vegetation.--Cover sufficiently dense to prevent establishment of tree seedlings.

International 1/4-inch rule.--A rule used to determine the tree volume in board feet.[6/]

Land area.--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 120 feet wide; and lakes, reservoirs, and ponds less than 1 acre in area.

Log grades.--A classification of logs based on external characteristics as indicators of quality or value.

Mean annual increment (MAI).--A measure of the volume of wood, in cubic feet, produced on 1 acre during 1 year. Forest Survey minimum standard for commercial forest land is the ability to produce 20 cubic feet per acre per year.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a 5-year period.

Net annual growth of growing stock.--The annual change in volume of sound wood in live sawtimber and poletimber trees.

6/ Donald Bruce and Francis X. Schumacher. Forest mensuration. 483 p. McGraw-Hill Book Co., New York, 1950.

Net annual growth of sawtimber.--The annual change in net board-foot volume of live sawtimber trees.

Net volume.--The gross volume of a tree less deductions for rot, sweep, or other defect affecting product use.

Growing-stock volume: The net volume of sound wood in the bole of growing stock ~~[culls, and salvable dead]~~ trees 5.0 inches and larger in diameter at breast height, from stump to a minimum 4.0-inch top outside bark or to the point where the central stem breaks into limbs.

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

Nonforest land.--Land that does not qualify as forest land. Includes land that has never supported forests and lands formerly forested where forest use is precluded by development for nonforest uses, such as crops, improved pasture, residential areas, and city parks. Also includes improved roads and certain areas of water classified by the Bureau of the Census as land. Unimproved roads, streams, canals, and nonforest strips in forest areas must be more than 120 feet wide, and clearings in forest areas must be more than 1 acre in size, to qualify as nonforest land.

Nonstockable land.--Areas of forest land not capable of supporting forest growth because of rock, water, etc.

Salvable dead trees.--Standing dead trees that are considered currently or potentially merchantable by regional standards. A poletimber tree must be more than one-half sound; a sawtimber tree more than one-third sound (board measure).

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 inside bark of 6 inches for softwoods (8 inches for hardwoods).

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 7.0-inch d.o.b. (diameter outside bark) for softwoods and 9.0-inch d.o.b. for hardwoods.

Site classes.--A classification of forest land by its capacity to grow crops of industrial wood.

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

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

Overstocked areas: Areas where growth of trees is significantly reduced by excessive numbers of trees.

Nonstocked areas: Commercial forest lands less than 16.7 percent stocked with growing-stock trees.

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

Sawtimber stands: Stands at least

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

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 sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands: Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

Tree-size classes.--A classification based on the diameter of the tree at breast height (4-1/2 feet above the ground on the uphill side of the tree):

Sawtimber-size tree:
Softwood tree of 9.0-inch d.b.h. and larger.
Hardwood tree of 11.0-inch d.b.h. and larger.

Poletimber-size tree:
Softwood tree of 5.0- to 8.9-inch d.b.h.
Hardwood tree of 5.0- to 10.9-inch d.b.h.

Sapling-size tree: A tree of 1.0- to 4.9-inch d.b.h.
Seedling-size tree: A tree of less than 1.0-inch d.b.h.

Upper stem portion.--That part of the main stem or fork of sawtimber trees above the saw log top to a minimum top diameter of 4.0-inch outside bark or to the point where the main stem or fork breaks into limbs.

Water.--Bureau of the Census definition: Streams, sloughs, estuaries, and canals more than one-eighth of a statute mile in width; and lakes, reservoirs, and ponds more than 40 acres in area.

Forest Survey: The same as the Bureau of the Census definition, except minimum width of streams etc. is 120 feet and minimum size of lakes etc., is 1 acre.

Table 1.--*Area of forest land by land class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

Land classes	Thousand acres
Forest land:	
Commercial	748.0
Noncommercial	
Operable	1/ 50.6
Inoperable	2/ 1,768.3
Total	2,566.9
Nonforest land	3/ 363.9
Total land	2,930.8
Census water	79.2
Total area	3,010.0

1/ Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

2/ Inoperable noncommercial forest land is defined as areas supporting a gross volume of less than 800 cubic feet per acre.

3/ Includes swampland, industrial and urban areas, other nonforest land, and 41,300 acres, classed as water by Forest Survey standards, but defined by the Bureau of the Census as land.

