United States
Department of
Agriculture

Forest Service

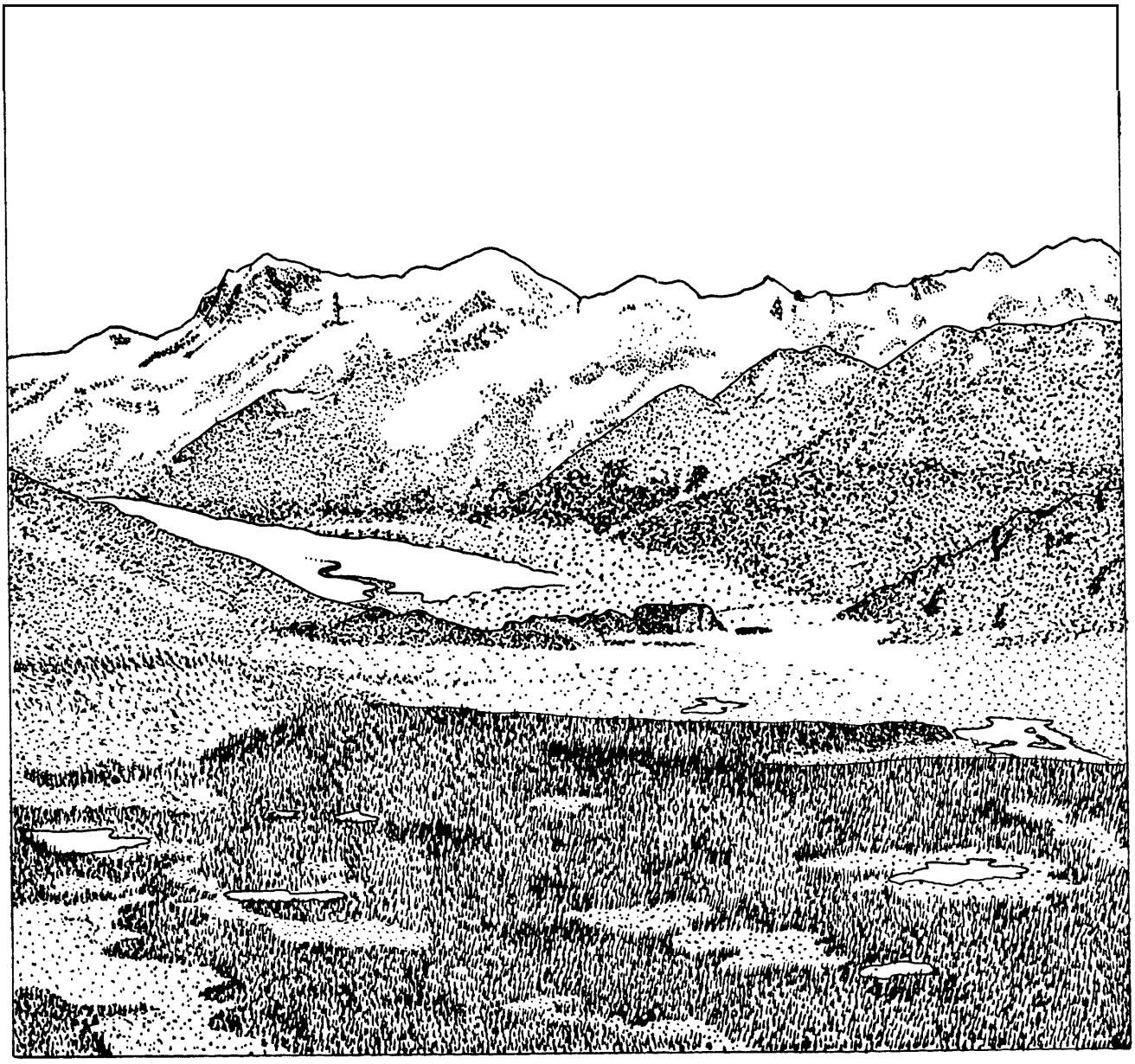
Pacific Northwest
Forest and Range
Experiment Station

Resource Bulletin
PNW-122

February 1985

Timber Resource Statistics for the Upper Susitna Block, Susitna River Basin Multiresource Inventory Unit, Alaska, 1980

Bert **R.** Mead, Theodore S. Setzer, and Gary L. Carroll



Authors

BERT R. MEAD is a forester, THEODORE S. SETZER is a research forester, and GARY L. CARROLL is a forester for Alaska Forest Inventory and Analysis, located at the Forestry Sciences Laboratory, Pacific Northwest Forest and Range Experiment Station, 2221 E. Northern Lights Blvd., Suite 106, Anchorage, Alaska 99508.

Abstract

Mead, Bert R.; Setzer, Theodore S.; Carroll, Gary L.; Timber resource statistics for the Upper Susitna block, Susitna River basin multiresource inventory unit, Alaska, 1980. Resour. Bull. PNW-122. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station; 1985. 47 p.

A multiresource inventory of the Upper Susitna block, Susitna River basin inventory unit, was conducted in 1980. Statistics on forest area, timber volumes, and annual growth from this inventory are presented. Timberland area is estimated at 112,130 acres and net growing stock volume, mostly hardwood, is 184.6 million cubic feet. Net annual growth of growing stock is estimated at 1.4 million cubic feet.

Keywords: Forest surveys, timber inventory, multiresource inventory, statistics (forest), resources (forest), Alaska (south-central).

Summary

The Forest Inventory and Analysis (FIA) work unit of the Pacific Northwest Forest and Range Experiment Station conducted its first multiresource inventory for Alaska in the Susitna River basin. Fieldwork began in 1978 in the Willow block, followed by the Talkeetna block in 1979. The Beluga and Upper Susitna blocks were inventoried in 1980. The 5,667,454-acre Upper Susitna block is bounded on the north by the Alaska Range, on the southwest by the Talkeetna Mountains, on the southeast by Lake Louise, and on the east by Tangle Lakes.

Statistics on forest area, net timber volumes, and annual growth are presented from the 1980 multiresource inventory of the Upper Susitna block. Timberland area is estimated at 112,130 acres and net growing stock volume at 184.6 million cubic feet. Net annual growth of growing stock is estimated at 1.4 million cubic feet.

Preface

Forest Inventory and Analysis is a nationwide project of the USDA Forest Service authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. Work units of the project, located at Forest Service Experiment Stations, conduct forest resource inventories throughout the SO States. The Pacific Northwest Forest and Range Experiment Station at Portland, Oregon, is responsible for inventories in Alaska, California, Hawaii, Oregon, and Washington.

Contents

Tables

Highlights 1/

Area

- Gross area of the Upper Susitna block is **5,667,454** acres.

- Forest land area is **1,141,672** acres, which is equivalent to **20.1** percent of the gross area in the block.

- Timberland accounts for **112,130** acres, or **9.8** percent of all forest land. Timberland is capable of producing **20** cubic feet or more of wood per acre per year.

- Black spruce is the predominant forest type, accounting for **625,087** acres and almost **55** percent of the total forest land. The white spruce type follows with **301,778** acres and about **26** percent of the total forest land. The remaining **19** percent is in the birch and cottonwood types.

- The predominant vegetation class on timberland is open deciduous forest, old stands-deciduous/mixed (**70,027** acres). This class occupies **62.4** percent of the timberland area, or **6.1** percent of all forest land.

- The predominant vegetation class on all forest land (timberland and other forest land combined) **is** open coniferous forest, short stands–black spruce **(494,485** acres).

- Site class **4** land (capable of producing **20-49** cubic feet per acre per year) supports all of the timberland and averages **1,646** cubic feet of growing stock volume per acre.

1/ Values presented in this section are estimates and are subject to sampling error.

Inventory

- Growing stock volume on timberland is **184.6** million cubic feet, with the majority of it, **94.9** percent, in sawtimber trees.

- Salvable dead sawtimber and poletimber trees contributed 586,000 cubic feet of wood volume.

- Black cottonwood makes up 82.9 percent of the growing stock volume and 86.6 percent of the sawtimber volume. The remaining volume is mostly birch.

- Average softwood growing stock volume per acre of timberland is **101** cubic feet and 466 board feet, International 1/4-inch rule. Hardwood growing stock volume equals 1,545 cubic feet and 8,650 board feet per acre.

- There are an average of 25 trees per acre of sawtimber-sized growing stock on timberland.

- There are an average of **34** trees per acre of growing stock less than sawtimber size.

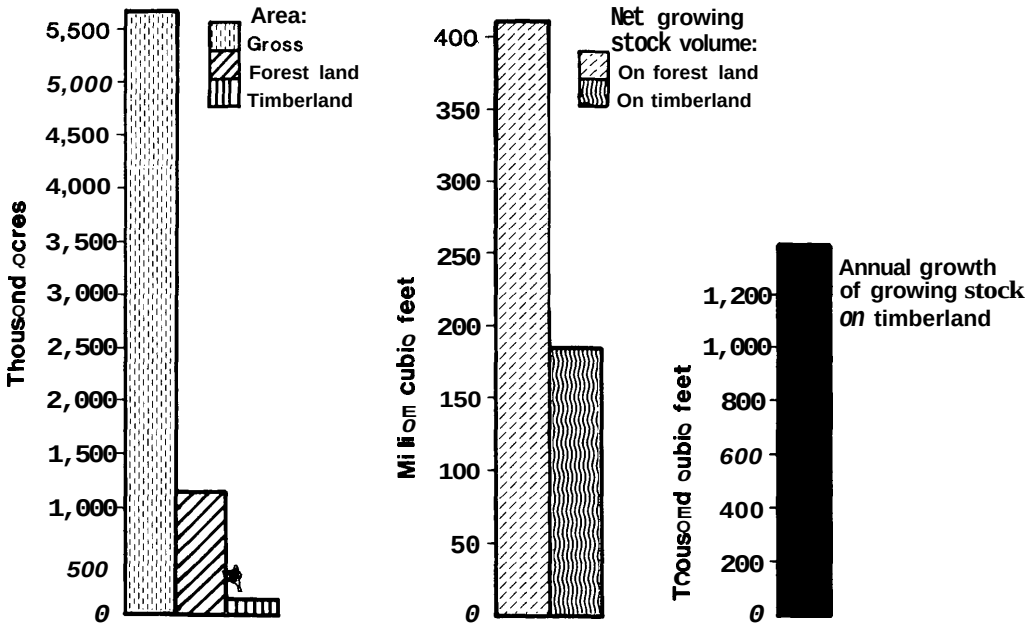
Growth

- Net annual growth of growing stock on timberland is 1.38 million cubic feet. Of the growing stock, **41.7** percent, or **577,000** cubic feet is in the birch type. (Because no mortality was encountered on ground sample locations, estimates for net annual growth and gross growth are the same.)

