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

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Abstract

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A multiresource inventory of the Beluga block, Susitna River basin inventory unit, was conducted in 1980. Statistics on forest area, timber volumes, and growth and mortality from this inventory are presented. Timberland area is estimated at **131,740** acres and net growing stock volume, mostly hardwood, is **99.4** million cubic feet. Net annual growth of growing stock is estimated at **1.4** million cubic feet and annual mortality at **773,000** cubic feet.

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

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. The 3,739,658-acre block, lying north of **Cook** Inlet, is bounded on the north and west by the Alaska Range. On the east it is bounded by Mount Susitna, Beluga Mountain, the Yenlo Hills, and Kahiltna Glacier.

Statistics on forest area, timber volumes, and net annual growth and mortality are presented from the **1980** multiresource inventory of the Beluga block. Timberland area is estimated at **131,740** acres and net growing stock volume **at 99.4** million cubic feet. Net annual growth of growing stock is estimated at **1.4** million cubic feet and annual mortality at **773,000** 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 50 States. The Pacific Northwest Forest and Range Experiment Station at Portland, Oregon, is responsible for inventories in Alaska, California, Hawaii, Oregon, and Washington.

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Highlights &/ Area

- Gross area of the Beluga block is **3,739,658** acres.

- Forest land area **is 648,398** acres, which is equivalent to **17-113** percent of the gross area in the block.

- Timberland accounts for **131,740** acres, or **20** percent of all forest land. Timberland is capable of producing 20 cubic feet or more of wood per acre per year.

- White spruce is the predominant forest type, accounting for **379,528** acres and almost **60** percent of the total forest land. The cottonwood type follows with **119,205** acres and about 18 percent of the total forest land. The remaining **22** percent is in the black spruce and birch types.

- The predominant vegetation class on timberland is open forest, deciduous/mixed, old age. This class occupies 81.6 percent of the timberland area or **34.3** percent of all forest land.

- The predominant vegetation class on all forest land (timberland and other forest land combined) is also open forest, deciduous/mixed, old age.

- Site class **4** land (capable of producing **20-49** cubic feet per acre per year) supports all of the timberland, but only 20 percent of the total forest land, and averages 754 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 99.4 million cubic feet, with the majority of it, 78.7 percent, in sawtimber trees.

- Salvable dead sawtimber and poletimber trees contributed 2.3 million cubic feet of wood volume.

- White spruce makes up 64 percent of the growing stock volume and 68 percent of the sawtimber volume. The remaining volume is mostly birch.

- Average softwood growing stock volume per acre of timberland is 482 cubic feet and 2,342 board feet, International 1/4--inch rule. Hardwood growing stock volume is 272 cubic feet and 877 board feet per acre.

- There are an avevage of 36 trees per acre of sawtimber-sized growing stock on timberland.

- There are an average of 126 trees per acre of growing stock less than sawtimber size.