Table 2.--*Area of commercial and operable noncommercial*[1/] *forest land, by stand-size class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand acres)

Stand-size class	Forest land		
	Commercial	Operable noncommercial	Total
Sawtimber stands	120.0	5.0	125.0
Poletimber stands	246.6	40.9	287.5
Seedling and sapling stands	361.9	4.7	366.6
Nonstocked areas	19.5	0	19.5
Total	748.0	50.6	798.6

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 3.--*Area of commercial and operable noncommercial*[1/] *forest land, by stand volume class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand acres)

Stand volume class (board feet per acre)[2/]	Forest land		
	Commercial	Operable noncommercial	Total
0 - 799	501.5	16.6	518.1
800 - 1,499	41.9	9.6	51.5
1,500 - 2,999	56.6	14.7	71.3
3,000 - 4,999	28.8	9.7	38.5
5,000 - 6,999	28.8	0	28.8
7,000 and over	90.4	0	90.4
Total	748.0	50.6	798.6

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

[2/] Net volume, International 1/4-inch rule.

Table 4.--*Area of commercial and operable noncommercial*[1/] *forest land, by stand-size and stand volume classes, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand acres)

Stand volume class (net cubic feet per acre)	Stand-size class				
	Nonstocked	Seedling-sapling	Poletimber	Sawtimber	Total
0 - 299	19.5	241.1	10.6	0	271.2
300 - 799	0	115.8	101.5	9.6	226.9
800 - 1,499	0	4.7	118.4	30.1	153.2
1,500 - 2,199	0	5.0	42.9	37.6	85.5
2,200 and over	0	0	14.1	47.7	61.8
Total	19.5	366.6	287.5	125.0	798.6

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 5.--*Area of commercial forest land by area condition class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

Code	Area condition class	Thousand acres
10	Areas 100 percent or more stocked with desirable trees and not overstocked	21.1
20	Areas 100 percent or more stocked with desirable trees and overstocked	61.8
30	Areas 60 to 100 percent stocked with desirable trees, and with less than 30 percent of the area controlled by acceptable growing-stock trees, cull trees, inhibiting vegetation, slash, or nonstockable conditions	36.0
40	Areas 60 to 100 percent stocked with desirable trees and with 30 percent or more of the area controlled by other trees (or overstocked areas) or conditions that ordinarily prevent occupancy by desirable trees	146.0
50	Areas less than 60 percent stocked with desirable trees but with 100 percent or more stocking with growing-stock trees	138.8
60	Areas less than 60 percent stocked with desirable trees but with 60- to 100-percent stocking with growing-stock trees	245.5
70	Areas less than 60 percent stocked with desirable trees and with less than 60-percent stocking with growing-stock trees	98.8
	All classes	748.0

Table 6.--*Area of commercial forest land, by site class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

Site class[1] (cubic feet)	Thousand acres
165 or more [2]	0
120 - 165	0
85 - 120	0
50 - 85	5.0
20 - 50	743.0
Total	748.0

[1] Site class is a classification of forest land by its capability to grow crops of industrial wood based on fully stocked natural stands.

[2] Potential yield, mean annual increment.

Table 7.--*Area of commercial and noncommercial forest land, by forest type, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand acres)

Forest type	Commercial forest land	Noncommercial forest land		
		Operable[1]	Inoperable[2]	Total
Balsam poplar	14.7	0	0	0
Black Spruce	5.0	15.6	[3] 1,758.0	1,773.6
Paper birch	387.0	16.0	4.7	20.7
Quaking aspen	158.4	0	5.6	5.6
White spruce	163.4	19.0	0	19.0
Nonstocked	19.5	--	--	--
Total	748.0	50.6	1,768.3	1,818.9

[1] Operable noncommercial forest land is defined as areas presently supporting more than 800 cubic feet of volume (gross).

[2] Inoperable noncommercial forest land is defined as areas supporting a gross volume of less than 800 cubic feet per acre.

[3] All inoperable noncommercial forest land is assumed to be black spruce.

