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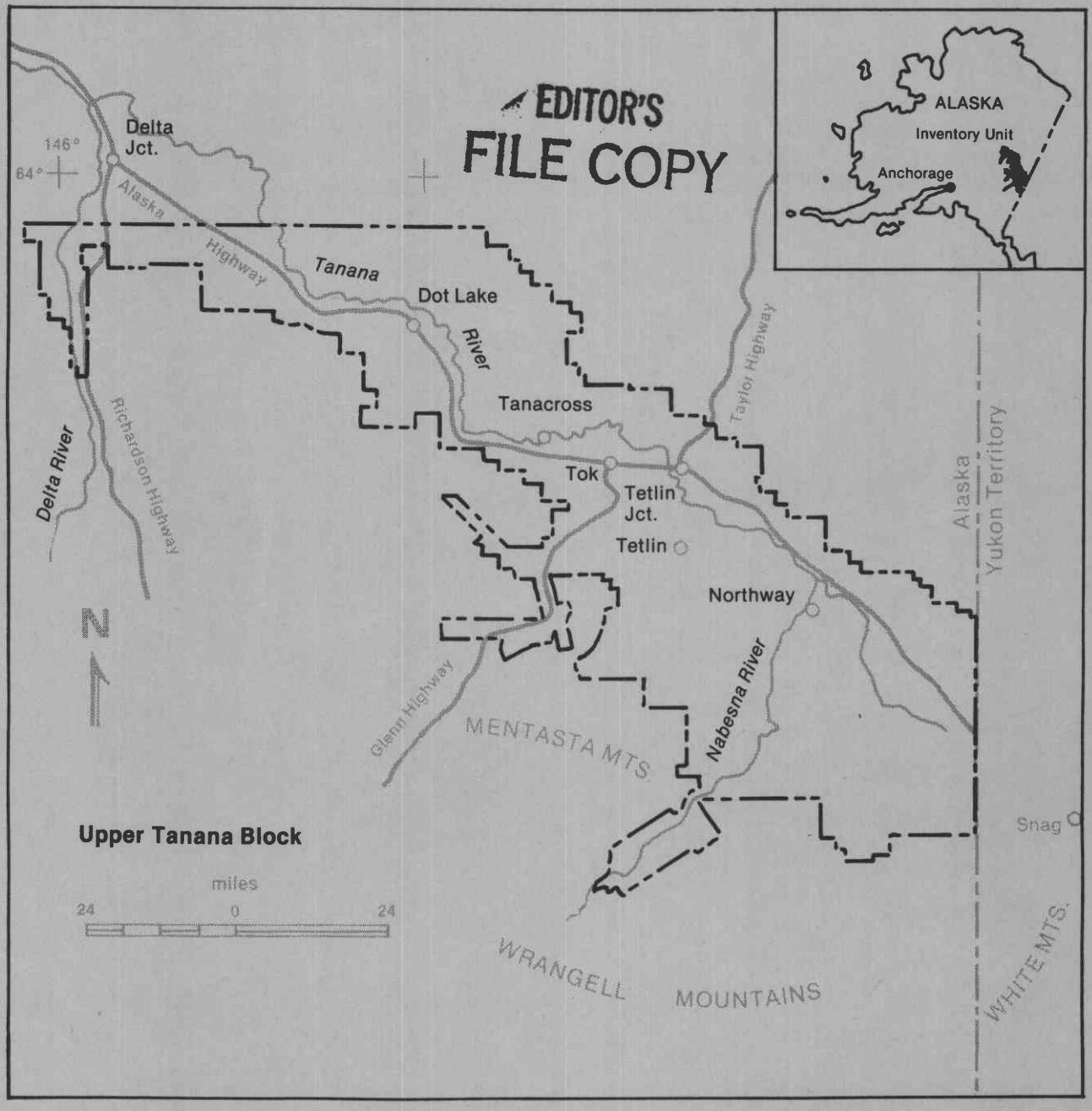
Timber Resource Statistics for the Upper Tanana Block, Tanana Inventory Unit, Alaska, 1974

Karl M. Hegg



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Abstract

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This report for the 3.6-million-acre Upper Tanana block is the third of four on the 14-million-acre Tanana Valley forest inventory unit. Descriptions of area, climate, forest, general resource use, and inventory methodology are presented. Area and volume tables are provided for commercial and operable noncommercial forest lands. Estimates for commercial forest land total 396,200 acres with 528.7 million cubic feet of growing stock volume. Estimates for the operable noncommercial class total 97,400 acres with 131 million net cubic feet of growing stock volume.

Keywords: Timber resources, resources (forest), statistics (forest), Alaska (Tanana River valley).

Summary

This report for the 3.6-million-acre Upper Tanana block is the third of four on the 14-million-acre Tanana Valley forest inventory unit. The block is located about 100 miles southeast of Fairbanks, Alaska, in the upper portion of the Tanana River valley. It extends from Delta Junction southeast to the Canadian border. The north and south boundaries are at the elevational limit of tree growth — about 2,500 feet on the north and at lower elevations on the south where the boundary is along drainages reaching into the Wrangell Mountains.

Data collection in the Upper Tanana block was completed in 1974 through the cooperative efforts of the U.S. Department of Agriculture, Forest Service; U.S. Department of the Interior, Bureau of Land Management; and the Alaska Department of Natural Resources, Division of Lands. Resource photography was acquired for the Tanana River valley from 1968-74. Data processing for this block was completed in 1976.

Estimated total forest area is 2,802,900 acres. Commercial forests cover an estimated 396,200 acres with 528,644,300 cubic feet of growing stock and a net volume of 1,657,300 board feet, International 1/4-inch rule. A noncommercial area, with a gross cubic volume of 800 cubic feet per acre or more, was also identified and sampled. This operable noncommercial class covered an estimated 97,400 acres with 130,956,600 cubic feet of growing stock. This class has the potential to support a harvest cut, but further study is needed to determine if these sites can be managed for wood production. About 68 percent of the commercial forest land is classed as softwood types, which make up about 81 percent of the net cubic-foot volume and about 92 percent of the net board-foot volume.

Descriptions of area, climate, soils, topography, general resource use, inventory methodology, and reliability of the data are presented, including the rationale for extending the work to noncommercial forest areas. Comments are made on the effects of fire, permafrost, and drainage on forest growth and location.