Mortality

- Mortality data were not compiled for the Upper Susitna block because no mortality trees were encountered on the ground sample locations.

Upper Susitna Block at a Glance



Introduction

In 1977, the Alaska Forest Inventory and Analysis (FIA) work unit of the USDA Forest Service, Pacific Northwest Forest and Range Experiment Station, joined with other agencies to plan and conduct a multiresource inventory of the Susitna River basin. Cooperating agencies were the USDA Forest Service, Alaska Region, State and Private Forestry; USDA Soil Conservation Service; and the State of Alaska, Department of Natural Resources. This report deals with the timber resource.

The 5,667,454-acre Upper Susitna block is part of the Susitna River basin multiresource inventory unit, located in south-central Alaska (figs. **1-3).** The Susitna River basin is bordered on the north and west by the Alaska Range, on the south by Cook Inlet, and on the east by the Copper River plateau. The Upper Susitna block is between 62°5' and 63°40' N. latitude, and 146°15' and 149°45' W. longitude. Major drainages in the block are the Susitna and Maclaren Rivers. Other drainages include the Black, Indian, Oshetna, and Tyone Rivers.

The concept of this multiresource inventory requires that all renewable resources be given equal consideration when allocating ground samples. This means that ground data are collected on all forest and range lands, not just on timberland. Timber resource statistics, particularly those for forest area and timber volume, growth, and mortality, may therefore exceed desired error limits. Users are cautioned to carefully view the data presented and to evaluate the information on reliability in the following section of this report.

The Upper Susitna block was the fourth **and** final portion of the Susitna unit to be inventoried. Fieldwork was conducted in 1980. Within the block are two proposed dam sites currently comprising the multi-billion dollar Susitna Hydroelectric project. Considerable development may occur in the area and throughout the entire Susitna River basin should the project be funded for construction.

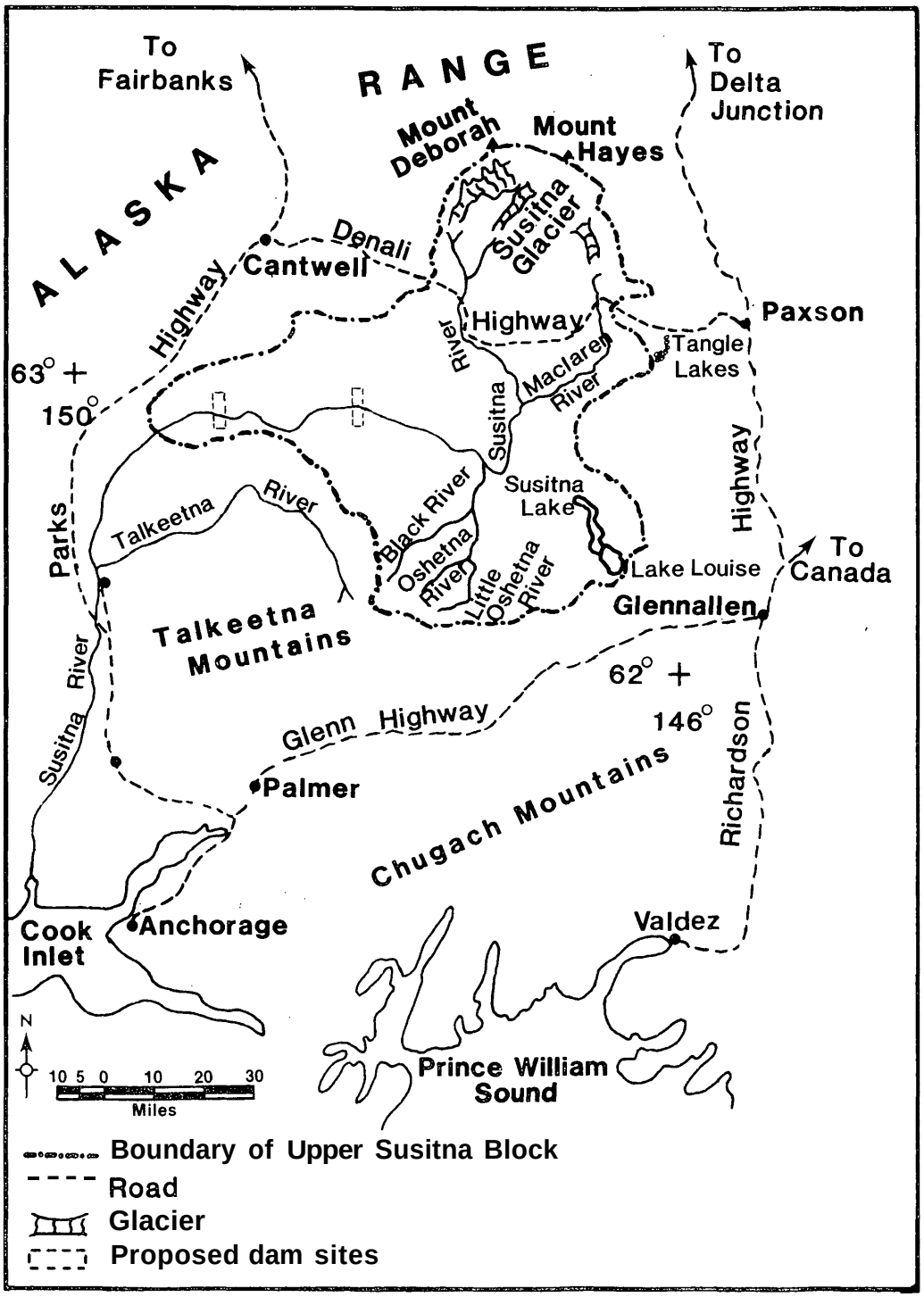


Figure 1.--Upper Susitna block, Susitna River basin.

Figure 2.--The Upper Susitna block provides good habitat for big game animals, including moose. Willow shrubs are predominant in the area.

Figure 3.--Forest land in the foreground supports black spruce trees 15-25 feet tall. Species on slightly higher ground (background) include taller birch and white spruce.

Inventory Procedures

Sampling strata for the Upper Susitna block follow. Land cover/vegetation classes for all the strata except water are detailed beginning on page 14.

Forest and woodland (greater than 10-percent tree crown cover):
- Stratum 1. Closed forest (greater than 50-percent tree crown cover)
- Stratum 2. Open forest (10- to 50-percent tree crown cover)

Monforest (less than 10-percent tree crown cover):
- Stratum 3. Nonforest
- Stratum 4. Cultural influence
- Stratum 5. Nonvegetated-barren
- Stratum 6. Water

Forest and nonforest:
- Stratum 7. Unclassified.

Vegetation for the study area was interpreted for primary aerial photo points located every 1 500 meters on 1:120,000 scale color infrared aerial photography. These points were first located using Universal Transverse Mercator (UTM) grid intersections on 1:63,360-scale quadrangles of the U.S. Geological Survey. Next, these points were visually transferred to aerial photos. A sampling stratum for each point was interpreted and a predominant vegetation type assigned to the circular, 5-acre area surrounding each point. A double sampling method was used to derive estimates (Bickford 1952), with ground plots located in the same types as the photo plots.

Sampling of a representative number of photo points followed, using a double sampling procedure. Points for ground rneasurements were located in the same vegetation types as the associated intersections of the grid.

Field plots were selected by considering type variances, costs of accessing plots and taking measurements, and the desired intensity of sampling that would enable data from this block to be compiled separately and still meet FIA standards for sampling error.

From the photo points, 120 were selected for ground observations and measurements. Sample points were established in 10-point clusters and measured within each 5-acre location. These measurements are the basis for the estimates given in this paper. 2/

On forested points, measurements of trees larger than 5 inches in d.b.h. were made on variable radius plots using a nonmetric prism with 40 basal area factor. Trees less than 5 inches were measured on 1/300-acre, circular, fixed radius plots.

2/ Head, Bert R. Field procedures for the cooperative vegetation inventory of the Susitna River basin, Alaska, Upper Susitna block. Anchorage, *AK.* U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station, Forestry Sciences Laboratory; 1980. 166 p. Unpublished report.

Reliability of Inventory Data

Area and volume statistics reported here are estimates based on sampling and, therefore, are subject to sampling error. The reliability of the inventory is expressed in terms of relative sampling errors at the 68-percent confidence level:

	Design sampling error 3/	Sampling error achieved	Sampling error of the total estimate
		Percent	
Timberland area:			
Per million acres	3.0	16.5	
For the total 112,130 acres			±49.3
Other forest land area:			
Per million acres	10.0	9.7	
For the total 1,029,542 acres			± 9.6
Net growing stock volume:			
Per billion cubic feet	10.0	33.7	
For the total 184,563,878 ft3			±78.5
Net annual growth of growing stock:			
Per billion cubic feet	10.0	1.9	
For the total 1,382,669 ft3			±51.6

The estimate of net growing stock volume for the Upper Susitna block is 184.564 million cubic feet, ±78.5 percent, yielding 68-percent confidence limits of 329.446 million and 39.681 million cubic feet. A 68-percent confidence level means that if repeated samples are taken of this population, the total volume would be between 329.446 million and 39.681 million cubic feet, 68 percent of the time.

3/ Forest Service Handbook 4813.1. Chapter 10, Operational Procedures 11.1--1; 1967.

Design sampling errors for timberland area (3 percent) and cubic-foot net growing stock volume (10 percent) were not met. Design sampling errors for other forest land area and net growth on growing stock (both 10 percent) were met.