Table 8.--*Area of commercial forest land, by stand age and stand-size classes, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand acres)

Stand age (years)	Stand-size class				
	Nonstocked	Sapling-seedling	Poletimber	Sawtimber	All classes
Nonstocked					
1 - 9	0	4.7	0	0	4.7
10 - 19	4.7	36.5	0	0	41.2
20 - 29	0	70.8	4.7	0	75.5
30 - 39	14.8	153.2	24.5	0	192.5
40 - 49	0	51.1	67.2	0	118.3
50 - 59	0	21.0	49.3	0	70.3
60 - 69	0	0	4.6	0	4.6
70 - 79	0	0	19.2	4.7	23.9
80 - 89	0	4.6	5.0	9.3	18.9
90 - 99	0	0	19.8	26.3	46.1
100 - 119	0	4.7	15.6	28.2	48.5
120 - 139	0	5.6	19.2	23.7	48.5
140 - 159	0	0	6.4	9.4	15.8
160 - 179	0	0	0	4.6	4.6
180 - 199	0	0	0	0	0
200 - 299	0	0	0	4.6	4.6
300 and over	0	0	0	0	0
Mixed ages	0	9.7	11.1	9.2	30.0
Total	19.5	361.9	246.6	120.0	748.0

Table 9.--*Area of operable noncommercial*[1/] *forest land, by stand age and stand-size class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand acres)

Stand age (years)	Stand-size class				
	Nonstocked	Sapling-seedling	Poletimber	Sawtimber	All classes
1 - 9	0	0	0	0	0
10 - 19	0	0	0	0	0
20 - 29	0	0	0	0	0
30 - 39	0	0	0	0	0
40 - 49	0	0	0	0	0
50 - 59	0	0	0	0	0
60 - 69	0	0	0	0	0
70 - 79	0	0	5.6	0	5.6
80 - 89	0	0	6.4	0	6.4
90 - 99	0	0	0	0	0
100 - 119	0	4.7	14.3	0	19.0
120 - 139	0	0	0	0	0
140 - 159	0	0	4.9	0	4.9
160 - 179	0	0	0	0	0
180 - 199	0	0	0	5.0	5.0
200 - 299	0	0	0	0	0
300 and over	0	0	0	0	0
Mixed ages	0	0	9.7	0	9.7
Total	0	4.7	40.9	5.0	50.6

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 10.--*Number of growing-stock trees on commercial forest land, by species and diameter class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand trees)

Diameter class (inches d.b.h.)	Balsam poplar	Black spruce	Paper birch	Quaking aspen	White spruce	Total
1.0-2.9	12,781.1	0	203,221.9	67,046.3	58,579.6	341,628.9
3.0-4.9	5,549.8	0	78,235.0	44,572.7	17,361.9	145,719.4
5.0-6.9	4,697.1	1,236.8	20,997.1	15,016.5	9,081.8	51,029.3
7.0-8.9	1,043.9	738.7	9,184.1	5,878.5	5,691.6	22,536.8
9.0-10.9	253.9	36.6	3,989.2	1,384.7	5,087.3	10,751.7
11.0-12.9	371.7	54.7	1,043.8	176.9	3,166.3	4,813.4
13.0-14.9	131.6	0	183.9	35.9	1,447.2	1,798.6
15.0-16.9	71.9	0	27.9	13.9	755.8	869.5
17.0-18.9	11.6	0	0	22.8	261.7	296.1
19.0-20.9	9.5	0	0	0	135.6	145.1
21.0-28.9	0	0	0	0	35.0	35.0
29.0+	0	0	0	0	0	0
All classes	24,922.1	2,066.8	316,882.9	134,148.2	101,603.8	579,623.8

Table 11.--*Number of growing-stock trees 5.0-inch d.b.h. and larger on commercial and operable noncommercial[1/] forest land, by species and 5-foot height class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand trees)