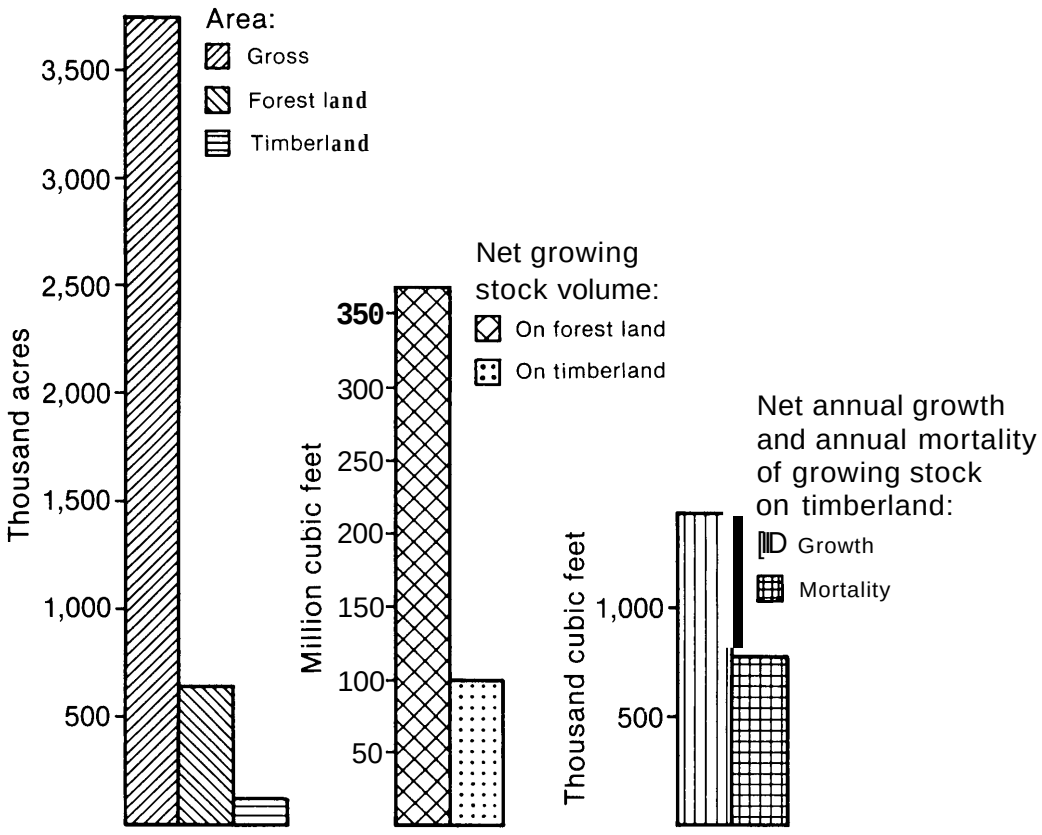
Growth

- Net annual growth of growing stock on timberland is more than 1.4 million cubic feet. Of the growing stock, 69 percent, or 1.0 million cubic feet, is in the white spruce type.

Mortality

- Annual mortality of growing stock on timberland is 773,000 cubic feet.

Beluga 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 in south-central Alaska. Cooperating agencies were the USDA Forest Service, Alaska Region's State and Private Forestry; USDA Soil Conservation Service; and the State of Alaska, Department of Natural Resources.

The 3,739,658-acre Beluga block is part of the Susitna River basin multiresource inventory unit. 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 (fig. **1).** The Beluga block is between 61"2' and 62"56' N. latitude, and 153"23' and 150°45' W. longitude. Major drainages in the block are the Hayes, Skwentna, and Yentna Rivers.

The Beluga block was the third portion of the Susitna unit to be inventoried. Fieldwork was conducted in 1980. Considerable development may occur in the block if expansion of the Beluga coal fields continues. This report deals with the timber resource (fig. **2).**

Inventory Procedures

Sampling strata for the Beluga block follow. Land cover/ vegetation classes for all the strata except water are detailed on page 13.

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)

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

Forest, nonforest:
- Stratum **7.** Unclassified.