Contents

Tables

Highlights

	Thousand acres	*Thousand hectares*
Total Upper Tanana inventory block area:	3,602.8	1 458.0
with forests	2,802.9	1 134.3
with nonforest	605.9	245.2
with noncensus water	65.6	26.5
with census water	128.4	52.0
Forested area:		
commercial forest land	396.2	160.3
noncommercial forest land —		
800 cubic feet or more per acre	97.4	39.4
less than 800 cubic feet per acre	2,309.3	934.5
Commercial forest stand-size composition:		
sawtimber	151.7	61.4
poletimber	143.7	58.2
seedlings and saplings	98.4	39.8
nonstocked	2.4	1.0
Commercial forest type composition:		
balsam poplar	12.4	5.0
black spruce	8.7	3.5
paper birch	64.0	25.9
quaking aspen	46.2	18.7
white spruce	262.6	106.3
nonstocked	2.3	0.9

Volumes on commercial forest land:

	Thousand cubic feet[1]	*Thousand cubic meters*[1]	*Thousand board feet*[2]	*Thousand cubic meters*[3]
Total gross volume	542,117.9	15 341.9	1,703,926.4	8 653.9
Total net volume	528,664.3	14 961.2	1,657,257.0	8 495.5
Annual net growth	10,937.3	309.5	36,286.5	94.0
Annual net mortality	542.7	15.4	1,456.1	8.2

[1] Volume of roundwood in live trees 5.0-inch d.b.h. and larger.
[2] Net volume, International 1/4-inch rule.
[3] Volume of roundwood for softwood trees 9.0-inch d.b.h. and larger and for hardwood trees 11.0-inch d.b.h. and larger.

Introduction

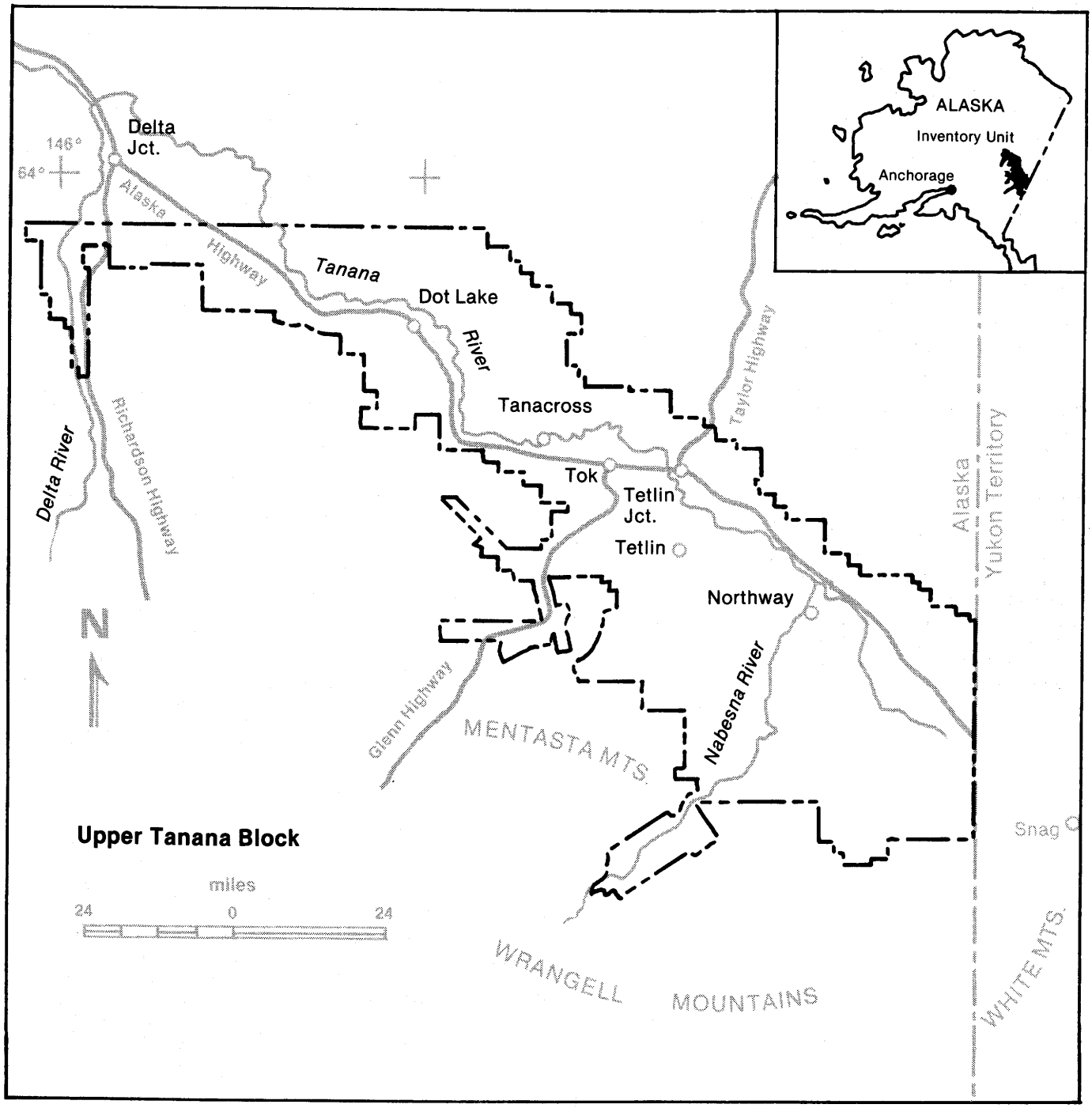

Figure 1. — The Upper Tanana Block.

This resource bulletin reports on the first intensive inventory of that portion of the Tanana river drainage between 63° 45′ north latitude and the Canadian border. This 3.6-million-acre area is identified as the Upper Tanana block (fig. 1).

Description

Preparations for the Tanana forest 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 2.3 million acres previously photographed in the Fairbanks area, make up the 13.6-million-acre Tanana inventory unit. Cooperators were the Economic Development Administration (EDA), U.S. Department of Commerce; the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM), U.S. Department of the Interior; and the Alaska Department of Natural Resources Division of Lands (DNR), State of Alaska. The original intent was to inventory the valley as a unit, but poor flying weather and smoke haze slowed the photo project, so "blocks" within the Tanana unit have been inventoried as photos became available.

This report, the third of four, is on the Upper Tanana block, inventoried in 1974. The first report, for the Fairbanks block, was published several years ago (Hegg 1975b). The second report, the Kantishna block, was published recently (Hegg 1982). A report on the inventory of the other block, the Wood-Salcha, will be published when the analysis is complete.

Work on the Upper Tanana block began in 1973 with photo interpretation of 14,799 one-acre photo points. Photo interpretation, ownership determination, and fieldwork preparation and completion were a cooperative effort of DNR, BLM, BIA, and the Forestry Sciences Laboratory (Anchorage) 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 in Portland.

Forest Inventory and Analysis (FIA),[4] 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 interior Alaska were begun in 1956 and completed in 1962 (Hutchison 1967). These were extensive inventories, and subsequently, areas with concentrations of commercial forest land have been defined for more intensive measurements. Areas where intensive inventories have been conducted and for which reports are available or pending are: Susitna Valley (Hegg 1970); Norton Bay Indian Reservation;[5] Koyukuk River (Hegg 1974); Copper River (Hegg 1975a); Tuxedni Bay (Hegg 1979); Kuskokwim River (Hegg and Sieverding 1980); and the Fairbanks (Hegg 1975b), Kantishna (Hegg 1982), and Wood-Salcha blocks of the Tanana unit.