5-foot height class	Balsam poplar	Black spruce	Paper birch	Quaking aspen	White spruce	All species
0 - 30	215.7	274.8	656.9	214.2	1,110.3	2,471.9
31 - 35	107.7	1,221.0	2,177.2	375.3	1,714.1	5,595.3
36 - 40	76.1	1,715.2	4,925.1	1,705.8	2,985.4	11,407.6
41 - 45	643.1	937.7	7,740.8	2,831.0	2,489.8	14,642.4
46 - 50	2,390.0	870.7	9,150.1	6,961.4	3,964.5	23,336.7
51 - 55	1,749.1	726.7	6,420.6	3,309.2	3,274.7	15,480.3
56 - 60	665.1	128.5	3,983.5	2,963.4	3,376.6	11,117.1
61 - 65	323.0	191.3	2,179.3	2,092.2	2,497.2	7,283.0
66 - 70	178.0	42.9	995.7	1,260.7	2,417.5	4,894.8
71 - 75	145.6	0	592.8	541.0	1,678.2	2,957.6
76 - 80	119.8	0	74.8	115.6	1,259.4	1,569.6
81 - 85	61.7	0	0	32.7	1,522.0	1,616.4
86 - 90	0	0	0	126.7	596.8	723.5
91 - 95	0	0	0	0	380.7	380.7
96 - 100	0	0	0	0	156.7	156.7
101+	0	0	0	0	24.2	24.2
Total	6,674.9	6,108.8	38,896.8	22,529.2	29,448.1	103,657.8

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 12.--*Net volume of timber on commercial forest land, by class of timber and softwoods and hardwoods, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Million cubic feet)

Class of timber	Softwoods	Hardwoods	Total
Sawtimber trees:			
Saw log portion	210.5	27.4	237.9
Upper stem portion	16.5	7.7	24.2
Total	227.0	35.1	262.1
Poletimber trees	67.3	248.4	315.7
All growing-stock trees	294.3	283.5	577.8
Rough trees	0	.5	.5
Rotten trees	1.2	15.3	16.5
Salvable dead trees	7.0	2.2	9.2
Total	302.5	301.5	604.0

Table 13.--*Net volume of timber on operable noncommercial*[1/] *forest land, by class of timber and softwoods and hardwoods, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Million cubic feet)

Class of timber	Softwoods	Hardwoods	Total
Sawtimber trees:			
Saw log portion	12.8	1.0	13.8
Upper stem portion	1.4	.4	1.8
Total	14.2	1.4	15.6
Poletimber trees	23.0	11.0	34.0
All growing-stock trees	37.2	12.4	49.6
Rough trees	.3	0	.3
Rotten trees	.3	.7	1.0
Salvable dead trees	.2	0	.2
Total	38.0	13.1	51.1

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 14.--*Net volume of growing stock on commercial forest land, by species and diameter class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Million cubic feet)

Diameter class (inches at breast height)	Softwoods			Hardwoods				All species
	Black spruce	White spruce	Total	Balsam poplar	Paper birch	Quaking aspen	Total	
5.0-6.9	2.6	22.7	25.3	9.0	45.7	44.2	98.9	124.2
7.0-8.9	4.2	37.8	42.0	5.7	51.7	36.6	94.0	136.0
9.0-10.9	.3	64.4	64.7	2.7	38.7	14.1	55.5	120.2
11.0-12.9	.8	62.7	63.5	6.1	14.0	2.8	22.9	86.4
13.0-14.9	0	43.8	43.8	2.4	4.2	1.0	7.6	51.4
15.0-16.9	0	30.1	30.1	1.7	.4	.6	2.7	32.8
17.0-18.9	0	13.2	13.2	.3	0	1.1	1.4	14.6
19.0-20.9	0	8.9	8.9	.5	0	0	.5	9.4
21.0-26.9	0	2.8	2.8	0	0	0	0	2.8
27.0+	0	0	0	0	0	0	0	0
Total	7.9	286.4	294.3	28.4	154.7	100.4	283.5	577.8

Table 15.--*Net volume of growing stock on commercial and operable noncommercial*[1/] *forest land, by species and diameter class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Million cubic feet)

Diameter class (inches at breast height)	Softwoods			Hardwoods				All species
	Black spruce	White spruce	Total	Balsam poplar	Paper birch	Quaking aspen	Total	
5.0-6.9	9.2	26.3	35.5	9.0	51.0	44.2	104.2	139.7
7.0-8.9	8.9	46.0	54.9	5.7	55.9	36.6	98.2	153.1
9.0-10.9	2.0	70.8	72.8	2.7	40.1	14.1	56.9	129.7
11.0-12.9	1.2	64.6	65.8	6.1	15.1	2.7	23.9	89.7
13.0-14.9	.4	47.1	47.5	2.4	4.5	1.0	7.9	55.4
15.0-16.9	0	30.1	30.1	1.7	.5	.6	2.8	32.9
17.0-18.9	0	13.2	13.2	.4	0	1.1	1.5	14.7
19.0-20.9	0	8.9	8.9	.5	0	0	.5	9.4
21.0-26.9	0	2.8	2.8	0	0	0	0	2.8
27.0+	0	0	0	0	0	0	0	0
Total	21.7	309.8	331.5	28.5	167.1	100.3	295.9	627.4