Terminology 4/

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

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

Area condition class codes--

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, 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 or cull tree removal.

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.

4/ Terminology is from the manual of field procedures for the Susitna River basin inventory (see footnote 2), and Forest Service Handbook 4813.1 (see footnote 3).

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.

20 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 or regeneration.

Basal area--A measure of square feet of space occupied by the stem of a tree at diameter breast height.

Census water--Area reported as water by the Bureau of the Census: streams, sloughs, estuaries, and canals more than one-eighth mile wide; and lakes, reservoirs, and ponds of more than 40 acres.

Commercial species--Tree species presently or potentially suitable for industrial wood products.

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

Cull trees--Live trees of sawtimber or poletimber size that are not merchantable for saw logs now nor are they likely to become merchantable because of defect, rot, or species.

D.b.h.--Diameter at breast height, a point 4-112 feet above the ground on the uphill side of a tree, where, on a normally formed tree, the diameter is measured.

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.

Diameter class--A classification of trees based on diameter of the tree outside the bark, measured at breast height (4-112 feet above the ground). Two-inch diameter classes are commonly used by FIA, with the even inch the approximate midpoint for a class.

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

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

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

Black spruce--Forests in which a plurality of the stand is black spruce. Black spruce most often occurs in nearly pure stands but can be found mixed with tamarack, white spruce, paper birch, and aspen. Black spruce is fairly characteristic of poorer forest land.

White spruce--Forests in which a plurality of the stand is white spruce. Common associates include paper birch and balsam poplar, and occasionally black spruce or quaking aspen.

Balsam poplar--Forests in which a plurality of the stand is balsam poplar. South of the Alaska Range, balsam poplar may be replaced by black cottonwood or hybrids between the two. As the poplar ages, it is usually replaced by white spruce; however, it is usually found as a nearly pure type with only an occasional associate of white spruce or paper birch.

Black cottonwood--Forests in which a plurality of the stand is black cottonwood. Black cottonwood is found south of the Alaska Range in pure stands along major rivers. It hybridizes extensively with balsam poplar where their ranges overlap, and in this overlap area types are not easily distinguished by species but are usually reported as cottonwood/poplar. Black cottonwood stands are replaced by white spruce as they age and the pure stands contain only an occasional white spruce or paper birch.

Paper birch--Forests in which a plurality of the stand is paper birch. Paper birch can occur in pure stands but is more often mixed with white spruce, quaking aspen, or black spruce.

Quaking aspen--Forests in which a plurality of the stand is aspen. Aspen is usually found as a pure type following fire and a willow stage of succession. As the aspen ages, it is usually replaced by spruce, except on very dry sites where it may remain as a pure type. Common associates include black spruce and white spruce and occasionally paper birch.

Gross growth--Annual increase in net volume of trees that have not been cut or have not died.

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

Growing stock volume--The net cubic-foot volume of sound wood in the bole of growing stock trees 5.0 inches in d.b.h. and larger, from stump to a minimum 4.0-inch top outside the bask or to the point where the central stem breaks into limbs.

Hardwoods--Dicotyledonous trees, usually broadleaved and deciduous. Hardwood species in interior Alaska are balsam poplar, black cottonwood, paper birch, and quaking aspen.

International 1/4-inch rule--A log rule using diameter and length to give yields of logs in board feet of lumber produced when 1-inch boards are cut. It assumes one-half inch of taper per 4 feet of log and a saw kerf of one-fourth inch.

Land area--Area reported as land by the Bureau of the Census. Total land area includes dry land and land temporarily or partially covered by water such as marshes, swamps, and river flood plains (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.

Land cover class--A classification of land by the predominant vegetatiwe cower on it, such as forest land. The minimum size area for classification is 1 acre.

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 timberland is the ability to produce at least 20 cubic feet per acre per year.

Mortality--Number of or the sound wood volume from live trees dying from natural causes during a specified period (5 years).

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.

Non-Census water--Streams, sloughs, estuaries, and canals between 120 feet and one-eighth mile wide; and lakes, reservoirs, and ponds of 1-40 acres.

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

Nonforest land--Land that 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 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.

Nonstocked areas--Timberland less than 16.7 percent stocked with growing stock trees.

Other 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). This includes sterile or poorly drained forest land, subalpine forests, and steep, rocky areas where topographic conditions are likely to prevent management for timber production. Also included is productive forest land withdrawn from commercial timber use by statute or administrative regulation.

Other forest land, inoperable--Other forest land with a gross volume less than 800 cubic feet per acre.

Other forest land, operable--Other forest land with a gross volume of 800 cubic feet or more per acre.

Overstocked areas--Areas where growth of trees is substantially reduced by excessive numbers of trees.

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

Poletimber trees--Trees 5.0 to 8.9 inches in d.b.h. for softwoods and 5.0 to 10.9 inches in d.b.h. for hardwoods.

Rotten trees--Live trees 5.0 inches in d.b.h. and larger that do not contain a saw log now and are not likely to, primarily because of rot.

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

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).

Sapling trees--Trees 1.0 to 4.9 inches in d.b.h.

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 of 6 inches inside the bark for softwoods and 8 inches for hardwoods.

Saw-log portion--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 top diameter is 7.0 inches outside the bark for softwqods and 9.0 inches outside the bark for hardwoods.

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

Sawtimber trees--Trees at least 9.0 inches in d.b.h. for softwoods and 11.0 inches in d.b.h. for hardwoods.

Sawtimber volume--The volume of sawtimber trees measured in board feet. Net volume equals gross volume less deductions for rot, sweep, crook, and other defects that affect use for lumber.

Seedling--An established tree less than 1.0 inch in d.b.h.

Seedling and sapling stands--Stands at least 16.7 percent stocked with growing stock trees and with seedlings and/or saplings comprising more than half of this stocking.

Site class--A classification of forest land based on its capacity to grow crops of industrial wood. Site classifications are based on the mean annual cubic-foot growth of growing stock attainable in fully stocked stands at culmination of mean annual increment.

Softwoods--Coniferous trees, usually evergreen with needles or scalelike leaves. Species in interior Alaska are white spruce, black spruce, and tamarack.

Stand size class--A classification of forest land based on the predominant size of growing stock present: sawtimber, poletimber, or seedlings and saplings.

Stand volume class--A classification of forest land based on cubic-foot or board-foot timber volume per acre.

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.

Timber class--A classification of trees based on characteristics of quality such as vigor, size of limbs and knots, and presence or absence of rot. Classes include growing stock; desirable and acceptable trees; and rough, rotten, and salvable dead trees.

Timberland--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. Areas qualifying as timberland could produce more than 20 cubic feet per acre per year of industrial wood under management.

Tree size class--A classification of trees based on the diameter of the tree at breast height.

Type map--A map showing classifications of vegetated and barren land, based on interpretation of aerial photographs. Like areas are delineated, labeled, and referred to as polygons.

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.

UTM--Universal transverse mercator grid system is a 1000-meter grid named for the map projection on which it is based. It consists of 60 grid zones, each 6° longitude in width. The origin ob the grid zone lies at the intersection of the central meridian, which is a straight north-south fine passing through Greenwich, England, and the equator, a straight east-west line. Grid lines within a zone are parallel and delineated on USGS quadrangle maps by blue tick marks on map margins.

Vegetation class--A classification of forest and nondorest vegetation based on species, canopy coverage, and height and/or age of vegetation. A classification system unique to FIA was developed for the Susitna River basin multiresource inventory. Classes are defined in the following section.

Water--See Census water and Non-Census water.

Vegetation/ Land Cover Classes

I. Forest and woodland (greater than 10-percent crown cover)

A. 'Closed coniferous forest (greater than 50-percent crown .cover)

1. Short stands-white spruce. Main canopy usually less than 30 feet tall. Usually found at higher elevations as isolated pockets in areas dominated by alder; grassland; or open, mixed stands.

2. Tall stands-white spruce. Main canopy usually greater than 30 feet tall. Usually found at lower elevations on better sites; almost always found mixed with old and decadent, deciduous trees (very rarely found as a pure type in Susitna River basin).

3. Short stands-black spruce. Main canopy usually less than 30 feet tall. Generally found on wet and/or cold (poor) sites; may be found mixed with birch of poor quality but usually found as a pure type forming islands and stringers in bog areas or transition zones between bog area and forest areas. Understory is usually a thick moss and/or sedge mat.

4. Tall stands-black spruce. Main canopy usually greater than 30 feet tall. Can usually be identified as a fire-formed stand, on relatiwely good sites. Stands are remarkably pure, and the stocking density is usually quite high; may be found mixed with very scattered birch.

B. Closed deciduous forest (greater than 50-percent crown cover)

1. Young stands-deciduouslmixed. Canopy is usually very finely textured when viewed from above; openings in stand are very rare. Composed mostly of birch and/or aspen. This type very rarely mixed with other types except when found as a remnant condition in burned areas. Spruce is not usually evident as a component of the overstory in these young stands. Stands are 0-40 years old.

2. Medium age stands-deciduous/mixed. Canopy is usually fine textured when viewed from above; openings may be fairly common but are usually small. Vegetation elements of this type include birch, spruce, and aspen. Birch is usually found as a main component of this type, but percent composition may vary greatly depending on a number of factors: as the type increases in age, the percentage of white spruce as a crown component usually increases with the amount of understory and number of stand openings. Stands are 40-100 years old.

3. Old stands-deciduous/mixed. Canopy is usually somewhat coarse textured when viewed from above; openings are common and may appear in nearly half the stand. Canopy may also appear smooth, but openings appear as definite holes in the crown. Deciduous trees in these old stands are usually decadent. Spruce is often becoming the dominant species. The understory is usually visible from above and most commonly includes *Calamagrostfs* sp. and *Alnus* sp. Stands are always older than 100 years.

4. Young stands-cottonwood. Host commonly found on new islands, downstream ends of old islands, and point bars of rivers. Cottonwood or poplar is usually mixed with large alder and/or willow; understory is sparse to nonexistent. Stands are 0-40 years old.