The factual data and discussions in this report on forest area, location, condition, volume, growth, and regeneration relate to the supply of wood available for local, regional, and national needs. These data are presented for the use of State planners, legislators, land and forest managers, forest industry, and other users of forest inventory data.

[4] Forest Inventory and Analysis was originally named Forest Survey. The name was officially changed in 1975 to Renewable Resources Evaluation; it was last changed in 1982.

[5] Office report on file at the Bureau of Indian Affairs, Juneau, Alaska; 1973.

Area and Location

The 3.6-million-acre Upper Tanana block extends from the Alaska-Canada border near Snag, Yukon Territory, west and north to about 63° 45′ north latitude or just south of Delta Junction (see fig. 1). The north and south boundaries are at the limits of potential commercial forest land along the highlands of the Tanana River drainage at an elevation of about 2,500 feet. The southern boundary is marked by the ice- and snow-covered Wrangell Mountains whose dramatic peaks rise fairly abruptly from the valley floor. The north side is bounded by high hills that reach above tree line with tributary rivers stretching dozens of miles into the hills.

The elevation of the valley floor is about 2,000 feet at the Canadian border gradually dropping to about 1,300 feet at Delta Junction. The topography is a mix of well-drained alluvial bottomlands and south- to southwest-facing hillsides that support the best tree growth. Most of the area, however, is made up of poorly drained north-facing slopes with discontinuous permafrost, areas of bogs and ponds (such as around Tetlin) and thin, gravelly, permafrost soils extending for many square miles around Tok and Tetlin Junction. These areas bear a mix of noncommercial[6] black spruce and birch and extensive areas of shrubs (fig. 2), bogs and wet sedges, and wet tundra.

The climate of the area is a dry, continental type with most of the precipitation falling during the summer months. Snag, only a short distance away, has recorded the coldest winter temperatures in North America. Summer temperatures in the Upper Tanana area are mild with normal highs between 75° and 85° F. Freezing temperatures, however, can and do occur in the summer. Field operations for this inventory were shut down during early August by blizzard-like conditions that lasted 2 days. The average frost-free season in the Upper Tanana area is only 140 days.

[6] For definition of this term and others, see the section "Terminology."

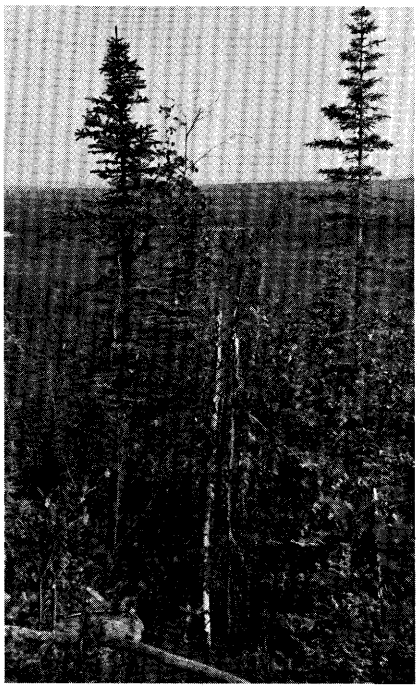

Figure 2. — A typical north slope, underlain with permafrost, supporting mostly black spruce with a mixture of birch, aspen, and shrubs.

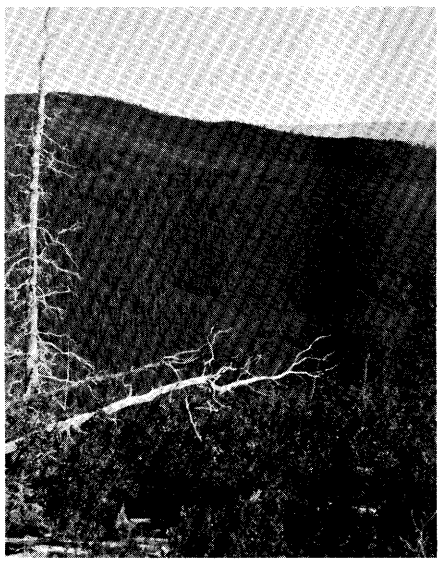

Figure 3. — Fire swept through this area, leaving a patchwork of dead snags and brush reproduction (foreground) with islands of the original spruce stand (background).

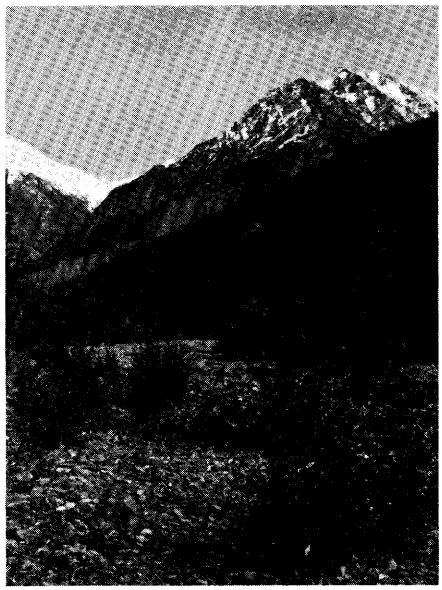

Figure 4. — Vegetation beginning to establish on outwash gravel of Stone Creek, a tributary of the Nabesna River east of Tok.

Forest

The Tanana River valley, like most of interior Alaska, has had repeated wildfires, leaving a patchwork vegetation pattern (fig. 3). On the more productive sites, this means a pattern of paper birch, quaking aspen, and white spruce, with white spruce regenerating under the hardwoods. Few mature white spruce stands are found, except adjacent to the Tanana River. On less productive sites, there are extensive areas of alder mixed with birch. Although these areas may have once supported mixed spruce stands, it appears that it may be some time before they do so again.

The effect of permafrost, drainage, and good soils is evident when comparing white spruce tree growth on different sites. On well-drained sites near the Tanana River, white spruce trees with diameters of 12-14 inches taper so gradually that the 6-inch top is 85-95 feet up the bole. In contrast, white spruce on fairly well-drained sites but at slightly higher elevation are subject to strong, cold, downriver winds from icefields. These trees may grow to 30 inches in diameter but only 45 feet total height. Extensive areas around Tok are covered with outwash gravel and support a mixture of white and black spruce that vary in quality (fig. 4). Permafrost occurs there at a depth of 12-18 inches. The white spruce trees of those sites are mixed with black spruce and appear similar to black spruce. Where 3-5 inches of fine textured deposits with a light organic layer had formed over the gravel, the sites appeared to be productive and the trees of good form.

The poorer quality sites in the Upper Tanana block are occupied by noncommercial black spruce, paper birch, and quaking aspen. Black spruce with some paper birch is found on the poorly drained, level to gently sloping sites. These sites are intermixed with large, nonforest areas of wet and mesic tundra and shrubs (alder, willow, bog birch, and blueberry). Overdrained south-facing slopes are usually occupied by short, stunted aspen and grass. North- and easterly-facing slopes, particularly those with northerly valley drainages, are almost exclusively occupied by black spruce and shrubs. Several stands of commercial quality white spruce and birch were found, however, on north-facing slopes. Although there are exceptions, north-facing slopes in interior Alaska are generally occupied by noncommercial species.