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 16.--*Net volume of sawtimber on commercial forest land, by species and diameter class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Million board feet, International 1/4-inch rule)

Diameter class (inches at breast height)	Softwoods			Hardwoods				All species
	Black spruce	White spruce	Total	Balsam poplar	Paper birch	Quaking aspen	Total	
9.0-10.9	1.9	333.9	335.8	0	0	0	0	335.8
11.0-12.9	4.0	341.6	345.6	21.1	56.4	11.9	89.4	435.0
13.0-14.9	0	251.0	251.0	9.5	18.7	4.5	32.7	283.7
15.0-16.9	0	172.7	172.7	7.9	2.0	2.8	12.7	185.4
17.0-18.9	0	77.3	77.3	1.6	0	5.0	6.6	83.9
19.0-20.9	0	53.4	53.4	2.6	0	0	2.6	56.0
21.0-28.9	0	16.5	16.5	0	0	0	0	16.5
29.0+	0	0	0	0	0	0	0	0
Total	5.9	1,246.4	1,252.3	42.7	77.1	24.2	144.0	1,396.3

Table 17.--*Net volume of sawtimber on commercial and operable noncommercial*[1/] *forest land, by species and diameter class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Million board feet, International 1/4-inch rule)

Diameter class (inches at breast height)	Softwoods			Hardwoods				All species
	Black spruce	White spruce	Total	Balsam poplar	Paper birch	Quaking aspen	Total	
9.0-10.9	9.7	369.5	379.2	0	0	0	0	379.2
11.0-12.9	6.1	352.6	358.7	21.0	60.9	11.9	93.8	452.5
13.0-14.9	2.5	269.8	272.3	9.5	20.4	4.6	34.5	306.8
15.0-16.9	0	172.7	172.7	7.9	2.0	2.8	12.7	185.4
17.0-18.9	0	77.3	77.3	1.6	0	5.0	6.6	83.9
19.0-20.9	0	53.4	53.4	2.6	0	0	2.6	56.0
21.0-28.9	0	16.5	16.5	0	0	0	0	16.5
29.0+	0	0	0	0	0	0	0	0
Total	18.3	1,311.8	1,330.1	42.6	83.3	24.3	150.2	1,480.3

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 18.--*Gross volume of sawtimber on commercial forest land, by species and diameter class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Million board feet, International 1/4-inch rule)

Diameter class (inches at breast height)	Softwoods			Hardwoods				All species
	Black spruce	White spruce	Total	Balsam poplar	Paper birch	Quaking aspen	Total	
9.0-10.9	2.1	338.4	340.5	0	0	0	0	340.5
11.0-12.9	4.7	352.2	356.9	22.8	82.6	13.5	118.9	475.8
13.0-14.9	0	256.5	256.5	11.6	23.1	4.8	39.5	296.0
15.0-16.9	0	184.0	184.0	9.6	4.4	2.8	16.8	200.8
17.0-18.9	0	86.5	86.5	2.0	0	5.6	7.6	94.1
19.0-20.9	0	57.1	57.1	2.6	0	0	2.6	59.7
21.0-28.9	0	17.0	17.0	0	0	0	0	17.0
29.0+	0	0	0	0	0	0	0	0
Total	6.8	1,291.7	1,298.5	48.6	110.1	26.7	185.4	1,483.9

Table 19.--*Gross volume of sawtimber on commercial and operable noncommercial[1/] forest land, by species and diameter class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Million board feet, International 1/4-inch rule)

Diameter class (inches at breast height)	Softwoods			Hardwoods				All species
	Black spruce	White spruce	Total	Balsam poplar	Paper birch	Quaking aspen	Total	
9.0-10.9	11.4	373.9	385.3	0	0	0	0	385.3
11.0-12.9	6.8	364.0	370.8	22.8	87.9	13.5	124.2	495.0
13.0-14.9	2.5	275.4	277.9	11.6	25.1	4.8	41.5	319.4
15.0-16.9	0	184.0	184.0	9.6	4.4	2.8	16.8	200.8
17.0-18.9	0	86.5	86.5	2.0	0	5.6	7.6	94.1
19.0-20.9	0	57.1	57.1	2.6	0	0	2.6	59.7
21.0-28.9	0	17.0	17.0	0	0	0	0	17.0
29.0+	0	0	0	0	0	0	0	0
Total	20.7	1,357.9	1,378.6	48.6	117.4	26.7	192.7	1,571.3