5. Medium age stands-cottonwood. Most commonly found within a mile of a river (alluvial soils). Stands are usually pure cottonwood or poplar; spacing is even and crown closure approaches 100 percent. Understory in the Susitna River basin is dominated by alder and devil's club. Stands are 40-100 years old.

6. Old .stands-cottonwood. Host commonly found near rivers (alluvial soils). Stands may be mixed with young white spruce. Cottonwood trees are extremely large (30-40 inches in diameter) and decadent (larger trees may be only shells). Stand appears somewhat clumpy because of openings. Understory includes large quantities of alder, devil's club, and willow. 'Stands are older than 100 years.

C. Open coniferous forest (10- to 50-percent crown cover)

1. Short stands-white spruce. Usually found at higher elevations as a transition type between closed forest and high elevation, nonforest areas. Usually found mixed with vegetation elements of the higher elevation type: if the higher elevation type is a mixture of alder and grass, the open white spruce transition type will normally be forming a complex type with alder and grass. Trees are shorter than 30 feet.

2. Tall stands-white spruce. Same as short stands of white spruce normally found at lower elevations or on better sites. Commonly found in creek bottoms mixed with alder/willow and grass. Trees are taller than 30 feet.

3. Short stands-black spruce. Found in association with bog types. Black spruce trees are usually of very poor form. Site is either wet or cold or both. Trees are usually shorter than 15 feet.

D. Open deciduous forest (10- to 50-percent crown cover)

1. "Medium age stands-deciduous mixed. Similar to short stands of white spruce except normally found at lower elevations (as elevation increases, so does proportion of spruce in mixed types). Although birch/aspen stands are not usually found as a transition type between forest and high elevation, nonforest areas, they are often found just below areas of open, short white spruce. Stands are 0-40 years old.

2. Old stands-deciduous/mixed. Found in same general location as open, tall stands of white spruce. Found in association with grass and alder. Birch is usually found growing in very small, tight clumps. Spruce is usually found to have an open grown form and isnormally much younger than the hardwood component of the type.

3. Hedium age stands-cottonwood. Usually found at tree line just above elevational limit of open white spruce. Found in pockets among low shrubs.

4. Old stands-cottonwood. Two elevational phases of this type seem to occur. The high elevation phase, consisting of balsam poplar, may be found mixed with streamside alder/willow along flowing water on high elevation flats. The low elevation phase, consisting of cottonwood, may be found on major river flood plains growing with a confusing mixture of other types such as open spruce, open birch, alder, and grass.

II. Nonforest (0- to 10-percent crown cover)

A. Tall shrub

1. Alder. This type is dominated by tall (10-15 feet) alder growing in dense thickets with grasses, ferns, and a great variety of forbs growing in the understory. Devil's club can be found as a dominant understory to the alder on wetter and steeper sites. Devil's club will normally exclude other understory vegetation. The type is found at or above tree line.

2. Alder willow (streamside vegetation). This type is dominated by a mixture of very large alder and willow and is normally found on frequently flooded ground such as new islands and point bars. Understory is sparse but may include *Equisetum* and ***Calamagrostfs.*** This type is often found mixed with young, open cottonwood; in younger stands the cottonwood is almost indistinguishable from the willow and alder.

B. Low shrub (willow-resin birch)

This type is dominated by either willow or resin birch or a combination thereof. The type is often found in sheltered areas at high elevations such as draws in mountainous terrain. This type is found at and above the transition between tall shrubland and tundra.

C. Grassland (*Calamagrostis*)

This type is dominated by *Calamagrostis* 3-6 feet tall. Fireweed and various ferns are sometimes common. This type is most often found as an understory in the more open forest types and woodland areas where it is commonly associated with alder patches; can also be found unassociated with other types along small streams.

D. Tundra

1. Sedge-grass tundra. This type is found above tree line on relatively flat, wet areas. Vegetation consists almost entirely of various wet sedges.

2. Herbaceous tundra. This type is found above tree line and is almost always found mixed with and above shrub tundra. The variety of species found is immense, consisting mainly of various grasses and forbs. Soil varies in depth and may be intermixed with rock outcroppings. Vegetation may not be continuous.

3. Shrub tundra. This type is dominated by dwarf shrub birch and ericaceous shrubs along with various short grasses and a large number of forbs. This type is almost always found mixed with and below herbaceous tundra. Density of the shrubs varies considerably and may often appear quite patchy.

4. Hat and cushion tundra. This type is dominated by such plants as dryas, crowberry, bearberry, sedge, grass, lichens, and low-growing forbs. Climatic conditions are extreme at the elevation where this type is found. Vegetation cover may be complete (closed mat cushion) or relatiwely sparse (scattered mat cushion) with a large percentage of the vegetation being lichens. This type is often mixed with rock.

E. Saltwater wetlands

1. Grassland. *Elymus*-dominated grassland in areas of tidal influence. Usually found at edge of normal high water in sandy soil, where the shoreline gradient is relatively steep, and as a belt of grass along the shore.

2. Low shrub. *Myrica*-dominated shrubland located on tidal flats. Water level is usually fluctuating seasonally. In areas that are more continuously wet, sedge replaces *Myrica* sp.

3. Tidal marsh. Usually found in areas with many shallow lakes and little topographic relief (within tidal influence). Vegetation is dominated by various sedges. Woody plants may occur on the drier sedge and peat ridges that are common to this type.

F. Fresh water wetlands

1. Sphagnum bog. Cover is dominated by varying amounts of sedge, *Equisetum* and moss (especially *Sphagnum).* This type is usually found as a floating mat over several feet of water or as a thick mat directly over saturated or frozen soil. Shrubs and stunted trees (if present) may be found on drier peat ridges. This type is similar to tidal marsh except that shallow lakes are less common, the peat ridges form a more continuous and regular pattern and the type is found inland beyond tidal reach. Usually found as a pure type.

2. Sphagnum/shrub bog. Vegetation of this type is dominated by a thick moss mat *(Sphagnum)* and/or sedge tussocks. Grass, ericaceous shrubs, *Salix*, blueberry and cranberry may also be present. Ground water level usually varies seasonally, but this type is usually not as wet as a *Sphagnum* bog. Usually mixed with open stands of short black spruce. Many other types may also be found in close association with this type; they are usually found on glacial moraines and eskers within the bog area.

III. Cultural influence

Hay be broadly defined as land that has been obviously affected by human activity. Includes agricultural land, urban areas, and land developed to support or provide services to agricultural and urban land. This *'type**may be vegetated, but vegetation that is present may not be natural in either composition or spacing.

IV. Nonvegetated–barren

A. Mud flat. Confined to tidal areas (for example, Cook Inlet) and the mouths of major rivers. This "type" may appear vegetated on infrared and normal color photography or from the air, but the "vegetation" is usually algal blooms, and/or other sea plants. Mud flats are usually well patterned with ripple marks or water drainage patterns, are normally submersed during high tide, and may be used as resting and feeding areas by waterfowl.

B. Rock. Includes exposed bedrock, and scree commonly found with mat and cushion tundra at high elevations. This "type" is also used to describe large landslides, fresh moraines, and other natural barren areas.

C. Snow field. High–elevation, snow accumulation areas. Appears to be a permanent or nearly year–round part of the landscape. May be found as small pockets on slopes protected from the sun, on lee slopes, or in gulleys. Can be found over bare ground or mixed with mat and cushion tundra.

D. Glacier. Includes both icefields and glaciers. Usually found covering several square miles. Considered a permanent part of landscape. This "type" covers much larger areas than does the snowfield type; crevasses, moraines, and other glacial features are usually present.

V. Unclassified

Locations or "points" that could not be classified because of cloud cover or deep shadows on the aerial photographs.

Names of Trees 5/

Common name	Scientific name
Softwoods:	
Black spruce	*Picea mariana* (Hill.) B.S.P.
White spruce	*Picea glauca* (Moench) Voss
Hardwoods:	
Balsam poplar	*Populus balsamffera* L.
Black cottonwood	*Populus trichocarpa* Torr. and Gray
Paper birch	*Betula papyrifera* Harsh.
Quaking aspen	*Populus tremuloides* Michx.

5/ Scientific names are according to Viereck and Little (1972).

Tables

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

TABLE 1--AREA BY VEGETATION/LAND COVER CLASS AND LAND CLASS, UPPER SUSITNA BLOCK. SUSITNA UNIT, ALASKA, 1980

VEGETATION/ LAND COVER CLASS	LAM, CLASS									
	TIMBERLAND	OTHER FOREST LAND, OPERABLE	OTHER FOREST LAM). IMOPBRABLB	TOTAL FOREST LAND	NONFOREST LAND	NON-CENSUS WATER	TOTAL NONFOREST	CENSUS WATER	IJUCLASSIFIBD	ALL CLASSES
					ACRES					
CLOSED COMIFEROUS FOREST	--	4,726	14,178	18,904	--		--	--	--	18,904
CLOSED DECIDUOUS FOREST	9,452	14,178	14.178	37,809	--	--	--	--	--	37,809
OPEN FORBST	102,678	65,301	916,980	1,084,960	--			--	--	1,084,960
SHRUBLAND	--	--	--	--	868,306	--	868,306	--	--	868,306
GRASSLAND	--	--	--	--	--	--	--	--	--	--
TUNDRA	--	--	--	--	2,140,508	--	2,140.508	--	--	2,140,508
BOG	--	--	--	--	434,153	--	434,153	--	--	434,153
CULTURAL INFLUENCE	--	--	--	--	4,279	--	4,278	--	--	4,278
NONVEGETATED-BARREN	--	--	--	--	794,847	--	794,847	--	--	794,847
WATER	--	--	--	--	--	158,896	158,896	115,383	--	274,279
IJUCLASSIFIBD	--	--	--	--	--	--	--	--	9,412	9,412
ALL CLASSES	112,130	84,206	945,337	1,141,672	4,242,091	158,896	4,400,987	115.383	9,412	5,667,454

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 2--AREA OF FOREST LAND BY VEGETATION/LAND COVER CLASS, STAMD SIZE CLASS. AND CUBIC-FOOT SITE CLASS, UPPER SUSITNA BLOCK, SUSITNA WIT. ALASKA. 1980