Inventory Procedures

Other Resource Uses

The Upper Tanana block is not considered a prime recreation area, except for hunting. Moose are found in the inventory area, and Dall sheep and caribou occur immediately outside the block in the Wrangell Mountains and the Canadian White Mountains. The Wrangells are accessible to hunters only by light plane because the rivers emanating from that area are of glacial origin and are silty, braided, and generally not navigable. The Tanana River itself is only navigable from about the vicinity of Northway downstream.

Game trails were found on many of the ridges, particularly near Tetlin and Dot Lake. These trails were so heavily used they appeared to be maintained by humans.

The estimates of area and timber volumes are based on a double sampling procedure (Bickford 1952). Enough 1-acre points to satisfy specific levels of statistical precision were uniformly distributed on aerial photographs. Each of these photo points was classified by land type, forest type, and volume strata. A subsample was then drawn from all land types and reexamined on the photos. All points in the subsample that were originally classified as commercial forest land as well as any other points questionably classified were visited on the ground.

For the Upper Tanana block, we interpreted 14,799 photo points and reexamined 1,063 noncommercial and nonforest points. This reexamination was equivalent to a ground check and yielded 23 questionable points which, with the 164 commercial forest and operable noncommercial points, totaled 187 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.[7] 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 estimates of the data needed or specified for area and volume. The tables showing the estimates, however, depart from the standard FIA 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. When these operable noncommercial areas are in proximity to populated areas, they could be considered a supply source for firewood and be managed for that purpose.

[7] Study plan and field manual are on file at the Forest Sciences Laboratory, 2221 E. Northern Lights Blvd., Anchorage, AK 99504.

Reliability of Inventory Data

The reliability of the inventory data is expressed in terms of relative sampling errors at the 68-percent confidence level.

	Design sampling error	Sampling error achieved	Sampling error of total area or volume reported
		Percent	
Area:			
Commercial forest land, per million acres	3.0	3.8	± 6.0
Noncommercial forest land, per million acres	10.0	12.4	± 3.0
Volume:			
Commercial forest land, per billion cubic feet	6.0	5.8	± 8.0
Commercial forest land, growth (net annual) per billion cubic feet	5.0	1.0	± 9.0

For the Upper Tanana block, we report 528.7 million cubic feet of net growing-stock volume, ± 8 percent. This means that if repeated samples were taken of this population, the chances are two in three that the true total volume is between 486.4 and 571.0 million cubic feet. We exceeded our design sampling error for area (3.0 percent per million acres) and met the design error (6.0 percent per billion cubic feet) for commercial forest land volume.

Terminology[8]

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

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.

[8] Terminology and definitions are from the USDA Forest Service Handbook, Title 4813.1, 1967, unless otherwise noted.

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 d.b.h. and larger 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 d.b.h. and larger 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 of 800 cubic feet or more per acre.

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

Forest type — 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, cottonwood, and occasionally black spruce.

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, white spruce, and black 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 hosting 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. Hardwood species in interior Alaska 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 (Bruce and Schumacher 1950).

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. FIA 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 specified period.

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

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 trees 5.0-inch d.b.h. and larger, from stump to a minimum top diameter of 4.0 inches outside the 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 small end 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. Softwood species in interior Alaska are white spruce, black spruce, and eastern tamarack.

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 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.

Seedling-sapling 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: An established 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-inches outside the 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. FIA definition: Streams, etc., more than 120 feet wide and lakes, etc., more than 1 acre in size up to the minimum sizes specified in the Bureau of the Census definition.

Names of Trees[9]

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.

[9] The source for scientific names is Little (1953).

Tables

Estimates in this report are developed from statistically based samples and therefore are subject to sampling error. Sampling errors are presented in the section "Reliability of Inventory Data."

Table 1 — Area by land class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

LAND CLASS	THOUSAND ACRES
FOREST LAND:	
COMMERCIAL	396.2
NONCOMMERCIAL--	
OPERABLE	97.4
INOPERABLE	2,309.3
TOTAL	2,802.9
NONFOREST LAND 1/	671.5
ALL LANDS	3,474.4
CENSUS WATER	128.4
TOTAL AREA	3,602.8

Estimates are subject to sampling error.

1/ Includes swampland, industrial and urban areas, other nonforest land, and 65,600 acres classified as water by Forest Inventory and Analysis standards but defined by the Bureau of the Census as land.

Table 2 — Area of commercial and operable noncommercial forest land by stand size class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

STAND SIZE CLASS	FOREST LAND		
	COMMERCIAL	OPERABLE NONCOMMERCIAL	TOTAL
	THOUSAND ACRES		
SAWTIMBER STANDS	151.7	28.8	180.5
POLETIMBER STANDS	143.7	68.6	212.3
SEEDLING AND SAPLING STANDS	98.4	--	98.4
NONSTOCKED AREAS	2.4	--	2.4
ALL CLASSES	396.2	97.4	493.6

Estimates are subject to sampling error.

-- = no data.

Table 3 — Area of commercial and operable noncommercial forest land by stand volume class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

STAND VOLUME	FOREST LAND		
	COMMERCIAL	OPERABLE NONCOMMERCIAL	TOTAL
BOARD FEET PER ACRE 1/		THOUSAND ACRES	
0-799	114.4	11.5	125.9
800-1,499	14.3	20.4	34.7
1,500-2,999	63.5	22.8	86.3
3,000-4,999	79.1	22.8	101.9
5,000-6,999	26.1	5.5	31.6
7,000 AND OVER	98.8	14.4	113.2
ALL CLASSES	396.2	97.4	493.6

Estimates are subject to sampling error.

1/ Net volume, International 1/4-inch rule.

Table 4 — Area of commercial and operable noncommercial forest land by stand volume and stand size class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

STAND VOLUME CLASS	STAND SIZE CLASS				
	NONSTOCKED	SEEDLING-SAPLING	POLETIMBER	SAWTIMBER	TOTAL
			THOUSAND ACRES		
0-299	2.4	49.8	--	--	52.2
300-799	--	35.4	39.3	2.3	77.0
800-1,499	--	13.1	126.7	52.2	192.0
1,500-2,199	--	--	43.7	48.2	91.9
2,200 AND OVER	--	--	2.7	77.8	80.5
ALL CLASSES	2.4	98.3	212.4	180.5	493.6

Estimates are subject to sampling error.

-- = no data.