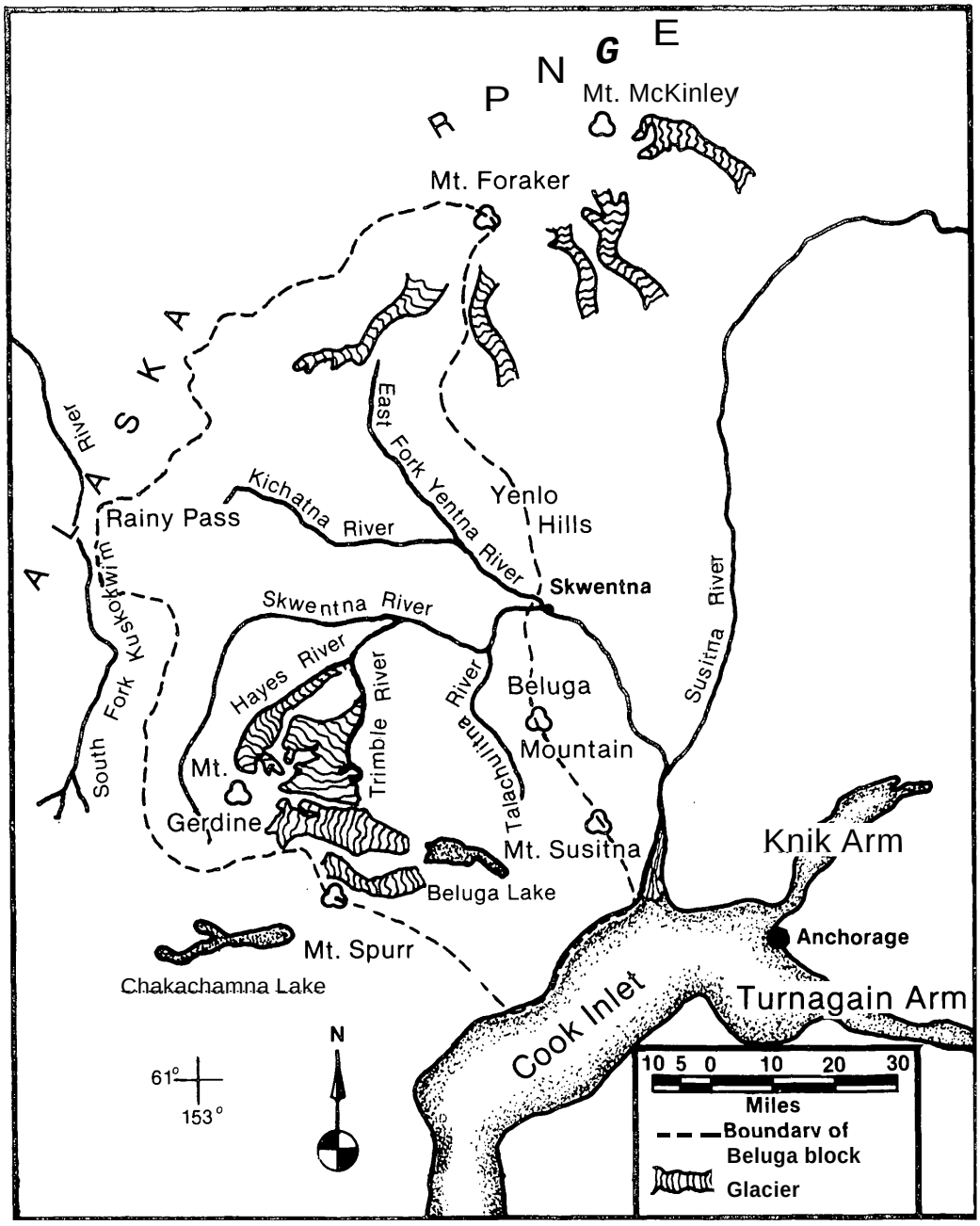


Figure 1.--Beluga block, Susitna River basin.

Figure Z.--The white spruce type predominates on almost three-fourths of the timberland in the Beluga block, occupying sites along stream channels and continuing to elevations of about 1,000 feet.

Vegetation for the study area was mapped according to type on 1:120,000-scale color infrared aerial photography enlarged to approximately 1:60,000. This provided a stratum or polygon map that could be associated with estimates of mean volumes made for each stratum. A double sampling method was used to derive estimates (Bickford 1952).

To be mapped, type polygons had to be at least's acres in size. Each polygon was labeled with a primary vegetation type or land class code. Secondary and tertiary labels were added if a polygon contained small inclusions (less than 5 acres) of other vegetation.

Sampling of a representative number of type polygons followed, using a double sampling procedure. Primary aerial photo points were located at 1 000-meter Universal Transverse Mercator (UTH) intersections on 1:63,360-scale quadrangle maps of the U.S. Geological Survey. Next, these points were visually transferred to aerial photos. A sampling stratum for each point was then interpreted and a..predominantvegetation type assigned to the usually circular, 5-acre area surrounding each point. Points for ground measurements were located in the same mapped polygons as the associated intersections of the grid.

Field plots were selected by considering type variances, plot costs, and the desired sampling intensity for the Susitna unit as a whole. This meant that types sampled heavily in the Willow and Talkeetna blocks, and which had low variances, were sampled far less intensively in the Beluga block. These vegetation types may therefore have high standard errors in the Beluga block, but the error €or the Susitna River basin as a whole was minimized by employing this procedure.