VEGETATION/ LAND COVER CUSS AM, STAM) SIZE CUSS	SITE CLASS (CUBIC FEET) 1/ 1-9	10-14	15-19	20-49	50-84	WCLASSIFIED	ALL CLASSES
			ACRES				
CLOSED CONIFEROUS FOREST, SHORT STAMDS-UHITE SPRUCE:							
SAWTIMBER	--	--	--	--	--	--	--
POLETIMBER	--	--	--	--	--	--	--
SEEDLING AM) SAPLING	--	--	4,726	--	--	--	4,726
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	--	--	4,726	--	--	--	4,726
CLOSED CONIFRROUS FOREST, TALL STAMDS-UHITE SPRUCE:							
SAWTIMBER	--	9,452	--			--	9,452
POLETIMBER	4,726	--	--	--	--	--	4,726
SEEDLING AM) SAPLING	--	--	--	--	--	--	--
NOPSTOCKED AREAS				--	--		
TOTAL	4.726	9,452	--	--	--	--	14.178
CLOSED DECIDUOUS FOREST, YOWG STAMDS-DECIDUOUS/ MIXED:							
SAWTIMBER	--	--	--	--	--	--	--
POLETIMBER	--	--	4,726	--	--	--	4,726
SEEDLING AND SAPLING	--	--	--	--	--	--	--
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	--	--	4,726	--	--	--	4,726
CLOSED DECIDUOUS FOREST, MEDIUM AGE STANDS- DECIDUOUS/MIXED:							
SAVTIMBER	--	--	4,726	--	--	--	4,726
POLETIHBER	--	--	--	--	--	--	--
SEEDLING AND SAPLING	--	--	--	--	--	--	--
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	--	--	4,726	--	--	--	4,726
CLOSED DECIDUOUS FOREST, OLD STAMDS-DECIDUOUS/ HIXED:							
SAVTIHBER	--	4,726	--	4,726	--	--	9.452
POLETIHBER	--	--	4,726	4,726	--	--	9,452
SEEDLING AMD SAPLING	--	--	4,726	--	--	--	4,726
NONSTOCKED AREAS							
TOTAL	--	4,726	9,452	9,452	--	--	23,631
CLOSED DECIDUOUS FOREST, OLD STAMDS-COTTOWOOD:							
SAVTIHBER	4,726	--	--	--	--	--	4,726
POLETIMBER	--	--	--	--	--	--	--
SEEDLING AM) SAPLING	--	--	--	--	--	--	--
UONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	4,726	--	--	--	--	--	4,726
OPEN CONIFEROUS FOREST, SHORT STAWDS-WHITE SPRUCE:							
SAWTIHBER	72.359	--	--	--	--	--	72.359
POLETIMBRR	--	--	--	--	--	--	--
SEEDLING AND SAPLING	97,952	4.726	--	--	--	--	102,678
NONSTOCKED AREAS	97,952	--	--	--	--	--	97,952
TOTAL	268.262	4,726	--	--	--	--	272.988

See footnotes at end of table.

TABU 2--AREA OF FOREST LAND BY VEGETATION/LAND COVER CLASS, STAND SIZE CLASS. AND CUBIC-FOOT SITE CLASS, UPPER SUSITNA BLOCK, SUSITNA WIT, ALASKA, 1980 (continued)

VEGETATION/ LAND COVER CLASS AND STAND SIZE CLASS	SITE CLASS (CUBIC PERT) 1/ 1-9	10-14	15-19	20-49	50-84	UNCLASSIFIED	ALL CLASSES
				ACRES			
OPKU CONIFEROUS POREST. TALL STANDS-WHITE SPRUCE:							
SAYTIMBER	9.452	37,377	--	--	--	--	46,829
POLETIMBER	--	37,377	--	--	--	--	37,377
SEEDLIMG AND SAPLIW:	--	--	--	--	--	--	--
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	9,452	74,753	--	--	--	--	84,206
OPKU CONIFEROUS FOREST, SHORT STAUDS-BLACK SPRUCE:							
SAWTIMBER	--	--	--	--	--	--	--
POLETIHBER	--	--	--	--	--	--	--
SEEDLIUG *AUD* SAPLING	65,301	32,651	--	--	--	65,301	163,253
NONSTOCKED AREAS	167,979	--	--	--	--	163,253	331,232
TOTAL	233.280	32.651	--	--	--	228,554	494,485
OPKU DECIDUOUS WREST. MEDIUM AGE *STAUDS*- DECIDUOUS/MIXED:							
SAWTIMBER	--	--	--	--	--	--	--
POLETIKBER	--	--	--	--	--	--	--
SEEDLIMG AND SAPLIW:	32,651	--	--	--	--	--	32,651
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	32,651	--	--	--	--	--	32,651
OPKU DECIDUOUS FOREST. OLD STAUDS-DECIDUOUS/ HIXED:							
SAUTIIIBER	--	--	--	37,377	--	--	37,377
POLETIMBER	--	32,651	--	--	--	--	32,651
SEEDLIUG AUD SAPLING	32,651	--	--	--	--	--	32,651
NONSTOCKED AREAS	--	--	--	32,651	--	--	32,651
TOTAL	32.651	32,651	--	70,027	--	--	135.328
OPEN DECIDUOUS WREST, MEDIUM AGE STAUDS- COTTONWOOD:							
SAWTIMBER	32.651					--	32,651
POLETIMBER	--	--	--	--	--	--	--
SEEDLIMG AUD SAF'LIW:	--	--	--	--	--	--	--
NONSTOCKED AREAS.	--	--	--	--	--	--	--
TOTAL	32,651	--	--	--	--	--	32,651
OPEU DECIDUOUS FOREST, OLD STANDS-COTTONWOOD:							
SAUTIIIBER	--	--	--	32,651	--	--	32,651
POLETIHBER	--	--	--	--	--	--	--
SEEDLIMG AND SAPLIMG NONSTOCKED *AREAS*	--	--	--	--	--	--	--
TOTAL	--	--	--	32,651	--	--	32,651
ALL CLASSES	618.399	158.959	23.631	112.130	--	228.554	1,141.672

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Potential yield per acre, mean annual increment

TABLE 3--AREA OF WREST LAND BY WREST TYPE, STAND SIZE CLASS AND CUBIC-FOOT SITE CLASS, UPPER SUSITNA BLOCK, SUSITMA UNIT, ALASKA, 1980

FOREST TYPE AM) STAND SIZE CLASS	SITE CLASS (CUBIC FEET) 1/ 1-9	10-14	15-19	20-49	50-84	UNCLASSIFIED	ALL CLASSES
				ACRES			
BLACK SPRUCE:							
SAWTIMBER	--	--	--	--	--	--	--
POLETIMBER	--	--	--	--	--	--	--
SEEDLIHG AM) SAPLIMG	130,602	32,651	--	--	--	65,301	228,554
NONSTOCKED AREAS	233,280	--	--	--	--	163,253	396,533
TOTAL	363,882	32.651	--	--	--	228.554	625,007
WHITE SPRUCE:							
SAWTIMBER	81,811	51,555	--	4,726	--	--	138,092
POLETIMBER	4.726	37,377	4.726	4.726	--	--	51,555
SEEDLIMG AND SAPLING	97,952	4,726	9.452	--	--	--	112.130
MOBSMCKED AREAS	--	--	--	--	--	--	--
TOTAL	184,489	93.658	14.178	9,452	--	--	301,778
COTTONWOOD:							
SAVTIHBER	37,377	--	--	32,651	--	--	70,027
POLETIMBER	--	--	--	--	--	--	--
SEEDLING M D SAF'LIHG	--	--	--	--	--	--	--
NONSTOCKED AREAS	32,651	--	--	--	--	--	32,650
TOTAL	70,027	--	--	32,651	--	--	102,678
ASPEN:							
SAWTIMBER							
POLETIHBER							
SEEDLING AND SAF'LIW:	--	--	--	--	--	--	--
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	--	--	--	--	--	--	--
BIRCH:							
SAWTIMBER	--	--	4,726	37,377	--	--	42,103
POLETIHBER	--	32,651	4,726	--	--	--	37,377
SEEDLIHG AND SAPLIMG	--	--	--	--	--	--	--
NONSTOCKED AREAS	--	--	--	32,651	--	--	32,651
TOTAL	--	32.651	9.452	70,027	--	--	112,130
VV TYPES AM) CLASSES	618,399	158.959	23,631	112.130	--	228.554	1.141.672

Estimates ace subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Potential yield per acre, mean annual increment.

TABLE 4--AREA OF TIMBERLAND BY CUBIC-FOOT STAM) VOLUME CLASS AM) FOREST TYPE, UPPER SUSITNA BLOCK, SUSITNA WIT, ALASKA, 1980

STAM) V O L W CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTOWOOD	ASPEN	BIRCH	ALL TYPES
CUBIC FEET PER ACRE			*ACRES*			
0-299	--	--	--	--	32,650	32,650
300-799	--	4,726	--	--	32,651	37,377
800-1.499	--	--	--	--	4,726	4,726
1,500-2,199	--	4,726	--	--	--	4,726
2,200 AND MORE	--	--	32,651	--	--	32,651
ALL CLASSES	--	9,452	32,651	--	70,027	112,130

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 5--AREA OF TIMBERLAND BY STAND VOLUME CLASS, INTERNATIONAL 1/4-INCH RULE, MID FOREST TYPE, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

STAND VOLUME CLASS	BUCK SPRUCE	WHITE SPRUCE	COTTOWOOD	ASPEN	BIRCH	ALL TYPES
BOARD FEET, INTERNATIONAL 1/4-INCH RULE			*ACRES*			
0-299	--	--	--	--	32,650	32,650
300-799	--	--	--	--	--	--
800-1.499	--	--	--	--	--	--
1,500-2.199	--	4,726	--	--	--	4,726
2,200-2,999	--	--	--	--	--	--
3,000-4,999	--	4,726	--	--	37,377	42,103
5,000-6,999	--	--	--	--	--	--
7,000 AM OVER	--	--	32,651	--	--	32,651
ALL CLASSES	--	9,452	32,651	--	70,027	112,130

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 6--AREA OF TIMBERLAND BY CUBIC-FOOT STAND VOLUME CLASS AND CUBIC-FOOT SITE CLASS, UPPER SUSITNA BLOCK; SUSITNA UNIT, ALASKA, 1980

STAND VOLUME CLASS	SITE CLASS (CUBIC FEET) 1/ 20-49	50-84	85-119	ALL CLASSES
CUBIC FEET		*ACRES*		
0-299	32,650	--	--	32,650
300-799	37,377	--	--	37,377
800-1.499	4,726	--	--	4,726
1,500-2,199	4,726	--	--	4,726
2,200 AND OVER	32,651	--	--	32,651
ALL CLASSES	112,130	--	--	112,130

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Potential yield per acre, mean annual increment.