Table 5 —Area of commercial forest land by area condition class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

CODE	AREA CONDITION CLASS	THOUSAND ACRES
10	Areas 100 percent or more stocked with desirable trees and not overstocked.	--
20	Areas 100 percent or more stocked with desirable trees and overstocked.	2.4
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.	7.7
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.	51.7
50	Areas less than 60 percent stocked with desirable trees but with 100 percent or more stocking with growing stock trees.	161.6
60	Areas less than 60 percent stocked with desirable trees but with 60- to 100-percent stocking with growing stock trees.	144.3
70	Areas less than 60 percent stocked with desirable trees and with less than 60-percent stocking with growing stock trees.	28.5
	ALL CLASSES	396.2

Estimates are subject to sampling error.

Table 6 — Area of commercial forest land by site class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

SITE CLASS	THOUSAND ACRES
CUBIC FEET	
85 OR MORE 1/	--
50-85	--
LESS THAN 50	396.2
ALL CLASSES	396.2

Estimates are subject to sampling error.

1/ Potential yield, mean annual increment.

-- = no data.

Table 7 — Area of commercial and noncommercial forest land by forest type, Upper Tanana block, Tanana inventory unit, Alaska, 1974

FOREST TYPE	COMMERCIAL FOREST LAND	NONCOMMERCIAL FOREST LAND		TOTAL
		OPERABLE	INOPERABLE	
		THOUSAND ACRES		
BALSAM POPLAR	12.4	--	21.3	33.7
BLACK SPRUCE	8.7	9.0	1,452.0	1,469.7
PAPER BIRCH	64.0	8.4	181.1	253.5
QUAKING ASPEN	46.2	5.4	135.9	187.5
TAMARACK	--	--	3.0	3.0
WHITE SPRUCE	262.6	74.6	515.9	853.1
NONSTOCKED	2.3	--	--	2.3
ALL TYPES	396.2	97.4	2,309.2	2,802.8

Estimates are subject to sampling error.

-- = no data.

Table 8 — Area of commercial forest land by stand age and stand size class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

STAND AGE	STAND SIZE CLASS				
	NONSTOCKED	SEEDLING-SAPLING	POLETIMBER	SAWTIMBER	ALL CLASSES
YEARS			THOUSAND ACRES		
1-10	2.4	4.7	--	--	7.1
10-20	--	17.8	--	3.0	20.8
20-30	--	34.9	--	--	34.9
30-40	--	15.7	10.0	--	25.7
40-50	--	7.3	15.4	--	22.7
50-60	--	2.3	10.7	2.7	15.7
60-70	--	10.4	11.6	--	22.0
70-80	--	5.3	25.3	7.4	38.0
80-90	--	--	3.0	11.4	14.4
90-100	--	--	24.3	24.0	48.3
100-120	--	--	15.4	26.0	41.4
120-140	--	--	5.7	18.1	23.8
140-160	--	--	8.2	11.0	19.2
160-180	--	--	3.0	10.0	13.0
180-200	--	--	--	5.7	5.7
200-300	--	--	5.4	18.0	23.4
300 AND OVER	--	--	--	3.0	3.0
MIXED AGES	--	--	5.7	11.4	17.1
ALL AGES	2.4	98.4	143.7	151.7	396.2

Estimates are subject to sampling error.

-- = no data.

Table 9 — Area of operable noncommercial forest land by stand age and stand size class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

STAND AGE	STAND SIZE CLASS				
	NONSTOCKED	SEEDLING-SAPLING	POLETIMBER	SAWTIMBER	ALL CLASSES
YEARS			THOUSAND ACRES		
1-10	--	--	--	--	--
10-20	--	--	--	--	--
20-30	--	--	--	--	--
30-40	--	--	--	--	--
40-50	--	--	--	--	--
50-60	--	--	--	--	--
60-70	--	--	3.0	--	3.0
70-80	--	--	5.7	--	5.7
80-90	--	--	2.3	--	2.3
90-100	--	--	6.1	2.8	8.9
100-120	--	--	23.7	8.4	32.1
120-140	--	--	2.7	5.9	8.6
140-160	--	--	5.0	3.0	8.0
160-180	--	--	--	--	--
180-200	--	--	8.7	--	8.7
200-300	--	--	11.4	8.7	20.1
300 AND OVER	--	--	--	--	--
MIXED AGES	--	--	--	--	--
ALL AGES	--	--	68.6	28.8	97.4

Estimates are subject to sampling error.

-- = no data.

Table 10 — Number of growing stock trees on commercial forest land by diameter class and species, Upper Tanana block, Tanana inventory unit, Alaska, 1974

DIAMETER CLASS	BALSAM POPLAR	BLACK SPRUCE	PAPER BIRCH	QUAKING ASPEN	WHITE SPRUCE	ALL SPECIES
INCHES AT BREAST HEIGHT			THOUSAND TREES			
1.0-2.9	5,588.8	--	17,193.9	16,980.0	62,718.2	102,480.9
3.0-4.9	2,869.9	--	11,124.9	14,376.2	30,712.1	59,083.1
5.0-6.9	1,480.0	2,846.7	8,423.9	7,527.4	18,644.7	38,922.7
7.0-8.9	617.9	901.2	4,074.2	1,950.8	12,577.4	20,121.5
9.0-10.9	493.6	216.7	1,729.6	529.9	7,933.0	10,902.8
11.0-12.9	158.0	30.8	234.0	104.8	4,447.6	4,975.2
13.0-14.9	94.6	10.1	58.4	--	2,228.9	2,392.0
15.0-16.9	24.7	--	--	--	899.5	924.2
17.0-18.9	--	--	--	--	347.9	347.9
19.0-20.9	--	--	--	--	114.9	114.9
21.0-28.9	--	--	--	--	69.0	69.0
29 AND OVER	--	--	--	--	--	--
ALL CLASSES	11,327.5	4,005.5	42,838.9	41,469.1	140,693.2	240,334.2

Estimates are subject to sampling error.

-- = no data.

Table 11 — Number of growing stock trees 5.0-inch d.b.h. and larger on commercial and operable noncommercial forest land by 5-foot height class and species, Upper Tanana block, Tanana inventory unit, Alaska, 1974

5-FOOT HEIGHT CLASS	BALSAM POPLAR	BLACK SPRUCE	PAPER BIRCH	QUAKING ASPEN	WHITE SPRUCE	ALL SPECIES
			THOUSAND TREES			
0-30	455.5	690.4	1,639.2	682.6	4,851.3	8,319.0
31-35	543.4	958.8	1,604.9	751.4	5,873.8	9,732.3
36-40	437.5	2,005.5	3,129.8	1,569.7	10,427.6	17,570.1
41-45	531.6	1,852.0	3,142.7	1,875.1	10,211.7	17,613.1
46-50	554.6	939.5	4,164.0	3,097.2	10,621.2	19,376.5
51-55	351.2	288.9	2,808.3	2,254.4	7,856.2	13,559.0
56-60	167.3	263.1	1,351.2	1,038.2	5,579.5	8,399.3
61-65	15.8	18.7	272.4	169.5	4,384.2	4,860.6
66-70	12.3	27.2	140.4	38.2	3,109.5	3,327.6
71-75	7.5	--	36.7	--	1,579.8	1,624.0
76-80	12.3	16.1	9.6	56.2	939.8	1,034.0
81-85	--	--	--	--	320.6	320.6
86-90	--	--	--	--	269.5	269.5
91-95	--	--	--	--	109.0	109.0
96-100	--	--	--	--	83.8	83.8
101 AND OVER	--	--	--	--	31.7	31.7
ALL CLASSES	3,089.0	7,060.2	18,299.2	11,532.5	66,249.2	106,230.1

Estimates are subject to sampling error.