From the photo points, 116 were selected for ground observation 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/ Mead, Bert R. Field procedures for the cooperative vegetation inventory of the Susitna River basin, Alaska, Beluga block. Anchorage: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station, Forestry Sciences Laboratory; 1980. 152 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 inventory is expressed in terms of relative sampling errors at the 68-percent confidence level:

	Design samp1ing error 3/	Sampling error achieved	Sampling error of the total estimate
		Percent	
Timberland area:			
Per million acres	3.0	10.1	
For the total 131,740 acres			±27.7
Other forest land area:			
Per million acres	10.0	9.8	
For the total 516,658 acres			±13.7
Net growing stock volume:			
Per billion cubic feet	10.0	9.7	
For the total 99.373 million ft3			±30.7
Net growth of growing stock:			
Per billion cubic feet	10.0	2.5	
For the total 1.439 million ft3			±65.7

The estimate of net growing stock volume for the Beluga block is 99.373 million cubic feet, 230.7 percent, yielding 68-percent confidence limits of 129.881 and 68.865 million cubic feet. A 68-percent confidence level means that if repeated samples were taken of this population, the total volume would be between 129.881 and 68.865 million cubic feet 68 percent of the time.

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

Design sampling error for other forest land area, cubic-foot net growing stock volume, and net growth (all 10 percent) were met. Design sampling error for timberland area (3 percent), was not met.

Terminology *41*

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 21, 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.

~~***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 trees 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--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 4-1/2 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 ***(4-1/2*** 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 often 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 trees--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 bark 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 class--A classification of land by the predominant vegetative cover on it, such as forest land. The minimum size area for classification is **1** acre.

Mean annual increment (MI)--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 between 1 and 40 acres in area.

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 to qualify as nonforest land.

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

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 indefinitely 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 of ***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 nonconunercial 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 10%--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 softwoods 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 th,an 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 of the grid zone lies, at the intersection of the central meridian, which is a straight north-south line 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 nonforest 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.

Vegetationlland 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 and forest areas. Understory is u'sually 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 relatively 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-deciduous/mixed. Canopy is usually very finely textured when viewed from above; openings in stands are very rare. Composed mostly of birch and/or aspen. This type is 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 *Calamagrostis* sp. and *Alnus* sp. Stands are always older than 100 years.

4. Young stands-cottonwood. Most 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. Most 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). Stands appear 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 SO-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 are usually found to have an open-grown form and are normally much younger than the hardwood component of the type.

3. Medium 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.

11. 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 *Calamagrostis* sp. 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 elevationsesuch 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; it 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, Mat 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 relatively 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. Elpus-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. Myrfca-dominated shrubland located on tidal flats. Water level is usually fluctuating seasonally. In areas that are more continuously wet, sedge replaces *Myrfca* sp.

3. Tidal marsh. Usually found in areas with many shallow lakes and little topographic relief (within tidal influence). Vegetation is dominated by 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, *Equfseturn* 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.

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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.

111. Cultural influence

May 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 mat and cushion tundra.

D. Glacier. Includes both icefields and glaciers. Usually found covering several square miles. Considered a permanent part of the 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

Common name	Scientific name 5/
Softwoods:	
Black spruce	***Picea marlapla*** (Mill.) B.S.P.
White spruce	***Plcea glauca*** (Moench) Voss
Hardwoods:	
Balsam poplar	***Populus balsamifera*** I
Black cottonwood	***Populus trichocarpa*** Torr. and Gray
Paper birch	***Betula papyrifera*** Marsh
Quaking aspen	***Populus tremuloides*** Michx.

5/Scientific names are according to Viereck and Little **(1672).**

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 l--ARBA BY VECETATION/LAND COVER CLASS AND LAND CLASS, BBLUGA BLWK:,SUSITNA UNIT, ALASILA, **1980**

VEGETATION/ LAND COVER CLASS	LAND CLASS									
	TIMBERLAND	OTHER FOREST LAUD, OPERABLE	OTHBR FOREST LAND, INOPBRABLB	TOTAL FOREST LAND	WONFOREST LABID	NON-CKHSUS WATER	TOTAL NOWOPEST	CKYSUS VATER	ulscwsSIPIBD	ALL CUSSES
	ACRES									
CLOSKD CONIPBROUS FORBST	10.541	10,541	31,624	52,707	--	--	--	--	--	52,707
CLOSBD DBCIWOUS FORBST	--	52,707	70,679	123,386	--			--	--	123,386
OPKW POREST	121,199	65,335	285,772	472,306	--	--	--	--	--	472.306
SHRUBLAND	--	--	--	--	612,481	--	612,481	--	--	612.481
GBASSLAND	--	--	--	--	85.539	--	85,539	--	--	85*539
TWDRA	--	--	--	--	285,134	--	285,134	--	--	285,134
BOG	--	--	--	--	384,373	--	384,373	--	--	384.373
CULNBAL INFLUENCE	--	--	--	--	9,060	--	9,060	--	--	9,060
NONVBGETATED-BARREN YATKR	--	--	--	--	985,313	--	985,313	--	--	985,313
						72,936	72,936	31,258	--	104,194
UNCLASSIFIED	--	--	--	--	--	--	--	--	625,164	625,164
ALL CLASSES	131,740	128,583	388,075	648,398	2,361,902	72.936	2,434.837	31,258	625,164	3.739.658