TABLE 7--AREA OF TIHBERLAND BY AREA CONDITION CLASS AND FOREST TYPE, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

AREA CONDITION CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
			ACRES			
10 and 20	--	--	--	--	--	--
30 and 40	--	--	--	--	--	--
50	--	--	32,651	--	--	32,651
60	--	4,726	--	--	4,726	9,452
70	--	4,726	--	--	65,301	70,027
ALL CLASSES	--	9,452	32,651	--	70,027	112,130

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 8--NUMBER OF GROWING STOCK TREES ON TIMBERLAND BY DIAMETER CUSS *AM)* SPECIES, UPPER SUSITNA BLOCK, SUSITHA WIT, ALASKA, 1980

DIAMETER CLASS	SOFTWOODS			HARDWOODS					ALL SPECIES
	WHITE SPRUCE	BUCK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKIMG ASPEN	BLACK COTTONWOOD	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT				*THOUSAND TREES*					
1.0-2.9	284	--	284	--	--	--	--	--	284
3.0-4.9	1,121	--	1,121	--	--	--	--	--	1,121
5.0-6.9	674	--	674	229	--	--	--	229	903
7.0-8.9	379	--	379	543	--	--	415	958	1,337
9.0-10.9	550	--	550	164	--	--	--	164	713
11.0-12.9	229	--	229	99	--	--	--	99	329
13.0-14.9	75	--	75	554	--	--	--	554	629
15.0-16.9	--	--	--	122	--	--	88	210	210
17.0-18.9	--	--	--	--	--	--	--	--	--
19.0-20.9	--			--	--	--	176	176	176
21.0-22.9	--			--	--	--	185	185	185
23.0-24.9	--	--	--	--	--	--	--	--	--
25.0-26.9	--			--	--	--	176	176	176
27.0-28.9	--			--	--	--	63	63	63
29.0 AND LARGER	--	--	--	--	--	--	454	454	454
ALL CLASSES	3,312	--	3,312	1,711	--	--	1,557	3,268	6,581

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 9--NUMBER OF ROUGH TREES OM TIMBERLAND BY DIAMETER CLASS AND SPECIES, UPPER SUSITNA BLOCK, SUSITMA WIT, ALASKA, 1980

DIMER CUSS	SOFTWOODS			HARDWOODS					
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	BLACK COTTOPJWOOD	TOTAL HARDWOODS	ALL SPECIES
INCHES AT BREAST HEIGHT				*THOUSAND TREES*					
1.0-2.9	142	--	142	142	--	--	--	142	284
3.0-4.9	--	--	--	--	--	--	--	--	--
5.0-6.9	90	--	90	--	--	--	--	--	90
7.0-8.9	--	--	--	--	--	--	--	--	--
9.0-10.9	--	--	--	638	--	--	--	638	638
11.0-12.9	--	--	--	124	--	--	--	124	124
13.0-14.9	--	--	--	284	--	--	--	284	284
15.0-16.9	--	--	--	42	--	--	--	42	42
17.0-18.9	--	--	--	--	--	--	--	--	--
19.0-20.9	--	--	--	--	--	--	--	--	--
21.0-22.9	--	--	--	--	--	--	--	--	--
23.0-24.9	--	--	--	--	--	--	--	--	--
25.0-26.9	--	--	--	--	--	--	--	--	--
27.0-28.9	--	--	--	--	--	--	--	--	--
29.0 AND LARGER	--	--	--	--	--	--	40	40	40
ALL CLASSES	232	--	232	1,230	--	--	40	1,270	1,502

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABU 10--NUMBER OF ROTTEN TREES ON TIKBERLAND BY DIAMETER CLASS AM) SPECIES, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

DIAMETER CLASS	SOFTWOODS			HARDUOODS					ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	BLACK COTTONWOOD	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT					*THOUSAND TREES*				
1.0-2.9	--	--	--	--	--	--	--	--	--
3.0-4.9	--	--	--	--	--	--	--	--	--
5.0-6.9	--	--	--	--	--	--	--	--	--
7.0-8.9	--	--	--	--	--	--	--	--	--
9.0-10.9	--	--	--	43	--	--	--	43	43
11.0-12.9	--	--	--	161	--	--	--	161	161
13.0-14.9	--	--	--	--	--	--	112	112	112
15.0-16.9	--	--	--	14	--	--	--	14	14
17.0-18.9	--	--	--	--	--	--	--	--	--
19.0-20.9	--	--	--	--	--	--	--	--	--
21.0-22.9	--	--	--	--	--	--	--	--	--
23.0-24.9	--	--	--	--	--	--	--	--	--
25.0-26.9	--	--	--	--	--	--	--	--	--
27.0-28.9	--	--	--	--	--	--	--	--	--
29.0 AND LARGER	--	--	--	--	--	--	--	--	--
ALL CLASSES	--	--	--	218	--	--	112	330	330

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLR 11--NUMBER OF LIVE TREES OM TIMBERLAND BY D I M E R CLASS AND SPECIES, UPPER SUSITMA BLOCK, SUSITMA WIT, ALASKA, 1980

DIAMETER CLASS	SOFTWOODS			HARDWOODS					ALL SPECIES
	WHITE SPRUCE	BUCK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKIMG ASPW	BUCK COTTONWOOD	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT				*THOUSAND TREES*					
1.0-2.9	425	--	425	141				141	567
3.0-4.9	1,121	--	1,121	--	--	--	--	--	1,121
5.0-6.9	765	--	765	229	--	--	--	229	994
7.0-8.9	379	--	379	544	--	--	414	958	1,337
9.0-10.9	550	--	550	844	--	--	--	844	1,394
11.0-12.9	230	--	230	384	--	--	--	384	619
13.0-14.9	75	--	75	838	--	--	112	950	1,025
15.0-16.9	--	--	--	178	--	--	88	266	266
17.0-18.9	--	--	--	--	--	--	--	--	--
19.0-20.9	--			--	--	--	177	177	177
21.0-22.9	--			--	--	--	185	185	185
23.0-24.9	--	--	--	--	--	--	--	--	--
25.0-26.9	--			--	--	--	176	176	176
27.0-28.9	--			--	--	--	63	63	63
29.0 AND LARGER	--	--	--	--	--	--	494	494	494
ALL CLASSES	3,545	--	3,545	3,159	--	--	1,709	4,868	8,413

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 12--NET VOLUME OF GRWIMG STOCK BY FOREST TYPE AND LAND CLASS, UPPER SUSITMA BLOCK, SUSITMA WIT, ALASKA, 1980

FOREST TYPE	TIMBERLAND	OTHER FOREST LAND, OPRRABLE	OTHER FOREST LAND, INOPERABLE	TOTAL FOREST LAM)	NOWOREST LAM)	ALL CLASSES
			THOUSAND CUBIC FEET			
BLACK SPRUCE	--	--	12,032	12,032	--	12,032
WHITE SPRUCE	9,785	56,689	79,174	146,248	--	146,248
COTTONWOOD	143,314	54,664	2,088	200,066	--	200,066
ASPEN	--	--	--	--	--	--
BIRCH	31,465	9,561	14,322	55,348	--	55,348
UNCLASSIFIED	--	--	--	--	17,254	17,254
ALL TYPES	184,564	120,914	108,216	413,694	17,254	430,948

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 13--NET VOLW OF SAWTIMBER BY FOREST TYPE AND LAND CLASS, UPPER SUSITMA BLOCK, SUSITUA WIT, ALASKA, 1980

FOREST TYPR	TIMBERLAND	OTHER FOREST LAM), OPERABLE	OTHER FOREST LAM), IMOPERABLE	TOTAL FOREST LAND	NOWOREST LAND	ALL CLASSES
			THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE			
BLACK SPRUCE	--	--	27,283	21,283	--	27,283
WHITE SPRUCE	24,359	251,412	211,379	481,150	--	481,150
COTTOWOOD	858,715	205,825	8,656	1,073,256	--	1,013,256
ASPEU	--	--	--	--	--	--
BIRCH	139,044	31,119	--	170,162	--	170,162
WCLASSIFIED	--	--	--	--	88,994	88,994
ALL TYPES	1,022,178	488,356	247,318	1,157,852	88,994	1,846,846

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 14--NET VOLUME OF GROWING STOCK ON TIMBERLAND BY DIAMETER CLASS AND FOREST TYPE, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

DIAMETER CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
INCHES AT BREAST HEIGHT			*THOUSAND CUBIC FEhT*			
5.0-6.9	--	817	--	--	437	1,254
7.0-8.9	--	2,550	--	--	3,577	6,127
9.0-10.9	--	3,293	1,399	--	976	5,667
11.0-12.9	--	1,479	1,723	--	919	4,121
13.0-14.9	--	1,282	--	--	11,594	12,876
15.0-16.9	--	364	3,773	--	2,456	6,594
17.0-18.9			--	--	--	--
19.0-20.9	--	--	10,455	--	--	10,455
21.0-22.9	--	--	14,795	--	--	14,795
23.0-24.9	--	--	--	--	--	--
25.0-26.9	--	--	18,603	--	--	18,603
27.0-28.9	--	--	7,197	--	--	7,197
29.0 AND LARGER	--	--	85,369	--	11,506	96,875
ALL CLASSES	--	9,785	143,314	--	31,465	184,564