-- = no data.

Table 12 — Net volume of timber on commercial and operable noncommercial forest land by class of timber and by softwoods and hardwoods, Upper Tanana block, Tanana inventory unit, Alaska, 1974

CLASS OF TIMBER	COMMERCIAL FOREST LAND			OPERABLE NONCOMMERCIAL FOREST LAND		
	SOFTWOODS	HARDWOODS	TOTAL	SOFTWOODS	HARDWOODS	TOTAL
	MILLION CUBIC FEET					
SAWTIMBER TREES:						
SAW LOG PORTION	268.8	7.1	275.9	50.4	0.9	51.3
UPPER STEM PORTION	22.2	2.1	24.3	5.3	.2	5.5
TOTAL	291.0	9.2	300.2	55.7	1.1	56.8
POLETIMBER TREES	133.9	94.6	228.5	57.8	16.4	74.2
ALL GROWING STOCK TREES	424.9	103.8	528.7	113.5	17.5	131.0
ROUGH TREES	2.4	.5	2.9	1.4	--	1.4
ROTTEN TREES	.3	1.6	1.9	.5	.5	1.0
SALVABLE DEAD TREES	4.6	.1	4.7	1.7	.1	1.8
ALL TIMBER	432.2	106.0	538.2	117.1	18.1	135.2

Estimates are subject to sampling error.

-- = no data.

Table 13 — Net volume of growing stock on commercial forest land by diameter class and species, Upper Tanana block, Tanana inventory unit, Alaska, 1974

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	BLACK SPRUCE	WHITE SPRUCE	TOTAL	BALSAM POPLAR	PAPER BIRCH	QUAKING ASPEN	TOTAL	
INCHES AT BREAST HEIGHT				MILLION CUBIC FEET				
5.0-6.9	6.2	44.9	51.1	1.9	18.1	18.7	38.7	89.8
7.0-8.9	5.0	77.9	82.9	2.6	20.0	10.8	33.4	116.3
9.0-10.9	2.5	91.4	93.9	3.7	14.4	4.3	22.4	116.3
11.0-12.9	.4	78.5	78.9	2.0	2.7	1.4	6.1	85.0
13.0-14.9	.2	57.4	57.6	1.6	1.0	--	2.6	60.2
15.0-16.9	--	32.0	32.0	.6	--	--	.6	32.6
17.0-18.9	--	15.8	15.8	--	--	--	--	15.8
19.0-20.9	--	7.1	7.1	--	--	--	--	7.1
21.0-28.9	--	5.6	5.6	--	--	--	--	5.6
29.0 AND OVER	--	--	--	--	--	--	--	--
ALL CLASSES	14.3	410.6	424.9	12.4	56.2	35.2	103.8	528.7

Estimates are subject to sampling error.

-- = no data.

Table 14 — Net volume of growing stock on commercial and operable noncommercial forest land by diameter class and species, Upper Tanana block, Tanana inventory unit, Alaska, 1974

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	BLACK SPRUCE	WHITE SPRUCE	TOTAL	BALSAM POPLAR	PAPER BIRCH	QUAKING ASPEN	TOTAL	
INCHES AT BREAST HEIGHT				MILLION CUBIC FEET				
5.0-6.9	10.8	66.0	76.8	1.9	23.3	20.8	46.0	122.8
7.0-8.9	9.0	105.9	114.9	3.0	23.7	13.4	40.1	155.0
9.0-10.9	3.6	118.1	121.7	4.1	15.3	5.5	24.9	146.6
11.0-12.9	.4	93.5	93.9	2.0	2.9	1.9	6.8	100.7
13.0-14.9	.5	65.6	66.1	1.6	1.0	--	2.6	68.7
15.0-16.9	.2	34.8	35.0	.6	--	.1	.7	35.7
17.0-18.9	--	16.5	16.5	--	--	--	--	16.5
19.0-20.9	--	7.9	7.9	--	--	--	--	7.9
21.0-28.9	--	5.6	5.6	.1	--	--	.1	5.7
29.0 AND OVER	--	--	--	--	--	--	--	--
ALL CLASSES	24.5	513.9	538.4	13.3	66.2	41.7	121.2	659.6

Estimates are subject to sampling error.

-- = no data.

Table 15 — Net volume of sawtimber on commercial forest land by diameter class and species, Upper Tanana block, Tanana inventory unit, Alaska, 1974

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	BLACK SPRUCE	WHITE SPRUCE	TOTAL	BALSAM POPLAR	PAPER BIRCH	QUAKING ASPEN	TOTAL	
INCHES AT BREAST HEIGHT	MILLION BOARD FEET, INTERNATIONAL 1/4-INCH RULE							
9.0-10.9	14.3	492.2	506.5	--	--	--	--	506.5
11.0-12.9	2.7	436.6	439.3	5.7	12.5	5.2	23.4	462.7
13.0-14.9	1.3	324.0	325.3	6.2	4.9	--	11.1	336.4
15.0-16.9	--	185.8	185.8	3.0	--	--	3.0	188.8
17.0-18.9	--	89.4	89.4	--	--	--	--	89.4
19.0-20.9	--	41.1	41.1	--	--	--	--	41.1
21.0-28.9	--	32.4	32.4	--	--	--	--	32.4
29.0 AND OVER	--	--	--	--	--	--	--	--
ALL CLASSES	18.3	1,601.5	1,619.8	14.9	17.4	5.2	37.5	1,657.3

Estimates are subject to sampling error.

-- = no data.

Table 16 — Net volume of sawtimber on commercial and operable noncommercial forest land by diameter class and species, Upper Tanana block, Tanana inventory unit, Alaska, 1974

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	BLACK SPRUCE	WHITE SPRUCE	TOTAL	BALSAM POPLAR	PAPER BIRCH	QUAKING ASPEN	TOTAL	
INCHES AT BREAST HEIGHT	MILLION BOARD FEET, INTERNATIONAL 1/4-INCH RULE							
9.0-10.9	20.7	647.1	667.8	--	--	--	--	667.8
11.0-12.9	2.7	520.3	523.0	5.7	13.5	7.2	26.4	549.3
13.0-14.9	2.8	368.3	371.1	6.2	4.9	--	11.1	382.2
15.0-16.9	.7	201.4	202.1	3.1	--	.4	3.5	205.6
17.0-18.9	--	93.3	93.3	--	--	--	--	93.3
19.0-20.9	--	45.9	45.9	--	--	--	--	45.9
21.0-28.9	--	32.4	32.4	1.0	--	--	1.0	33.4
29.0 AND OVER	--	--	--	--	--	--	--	--
ALL CLASSES	26.9	1,908.7	1,935.6	16.0	18.4	7.6	42.0	1,977.6

Estimates are subject to sampling error.