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 20.--*Net volume of sawtimber on commercial forest land, by species and log grade, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Million board feet, International 1/4-inch rule)

Species	Log grade[1/]				
	1	2	3	4[2/]	Total
Softwoods:					
Black spruce	0	0	5.9	0	5.9
White spruce	1.3	15.3	1,157.5	72.3	1,246.4
Total	1.3	15.3	1,163.4	72.3	1,252.3
Hardwoods:					
Balsam poplar	0	6.4	31.6	4.7	42.7
Paper birch	0	6.4	42.6	28.1	77.1
Quaking aspen	0	2.2	21.0	1.0	24.2
Total	0	15.0	95.2	33.8	144.0
All species	1.3	30.3	1,258.6	106.1	1,396.3

[1/] Forest Products Laboratory. Hardwood log grades for standard lumber. USDA For. Prod. Lab. Rep. R1737, 61 p., 1959.

Northern Hemlock and Hardwood Manufacturers Association. Official grading rules for northern hardwood and softwood logs and tie cuts. Green Bay, Wis. 12 p., 1959.

[2/] Logs for local use.

Table 21.--*Net volume of sawtimber on operable noncommercial*[1/] *forest land, by species and log grade, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Million board feet, International 1/4-inch rule)

Species	Log grade[2/]				
	1	2	3	4[3/]	Total
Softwoods:					
Black spruce	0	0	9.6	2.8	12.4
White spruce	0	1.5	61.7	2.2	65.4
Total	0	1.5	71.3	5.0	77.8
Hardwoods:					
Balsam poplar	0	0	0	0	0
Paper birch	0	0	6.1	0	6.1
Quaking aspen	0	0	0	0	0
Total	0	0	6.1	0	6.1
All species	0	1.5	77.4	5.0	83.9

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

[2/] Forest Products Laboratory. Hardwood log grades for standard lumber. USDA For. Prod. Lab. Rep. R1737, 61 p., 1959.

Northern Hemlock and Hardwood Manufacturers Association. Official grading rules for northern hardwood and softwood logs and tie cuts. Green Bay, Wis. 12 p., 1959.

[3/] Logs for local use.

Table 22.--*Net volume of growing stock on commercial forest land, by forest type and stand-size class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand cubic feet)

Local forest type	Stand-size class				
	Nonstocked	Sapling-seedling	Poletimber	Sawtimber	Total
Balsam poplar	0	2,948.1	17,257.5	0	20,205.6
Paper birch	0	41,386.1	106,699.0	71,751.8	219,836.9
Quaking aspen	0	27,554.2	70,098.0	1,958.8	99,611.0
White spruce	184.6	14,008.9	73,828.2	150,079.3	238,101.0
Total	184.6	85,897.3	267,882.7	223,789.9	577,754.5

Table 23.--*Net volume of growing stock on operable noncommercial*[1/] *forest land, by forest type and stand-size class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand cubic feet)

Local forest type	Stand-size class				
	Nonstocked	Sapling-seedling	Poletimber	Sawtimber	Total
Balsam poplar	0	0	0	0	0
Black spruce	0	0	16,067.4	0	16,067.4
Paper birch	0	0	11,294.3	0	11,294.3
Quaking aspen	0	0	0	0	0
White spruce	0	3,417.9	14,633.7	4,273.8	22,325.4
Total	0	3,417.9	41,995.4	4,273.8	49,687.1

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 24.--*Net volume of sawtimber on commercial forest land, by forest type and stand-size class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand board feet, International 1/4-inch rule)

Local forest type	Stand-size class				
	Nonstocked	Sapling-seedling	Poletimber	Sawtimber	Total
Balsam poplar	0	0	53,203.4	0	53,203.4
Paper birch	0	73,622.6	132,655.2	265,022.8	471,300.6
Quaking aspen	0	7,755.8	23,165.8	5,106.0	36,027.6
White spruce	0	44,674.2	162,326.3	628,821.1	835,821.6
Total	0	126,052.6	371,350.7	898,949.9	1,396,353.2