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 15--NET VOLUME OF SAWTIHBER ON TIMBERLAND BY DIAMETER CLASS AND FOREST TYPE, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

DIAMETER CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
INCHES AT BREAST HEIGHT		*THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULG*				
9.0-10.9	--	9,814	12,260	--	3,945	26,019
11.0-12.9	--	6,151	10,726	--	5,136	22,013
13.0-14.9	--	6,710	--	--	54,234	60,944
15.0-16.9	--	1,684	19,042	--	11,068	31,794
17.0-18.9	--	--	--	--	--	--
19.0-20.9	--	--	59,819	--	--	59,819
21.0-22.9	--	--	89,257	--	--	89,257
23.0-24.9	--	--	--	--	--	--
25.0-26.9	--	--	102,369	--	--	102,369
27.0-28.9	--	--	42,710	--	--	42,710
29.0 AND LARGER	--	--	522,592	--	64,661	587,253
ALL CLASSES	--	24,359	858,775	--	139,044	1,022,178

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 16--NET VOLUME OF GROWING STOCK ON TIMBERLAND BY DIAMETER CLASS MID CUBIC-FOOT STAM) VOLUME CLASS, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

DIAWETER CLASS	STAND VOLUME CLASS (CUBIC FEET PER ACRE)					
	0-299	300-799	800-1,499	1,500-2,199	2,200 AND MORE	ALL CLASSES
INCHES AT BREAST HEIGHT	*THOUSAND CUBIC FRET*					
5.0-6.9	--	--	437	817	--	1,254
7.0-8.9	1,810	2,064	488	1,765	--	6,127
9.0-10.9	--	1,209	976	2,084	1,399	5,667
11.0-12.9	--	--	918	1,479	1,723	4,121
13.0-14.9	--	10,148	1,828	900	--	12,876
15.0-16.9	--	2,299	157	364	3,773	6,594
17.0-18.9	--	--	--	--	--	--
19.0-20.9	--	--			10,455	10,455
21.0-22.9	--	--			14,795	14,795
23.0-24.9	--	--	--	--	--	--
25.0-26.9	--	--	--	--	18,603	18,603
27.0-28.9	--	--	--	--	7,197	7,197
29.0 AND LARGER	--	11,506	--	--	85,369	96,875
ALL CLASSES	1,810	27,226	4,805	7,409	143,314	184,564

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 17--NET VOLUME OF TIMBER ON TIMBERLAND BY TIMBER CLASS AND CUBIC-FOOT SITE CLASS, UPPER SUSITNA BLOCK, SUSITMA WIT, ALASKA, 1980

TIMBER CLASS	SITE CLASS (CUBIC FEET) 1/ 20-49	50-84	85-119	ALL CLASSES
	THOUSAND CUBIC FEET			
SAWTIMBER TREES:				
SAWLOG PORTION	168,296	--	--	168,296
UPPER STEM PORTION	6,836	--	--	6,836
TOTAL	175,132	--	--	175,132
POLETIMBER TREES	9,432	--	--	9,432
ALL GROWING STOCK	184,564	--	--	184,564
ROUGH TREES:				
SAWTIMBER	11,670	--	--	11,670
POLETIMBER	6,325	--	--	6,325
TOTAL	17,995	--	--	17,995
ROTTEM TREES:				
SAWTIMBER	2,708	--	--	2,708
POLETIMBER	95	--	--	95
TOTAL	2,803	--	--	2,803
SALVABLE DEAD TREES:				
SAWTIMBER	--	--	--	--
POLETIMBER	586	--	--	586
TOTAL	586	--	--	586
ALL CLASSES	205,949	--	--	205,949

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Potential yield per acre, mean annual increment.

TABLE 18--NET VOLUME OF TIHBER 0% TIMBERLAND BY TIMBER CLASS AND DIAMETER CLASS, UPPER SUSITNA BLOCK, SUSITUA UNIT, ALASKA. 1980

TIMBER CLASS	DIAMETER CLASS (INCHES AT BREAST HEIGHT) 5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0 AND LARGER	ALL CLASSES
	THOUSAND CUBIC FEET													
SAYTIMBER TRESS:														
SAWLOG PORTIOU	--	--	3,082	3.529	11,045	5,979	--	10,011	14,351	--	18,208	7.053	95,038	168.296
UPPER STEM PORTION	--	--	534	592	1,831	615	--	444	444	--	395	144	1.836	6,836
TOTAL	--	--	3.617	4,121	12.876	6.594	--	10.455	14,795	--	18.603	7.197	96.875	175.132
POLETIMBER TREES	1,254	6,127	2.051	--	--	--	--	--	--	--	--	--	--	9,432
ALL GROWING STOCK	1.254	6,127	5.668	4,121	12,876	6.594	--	10,455	14,795	--	18,603	7.197	96,875	184.564
ROUGH TREES:														
SAWTIMBER	--	--	--	1,059	4,328	824	--	--	--	--	--	--	5,458	11,670
POLETIHBER	251	--	6,074	--	--	--	--	--	--	--	--	--	--	6,325
TOTAL	251	--	6.074	1.059	4,328	824	--	--	--	--	--	--	5,458	17,995
ROTTEN TREES:														
SAWTIMBER	--	--	--	1,370	1,202	137	--	--	--	--	--	--	--	2,708
POLETIHBER	--	--	95	--	--	--	--	--	--	--	--	--	--	95
TOTAL	--	--	95	1,370	1,202	137	--	--	--	--	--	--	--	2,804
SALVABLE DEAD TREES:														
SAWTIMBER	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POLETIHBER	586	--	--	--	--	--	--	--	--	--	--	--	--	586
TOTAL	586	--	--	--	--	--	--	--	--	--	--	--	--	586
ALL CLASSES	2,091	6,127	11,837	6.550	18.406	7.555	--	10.455	14.795	--	18.603	7.197	102,333	205.949

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 19--MET VOLUME OF TIHBER OM TIMBERLAND BY TIFIBER CLASS AND SPECIES, UPPER SUSITNA BLOCK, SUSITUA WIT, ALASKA, 1980

TIHBER CLASS	SOFTWOODS			HARDWOODS					
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKIMG ASPEU	BLACK COTTONWOOD	TOTAL HARDUOODS	ALL SPECIES
				THOUSAND CUBIC FEET					
SAWTIKBER TREES:									
SAWLOG PORTION	7,265	--	7,265	12,884	--	--	148,147	161,031	168,296
UPPER STEM PORTIOM	825	--	825	2,461	--	--	3,550	6,011	6.836
TOTAL	8,090	--	8,090	15,345	--	--	151,697	167,042	175,132
POLETIMBER TREES	3,188	--	3,188	4,965	--	--	1,279	6,243	9,432
ALL GROWING STOCK	11,278	--	11,278	20,310	--	--	152,976	173,285	184.564
ROUGH TREES:									
SAWTIHBER	--	--	--	6,211	--	--	5,458	11,670	11,670
POLETIHBER	251	--	251	6,074	--	--	--	6,074	6,325
TOTAL	251	--	251	12.286	--	--	5,458	17,744	17,995
ROTTEN TREES:									
SAWTIHBER	--	--	--	1,507	--	--	1,202	2,708	2,708
POLETIMBER	--	--	--	95	--	--	--	95	95
TOTAL	--	--	--	1,602	--	--	1,202	2,804	2,804
SALVABLE DEAD TREES:									
SAWTIHBER	--	--	--	--	--	--	--	--	--
POLETIKBER	586	--	586	--	--	--	--	--	586
TOTAL	586	--	586	--	--	--	--	--	586
ALL CLASSES	12,115	--	12,115	34,198	--	--	159,636	193,834	205,949

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 20--NET VOLUME OF GROWING STOCK 01 TIMBERLAND BY BASAL *AREA* CLASS MID SPECIES, UPPER SUSITMA BLOCK, SUSITNA UNIT, ALASKA, 1980

BASAL *ARRA* CLASS	SOFTWOODS			HARDWOODS					
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKIMG ASPEN	BLACK COTTONWOOD	TOTAL HARDWOODS	*ALL,* SPECIES
SQUARE FEET PER ACRE				***THOUSAND CUBIC FEET***					
1-19	--	--	--	1,810	--	--	--	1,810	1,810
20-39	2,376	--	2,376	--	--	--	--	--	2,376
40-59	--	--	--	12,065	--	--	12,785	24,850	24,850
60-79	3,056	--	3,056	1,749	--	--	--	1,749	4,805
80-9	2,725	--	2,724	4,685	--	--	--	4,685	7,409
100-119	--	--	--	--	--	--	--	--	--
120 AND OVER	3,122	--	3,122	--	--	--	140,191	140,192	143,314
ALL CLASSES	11,279	--	11,278	20,309	--	--	152,976	173,286	184,564

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 21--NET VOLUME OF SAUTIHBER OW TIMBERLAND BY BASAL *AREA* CLASS AND SPECIES, UPPER SUSITMA BLOCK, SUSITNA UNIT, ALASKA, 1980

BASAL *AREA* CLASS	SOFTWOODS			HARDWOODS					
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	BLACK COTTONWOOD	TOTAL HARDWOODS	ALL SPECIES
SQUARE FEET PER ACRE				*THOUSAND* **BOARD** ***FEET,*** *INTERNATIONAL 1/4-INCH RULE*					
1-19	--	--	--	--	--	--	--	--	--
20-39	9,868	--	9,868	--	--	--	--	--	9,868
40-59	--	--	--	55,020	--	--	64,661	119,681	119,681
60-79	14,572	--	14,572	4,791	--	--	--	4,791	19,363
80-99	4,865	--	4,865	9,626	--	--	--	9,626	14,491
100-119	--	--	--	--	--	--	--	--	--
120 AND OVER	22,986	--	22,986	--	--	--	035,789	835,789	858,775
ALL CLASSES	52,291	--	52,291	69,437	--	--	900,450	969,887	1,022,178

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 22--NET ANNUAL GROWTH OF GROWING STOCK ON TIKBERLAND BY FOREST TYPE AND CUBIC-FOOT SITE CLASS, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

FOREST TYPE	SITE CLASS (CUBIC FEET) 1/ 20-49	50-84	85-119	ALL CLASSES
	THOUSAND CUBIC FEhT			
BLACK SPRUCE	--	--	--	--
WHITE SPRUCE	272	--	--	272
COTTONWOOD.	533	--	--	533
ASPEN	--	--	--	--
BIRCH	577	--	--	577
ALL TYPES	1,383	--	--	1,383

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Potential yield per acre, mean annual increment.