-- = no data.

Table 17 — Gross volume of sawtimber on commercial forest land by diameter class and species, Upper Tanana block, Tanana inventory unit, Alaska, 1974

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	BLACK SPRUCE	WHITE SPRUCE	TOTAL	BALSAM POPLAR	PAPER BIRCH	QUAKING ASPEN	TOTAL	
INCHES AT BREAST HEIGHT	MILLION BOARD FEET, INTERNATIONAL 1/4-INCH RULE							
9.0-10.9	14.3	501.1	515.4	--	--	--	--	515.4
11.0-12.9	2.8	445.6	448.4	6.0	14.7	6.2	26.9	475.3
13.0-14.9	1.3	334.0	335.3	7.3	6.6	--	13.9	349.2
15.0-16.9	--	189.9	189.9	3.0	--	--	3.0	192.9
17.0-18.9	--	94.5	94.5	--	--	--	--	94.5
19.0-20.9	--	43.2	43.2	--	--	--	--	43.2
21.0-28.9	--	33.4	33.4	--	--	--	--	33.4
29.0 AND OVER	--	--	--	--	--	--	--	--
ALL CLASSES	18.4	1,641.7	1,660.1	16.3	21.3	6.2	43.8	1,703.9

Estimates are subject to sampling error.

-- = no data.

Table 18 — Gross volume of sawtimber on commercial and operable noncommercial forest land by diameter class and species, Upper Tanana block, Tanana inventory unit, Alaska, 1974

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	BLACK SPRUCE	WHITE SPRUCE	TOTAL	BALSAM POPLAR	PAPER BIRCH	QUAKING ASPEN	TOTAL	
INCHES AT BREAST HEIGHT	MILLION BOARD FEET, INTERNATIONAL 1/4-INCH RULE							
9.0-10.9	20.9	659.1	680.0	--	--	--	--	680.0
11.0-12.9	2.8	531.8	534.6	5.9	15.8	8.7	30.4	565.0
13.0-14.9	2.8	381.3	384.1	7.3	6.6	--	13.9	398.0
15.0-16.9	1.2	206.9	208.1	3.1	--	1.1	4.2	212.3
17.0-18.9	--	99.3	99.3	--	--	--	--	99.3
19.0-20.9	--	47.9	47.9	--	--	--	--	47.9
21.0-28.9	--	33.4	33.4	1.0	--	--	1.0	34.4
29.0 AND OVER	--	--	--	--	--	--	--	--
ALL CLASSES	27.7	1,959.7	1,987.4	17.3	22.4	9.8	49.5	2,036.9

Estimates are subject to sampling error.

-- = no data.

Table 19 — Net volume of growing stock on commercial forest land by forest type and stand size class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

FOREST TYPE	STAND SIZE CLASS				
	NONSTOCKED	SEEDLING AND SAPLING	POLETIMBER	SAWTIMBER	TOTAL
	MILLION CUBIC FEET				
BALSAM POPLAR	--	1.2	8.5	--	9.7
BLACK SPRUCE	--	.4	3.9	2.7	7.0
PAPER BIRCH	--	4.4	45.5	6.6	56.5
QUAKING ASPEN	--	12.4	20.5	--	32.9
WHITE SPRUCE	--	19.2	91.9	311.5	422.6
ALL TYPES	--	37.6	170.3	320.8	528.7

Estimates are subject to sampling error.

-- = no data.

Table 20 — Net volume of growing stock on operable noncommercial forest land by forest type and stand size class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

FOREST TYPE	STAND SIZE CLASS				
	NONSTOCKED	SEEDLING AND SAPLING	POLETIMBER	SAWTIMBER	TOTAL
	MILLION CUBIC FEET				
BALSAM POPLAR	--	--	--	--	--
BLACK SPRUCE	--	--	11.2	--	11.2
PAPER BIRCH	--	--	8.0	--	8.0
QUAKING ASPEN	--	--	7.8	--	7.8
WHITE SPRUCE	--	--	57.8	46.2	104.0
ALL TYPES	--	--	84.8	46.2	131.0

Estimates are subject to sampling error.

-- = no data.

Table 21 — Net volume of sawtimber on commercial forest land by forest type and stand size class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

FOREST TYPE	STAND SIZE CLASS				
	NONSTOCKED	SEEDLING AND SAPLING	POLETIMBER	SAWTIMBER	TOTAL
	MILLION BOARD FEET, INTERNATIONAL 1/4-INCH RULE				
BALSAM POPLAR	--	1.5	16.5	--	18.0
BLACK SPRUCE	--	--	6.5	9.5	16.0
PAPER BIRCH	--	7.8	53.1	28.7	89.6
QUAKING ASPEN	--	13.0	18.4	--	31.4
WHITE SPRUCE	--	51.1	200.2	1,251.0	1,502.3
ALL TYPES	--	73.4	294.7	1,289.2	1,657.3

Estimates are subject to sampling error.

-- = no data.

Table 22 — Net volume of sawtimber on operable noncommercial forest land by forest type and stand size class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

FOREST TYPE	STAND SIZE CLASS				
	NONSTOCKED	SEEDLING AND SAPLING	POLETIMBER	SAWTIMBER	TOTAL
	MILLION BOARD FEET, INTERNATIONAL 1/4-INCH RULE				
BALSAM POPLAR	--	--	--	--	--
BLACK SPRUCE	--	--	11.6	--	11.6
PAPER BIRCH	--	--	11.0	--	11.0
QUAKING ASPEN	--	--	2.4	--	2.4
WHITE SPRUCE	--	--	106.9	188.4	295.3
ALL TYPES	--	--	132.9	188.4	320.3

Estimates are subject to sampling error.

-- = no data.

Table 23 — Net volume of sawtimber on commercial forest land by species and log grade, Upper Tanana block, Tanana inventory unit, Alaska, 1974

SPECIES	LOG GRADE 1/				
	1	2	3	4 2/	TOTAL
	MILLION BOARD FEET, INTERNATIONAL 1/4-INCH RULE				
SOFTWOODS:					
BLACK SPRUCE	--	--	13.6	4.7	18.3
WHITE SPRUCE	1.8	19.6	1,173.2	406.9	1,601.5
TOTAL	1.8	19.6	1,186.8	411.6	1,619.8
HARDWOODS:					
BALSAM POPLAR	.7	1.9	9.2	3.0	14.8
PAPER BIRCH	--	2.0	14.7	.6	17.3
QUAKING ASPEN	.6	.7	3.7	.2	5.2
TOTAL	1.3	4.6	27.6	3.8	37.3
ALL SPECIES	3.1	24.2	1,214.4	415.4	1,657.1

Estimates are subject to sampling error.