Table 25.--*Net volume of sawtimber on operable noncommercial*[1/] *forest land, by forest type and stand-size class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand board feet, International 1/4-inch rule)

Local forest type	Stand-size class				
	Nonstocked	Sapling-seedling	Poletimber	Sawtimber	Total
Balsam poplar	0	0	0	0	0
Black spruce	0	0	18,108.8	0	18,108.8
Paper birch	0	0	11,542.0	0	11,542.0
Quaking aspen	0	0	0	0	0
White spruce	0	12,572.6	24,957.9	16,731.0	54,261.5
Total	0	12,572.6	54,608.7	16,731.0	83,912.3

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 26.--*Net annual growth of growing stock, by species and forest land class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand cubic feet)

Species	Forest land class		
	Commercial	Operable noncommercial[1/]	Total
Softwoods:			
Black spruce	264.2	352.4	616.6
White spruce	5,511.6	395.7	5,907.3
Total	5,775.8	748.1	6,523.9
Hardwoods:			
Balsam poplar	773.5	.6	774.1
Paper birch	7,425.7	465.9	7,891.6
Quaking aspen	6,538.3	0	6,538.3
Total	14,737.5	466.5	15,204.0
All species	20,513.3	1,214.6	21,727.9

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 27.--*Net annual growth of sawtimber, by species and forest land class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand board feet, International 1/4-inch rule)

Species	Forest land class		
	Commercial	Operable noncommercial[1/]	Total
Softwoods:			
Black spruce	74.0	2,251.6	2,325.6
White spruce	44,027.2	2,766.7	46,793.9
Total	44,101.2	5,018.3	49,119.5
Hardwoods:			
Balsam poplar	821.8	0	821.8
Paper birch	5,252.8	146.9	5,399.7
Quaking aspen	4,512.0	0	4,512.0
Total	10,586.6	146.9	10,733.5
All species	54,687.8	5,165.2	59,853.0

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 28.--*Annual mortality of growing stock, by species and forest land class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand cubic feet)

Species	Forest land class		
	Commercial	Operable noncommercial[1/]	Total
Softwoods:			
White spruce	1,615.3	0	1,615.3
Total	1,615.3	0	1,615.3
Hardwoods:			
Balsam poplar	164.4	0	164.4
Paper birch	637.1	0	637.1
Quaking aspen	0	0	0
Total	801.5	0	801.5
All species	2,416.8	0	2,416.8

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 29.--*Annual mortality of sawtimber, by species and forest land class, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand board feet, International 1/4-inch rule)

Species	Forest land class		
	Commercial	Operable noncommercial[1/]	Total
Softwoods:			
White spruce	7,609.9	0	7,609.9
Total	7,609.9	0	7,609.9
Hardwoods:			
Balsam poplar	0	0	0
Paper birch	166.9	0	166.9
Quaking aspen	0	0	0
Total	166.9	0	166.9
All species	7,776.8	0	7,776.8

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 30.--*Annual mortality of growing stock, by cause, forest land class, and softwoods and hardwoods, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand cubic feet)

Cause	Commercial forest land			Operable noncommercial[1/] forest land		
	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total
Fire	898.1	481.4	1,379.5	0	0	0
Insects	79.7	59.5	139.2	0	0	0
Disease	99.8	0	99.8	0	0	0
Windthrow	105.7	54.7	160.4	0	0	0
Other	432.0	179.7	611.7	0	0	0
Unknown	0	26.2	26.2	0	0	0
Total	1,615.3	801.5	2,416.8	0	0	0

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

Table 31.--*Annual mortality of sawtimber by cause, forest land class, and softwoods and hardwoods, Fairbanks block, Tanana inventory unit, Alaska, 1970*

(Thousand board feet, International 1/4-inch rule)

Cause	Commercial forest land			Operable noncommercial[1/] forest land		
	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total
Fire	4,538.0	166.9	4,704.9	0	0	0
Insects	421.4	0	421.4	0	0	0
Disease	580.9	0	580.9	0	0	0
Windthrow	621.6	0	621.6	0	0	0
Other	1,448.0	0	1,448.0	0	0	0
Unknown	0	0	0	0	0	0
Total	7,609.9	166.9	7,776.8	0	0	0

[1/] Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

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