TABLE 23--NET ANNUAL GROWTH OF SAWTIHBER ON TIMBERLAND BY FOREST TYPE AND CUBIC-FOOT SITE CLASS, UPPER SUSITBJA BLOCK, SUSITNA UNIT, ALASKA, 1980

FOREST TYPE	SITE CLASS (CUBIC FEET) 1/ 20-49	50-84	85-119	ALL CLASSES
	THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE			
BLACK SPRUCE	--	--	--	--
WHITE SPRUCE	272	--	--	272
COTTOWOOD	15,561	--	--	15,561
ASPEN	--	--	--	--
BIRCH	2,245	--	--	2,245
ALL TYPES	18,078	--	--	18,078

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Potential yield per acre, mean annual increment.

TABLE 24--NET ANNUAL GROWTH OF GROWING STOCK ON TIMBERLAND BY DIAMETER CLASS AND FOREST TYPE, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

DIAMETER CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEM	BIRCH	ALL TYPES
INCHES AT BREAST HEIGH"			*THOUSAND CUBIC FEET*			
5.0-6.9	--	158	--	--	38	196
7.0-8.9	--	51	--	--	160	211
9.0-10.9	--	40	21	--	29	90
11.0-12.9	--	9	12	--	14	36
13.0-14.9	--	11	--	--	214	226
15.0-16.9	--	2	24	--	18	44
17.0-18.9	--	--	--	--	--	--
19.0-20.9	--	--	58	--	--	58
21.O-22.9	--	--	98	--	--	98
23.0-24.9	--	--	--	--	--	--
25.0-26.9	--	--	63	--	--	63
27.0-28.9	--	--	28	--	--	28
29.0 AND LARGER	--	--	228	--	104	333
ALL CLASSES	--	272	533	--	578	1,383

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 25--NET ANNUAL GROWTH OF SAWTIHBER ON TIHBERLAND BY DIAMETER CLASS AND FOREST TYPE, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

DIAMETER CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
INCHES AT BREAST HEIGHT			*THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULG*			
9.o-10.9	--	138	12,260	--	135	12,533
11.o-12.9	--	55	49	--	90	194
13.0-14.9	--	65	--	--	1,282	1,348
15.O-16.9	--	13	147	--	101	261
17.O-18.9	--	--	--	--	--	--
19.0-20.9	--	--	385	--	--	385
21.0-22.9	--	--	676	--	--	676
23.0-24.9	--	--	--	--	--	--
25.0-26.9	--	--	402	--	--	402
27.0-28.9	--	--	183	--	--	183
29.0 AND LARGER	--	--	1,459	--	637	2,096
ALL CLASSES	--	272	15,561	--	2,245	18,078

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 26--NET ANNUAL GROWTH OF GRWIMG STOCK ON TIMBERLAND BY BASAL AREA CLASS AND SPECIES, UPPER SUSITUA BLOCK, SUSITM UNIT, ALASKA, 1980

BASAL AREA CLASS	SOFTWOODS			HARDWOODS					
	UHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKIMG ASPW	BLACK COTTOWOOD	TOTAL HARDWOODS	ALL SPECIES
SQUARE FEET PER ACRE	*THOUSAND CUBIC FEET*								
1-19	--	--	--	34	--	--	--	34	34
20-39	53	--	53	--	--	--	--	--	53
40-59	--	--	--	204	--	--	217	422	422
60-79	81	--	81	40	--	--	--	40	121
80-99	183	--	183	36	--	--	--	36	219
100-119			--	--	--	--	--	--	--
120 AND OVER	33	--	33	--	--	--	500	500	533
ALL CLASSES	350	--	350	315	--	--	717	1,032	1.383

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 27--NET ANNUAL GROWTH OF SAWTIMBER ON TIMBERLAND BY BASAL AREA CLASS MD SPECIES, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

BASAL AREA CLASS	SOFTWOODS			HARDWOODS					
	UHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKIMG ASPW	BUCK COTTOWWOOD	TOTAL HARDWOODS	ALL SPECIES
SQUARE FEET PER ACRE	*THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE*								
1-19	--	--	--	--	--	--	--	--	--
20-39	123	--	123	--	--	--	--	--	123
40-59	--	--	--	1.218	--	--	637	1,855	1.855
60-79	323	--	323	67	--	--	--	67	390
80-99	65	--	65	84	--	--	--	84	149
100-119	--	--	--	--	--	--	--	--	--
120 MD OVER	12,309	--	12,309	--	--	--	3,251	3.252	15,561
ALL CLASSES	12,820	--	12,820	1,369	--	--	3.889	5.258	18,078

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 28--NET ANNUAL GROWTH OF GROWING STOCK ON TIHBERLAND BY DIAWETER CLASS AND CUBIC-FOOT SITE CLASS, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

	SITE CLASS (CUBIC FEET) 1/			
DIAMETER CLASS	20-49	50-84	85-119	ALL CLASSES
INCHES AT BREAST HEIGHT	*THOUSAND CUBIC FEET*			
5.0-6.9	196	--	--	196
7.0-8.9	211	--	--	211
9.0-10.9	90	--	--	90
11.0-12.9	36	--	--	36
13.0-14.9	226	--	--	226
15.0-16.9	44	--	--	44
17.0-18.9	--	--	--	--
19.0-20.9	58	--	--	58
21.0-22.9	98	--	--	98
23.0-24.9	--	--	--	--
25.0-26.9	63	--	--	63
27.0-28.9	28	--	--	28
29.0 AND LARGER	333	--	--	333
ALL CLASSES	1,383	--	--	1,383

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Potential yield per acre, mean annual increment.

TABLE 29--NET ANNUAL GROWTH OF SAWTIMBER ON TIMBERLAND BY DIAMETER CLASS AND CUBIC-FOOT SITE CLASS, UPPER SUSITNA BLOCK, SUSITNA WIT, ALASKA, 1980

DIAMETER CLASS	SITE CLASS (CUBIC FEET) 1/			ALL CLASSES
	20-49	50-84	85-119	
INCHES AT BREAST HEIGHT	*THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE*			
9.0-10.9	12,533	--	--	12,533
11.0-12.9	194	--	--	194
13.0-14.9	1,348	--	--	1,348
15.0-16.9	261	--	--	261
17.0-18.9	--	--	--	--
19.0-20.9	385	--	--	385
21.0-22.9	676	--	--	676
23.0-24.9	--	--	--	--
25.0-26.9	402	--	--	402
27.0-28.9	183	--	--	183,
29.0 AND LARGER	2,096	--	--	2,096
ALL CLASSES	18,078	--	--	18,078

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Potential yield per acre, mean annual increment.

TABLE 30--NUMBER OF GROWING STOCK TREES, CUBIC-FOOT VOLUME PER ACRE, AND VOLUME PER ACRE IN INTERNATIONAL 1/4-INCH RULE ON TIMBERLAND AND ALL FOREST LAND BY FOREST TYPE, UPPER SUSITNA BLOCK, SUSITNA UNIT, ALASKA, 1980

FOREST TYPE	TREES PER ACRE 1/	VOLUME PER ACRE	VOLUME PER ACRE
	NUMBER	*CUBIC FEET*	*BOARD FEET, INTERNATIONAL, 1/4-INCH RULG*
TIMBERLAND:			
BLACK SPRUCE	--	--	--
WHITE SPRUCE	156	1,035	2,577
COTTONWOOD	48	4,389	26,302
ASPEN	--	--	--
BIRCH	31	449	1,986
ALL TIMBERLAND	46	1,646	9,116
FOREST LAND:			
BLACK SPRUCE	7	19	44
WHITE SPRUCE	76	485	1,614
COTTONWOOD	53	1,948	10,453
ASPEN	--	--	--
BIRCH	69	494	1,518
ALL FOREST LAND	36	362	1,540

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Trees 5.0 inches in d.b.h. and larger.

Metric Equivalents

1 inch = 2.54 centimeters (cm)
1 foot = 0.3048 meter (m)
1 mile = 1.609 kilometers (km)
1 acre = 0.4047 hectare (ha)
1 cubic foot = 0.0283 cubic meter (m^3)
1 cubic foot per acre = 0.069 97 cubic meter per hectare (m^3/ha)
20 cubic feet per acre = 1.3994 cubic meters per hectare (m^3/ha)
1 square foot of basal area per acre = 0.2296 square meter per hectare (m^2/ha)

Literature Cited

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

Viereck, Leslie A.; Little, Elbert L., Jr. Alaska trees and shrubs. Agric. Handb. 410. Washington, DC: U.S. Department of Agriculture; 1972. 265 p.

Head, Bert R.; Setzer, Theodore S.; Carroll. Gary L.; Timber resource statistics for the Upper Susitna block, Susitna River basin multiresource inventory unit. Alaska, 1980. Resour. Bull. PNW-122. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Uofthwest Forest and Range Experiment Station; 1985. 47 p.

A multiresource inventory of the Upper Susitna block, Susitna River basin inventory unit, was conducted in 1980. Statistics on forest area, timber volumes, and annual growth from this inventory are presented. Timberland area is estimated at 112,130 acres and net growing stock volume, mostly hardwood, is 184.6 million cubic feet. Uet annual growth of growing stock is estimated at 1.4 million cubic feet.

Keywords: Forest surveys. timber inventory. multiresource inventory, statistics (forest), resources (forest), Alaska (south-central).

The **Forest Service** of the **U.S.** Department of Agriculture is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives — as directed by Congress — to provide increasingly greater service to a growing Nation.

Pacific Northwest Forest and Range
Experiment Station
319 S.W. Pine St.
P.O. Box 3890
Portland, Oregon 97208