-- = no data.

1/ Forest Product Laboratory. Hardwood log grades for standard lumber. USDA For. Prod. Lab. Rep. R1737; 1959. 61 p.

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

2/ Logs for local use.

Table 24 — Net volume of sawtimber on operable noncommercial forest land by species and log grade, Upper Tanana block, Tanana inventory unit, Alaska, 1974

SPECIES	LOG GRADE 1/				
	1	2	3	4 2/	TOTAL
	MILLION BOARD FEET, INTERNATIONAL 1/4-INCH RULE				
SOFTWOODS:					
BLACK SPRUCE	--	--	0.9	7.1	8.0
WHITE SPRUCE	--	0.6	191.6	114.6	306.8
TOTAL	--	.6	192.5	121.7	314.8
HARDWOODS:					
BALSAM POPLAR	--	--	1.0	--	1.0
PAPER BIRCH	--	--	.7	.3	1.0
QUAKING ASPEN	--	--	.4	2.0	2.4
TOTAL	--	--	2.1	2.3	4.4
ALL SPECIES	--	.6	194.6	124.0	319.2

Estimates are subject to sampling error.

-- = no data.

1/ Forest Product Laboratory. Hardwood log grades for standard lumber. USDA For. Prod. Lab. Rep. R1737; 1959. 61 p.

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2/ Logs for local use.

Table 25 — Net annual growth of growing stock by species and forest land class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

SPECIES	FOREST LAND CLASS		
	COMMERCIAL	OPERABLE NONCOMMERCIAL	TOTAL
	THOUSAND CUBIC FEET		
SOFTWOODS:			
BLACK SPRUCE	509.2	377.2	886.4
WHITE SPRUCE	7,086.0	1,445.5	8,531.5
TOTAL	7,595.2	1,822.7	9,417.9
HARDWOODS:			
BALSAM POPLAR	271.1	10.3	281.4
PAPER BIRCH	1,511.1	127.0	1,638.1
QUAKING ASPEN	1,559.9	229.8	1,789.7
TOTAL	3,342.1	367.1	3,702.2
ALL SPECIES	10,937.3	2,189.8	13,127.1

Estimates are subject to sampling error.

Table 26 — Net annual growth of sawtimber by species and forest land class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

SPECIES	FOREST LAND CLASS		
	COMMERCIAL	OPERABLE NONCOMMERCIAL	TOTAL
	THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE		
SOFTWOODS:			
BLACK SPRUCE	1,145.7	61.9	1,207.6
WHITE SPRUCE	32,425.6	13,522.4	45,948.0
TOTAL	33,571.3	13,584.3	47,155.6
HARDWOODS:			
BALSAM POPLAR	617.9	14.0	631.9
PAPER BIRCH	1,373.6	82.6	1,456.2
QUAKING ASPEN	723.7	66.0	789.7
TOTAL	2,715.2	162.6	2,877.8
ALL SPECIES	36,286.5	13,746.9	50,033.4

Estimates are subject to sampling error.

Table 27 — Annual mortality of growing stock by species and forest land class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

SPECIES	FOREST LAND CLASS		
	COMMERCIAL	OPERABLE NONCOMMERCIAL	TOTAL
	THOUSAND CUBIC FEET		
SOFTWOODS:			
BLACK SPRUCE	15.9	--	15.9
WHITE SPRUCE	508.8	227.1	735.9
TOTAL	524.7	227.1	751.8
HARDWOODS:			
BALSAM POPLAR	18.0	--	18.0
PAPER BIRCH	--	26.2	26.2
QUAKING ASPEN	--	--	--
TOTAL	18.0	26.2	44.2
ALL SPECIES	542.7	253.3	769.0

Estimates are subject to sampling error.

-- = no data.

Table 28 — Annual mortality of sawtimber by species and forest land class, Upper Tanana block, Tanana inventory unit, Alaska, 1974

SPECIES	FOREST LAND CLASS		
	COMMERCIAL	OPERABLE NONCOMMERCIAL	TOTAL
	THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE		
SOFTWOODS:			
BLACK SPRUCE	--	--	--
WHITE SPRUCE	1,456.1	860.5	2,316.6
TOTAL	1,456.1	860.5	2,316.6
HARDWOODS:			
BALSAM POPLAR	--	--	--
PAPER BIRCH	--	--	--
QUAKING ASPEN	--	--	--
TOTAL	--	--	--
ALL SPECIES	1,456.1	860.5	2,316.6

Estimates are subject to sampling error.

-- = no data.

Table 29 — Annual mortality of growing stock by cause, forest land class, and by softwoods and hardwoods, Upper Tanana block, Tanana inventory unit, Alaska, 1974

CAUSE	COMMERCIAL FOREST LAND			OPERABLE NONCOMMERCIAL FOREST LAND		
	SOFTWOODS	HARDWOODS	TOTAL	SOFTWOODS	HARDWOODS	TOTAL
	THOUSAND CUBIC FEET					
FIRE	--	--	--	--	--	--
INSECTS	92.5	--	92.5	67.3	--	67.3
DISEASE	--	--	--	--	--	--
WINDTHROW	175.7	--	175.7	118.0	--	118.0
OTHER	125.8	--	125.8	--	--	--
UNKNOWN	130.7	18.0	148.7	41.8	26.2	68.0
TOTAL	524.7	18.0	542.7	227.1	26.2	253.3

Estimates are subject to sampling error.

-- = no data.

Table 30 — Annual mortality of sawtimber by cause, forest land class and by softwoods and hardwoods, Upper Tanana block, Tanana inventory unit, Alaska, 1974

CAUSE	COMMERCIAL FOREST LAND			OPERABLE NONCOMMERCIAL FOREST LAND		
	SOFTWOODS	HARDWOODS	TOTAL	SOFTWOODS	HARDWOODS	TOTAL
	THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE					
FIRE	--	--	--	167.9	--	167.9
INSECTS	197.0	--	197.0	--	--	--
DISEASE	--	--	--	--	--	--
WINDTHROW	742.9	--	742.9	464.4	--	464.4
OTHER	266.0	--	266.0	--	--	--
UNKNOWN	250.2	--	250.2	228.2	--	228.2
TOTAL	1,456.1	--	1,456.1	860.5	--	860.5

Estimates are subject to sampling error.

-- = no data.

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Metric Equivalents

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 = 14.2913 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

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This report for the 3.6-million-acre Upper Tanana block is the third of four on the 14-million-acre Tanana Valley forest inventory unit. Descriptions of area, climate, forest, general resource use, and inventory methodology are presented. Area and volume tables are provided for commercial and operable noncommercial forest lands. Estimates for commercial forest land total 396,200 acres with 528.7 million cubic feet of growing stock volume. Estimates for the operable noncommercial class total 97,400 acres with 131 million net cubic feet of growing stock volume.

Keywords: Timber resources, resources (forest), statistics (forest), Alaska (Tanana River valley).

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