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data collected.

TABLE 2--ABEA OF FOREST LAND BY VEGETATION/LAND COVER CLASS, STAND SIZE CLASS, AND CUBIC-FOOT SITE CUSS, BELUGA BLOCK, SUSIINA UNIT, ALASKA, 1980

VEGETATION/ LAND COVER CLASS AND STAND SIZE CLASS	SITE CLASS (CUBIC FEET) 1-9	10-14	15-19	20-49	50-84	UNCLASSIFIED	ALL CLASSES
				ACRES			
CLOSED CONIFEROUS FOREST.							
TALL STANDS-WHITE SPRUCE:							
SAWTIMBER	--	--	--	10,541	--	--	10,541
POLETIMBER	--	10,541	--	--	--	--	10,541
SEEDLING AND SAPLING	--	--	--	--	--	--	--
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	--	10,541	--	10,541	--	--	21,083
CLOSED CONIFEROUS FOREST,							
SHORT STANDS-BUCK SPRUCE:							
SAWTIMBER	--	--	--	--	--	--	--
POLETIMBER	--	--	--	--	--	--	--
SEEDLING AND SAPLING	21,083	--	--	--	--	--	21,083
NONSTOCKED ARKAS	--	--	--	--	--	--	--
TOTAL	21,083	--	--	--	--	--	21,083
CLOSED CONIFEROUS FOREST,							
TALL STANDS-BLACK SPRUCE:							
SAWTIHBER	--	--	--	--	--	--	--
POLBIIMBER	--	--	--	--	--	--	--
SEBDLIWG AND SAPLIW	10,541	--	--	--	--	--	10,541
NONSTOCKED ARKAS	--	--	--	--	--	--	--
TOTAL	10,541	--	--	--	--	--	10,541
CLOSED DBCIWWS FORBST,							
YOUNG SIMDS-DBCIDUOUS/HIXKD:							
SAYTIHBER	10,541	--	--	--	--	--	10,541
POLETIMBER	--	--	--	--	--	--	--
SEEDLING AJID SAPLING	--	--	--	--	--	--	--
NoiirodKED ARKAS	--	--	--	--	--	--	--
TOTAL	10,541	--	--	--	--	--	10,541
CLOSED DECIDUOUS FOURST,							
Iw)IuII AGK STANDS-							
DECIWOUS/HIXED:							
SAWIIBBKR	--	--	21,083	--	--	--	21,083
POLETIMBER	--	--	10,541	--	--	--	10,541
SEEDLING AND SAPLING	--	--	--	--	--	--	--
NOWSTOCKED ARKAS	--	--	--	--	--	--	--
TOTAL	--	--	31,624	--	--	--	31,624
CLOSED DECIDUOUS FOREST,							
OLD STANDS-DECIDUOUS/HIXED:							
SAUrIMBER	--	10,541	--	--	--	--	10,541
POLETRIBER	--	--	--	--	--	--	--
SEEDLING AND SAPLING	--	10,541	--	--	--	--	10,541
NONSTOCKED AREAS	--	10,541	--	--	--	--	10,541
TOTAL	--	31,624	--	--	--	--	31,624
CLOSED DECIDUOUS FOREST,							
llBDIUn AGE STANDS-COTTOWD:							
SAWTIMBER	--	--	--	--	--	--	--
POLETIMBER	--	--	--	--	--	--	--
SEEDLING AND SAPLING	28,513	--	--	--	--	--	28,513
NONSTOCKED *AREAS*	--	--	--	--	--	--	--
TOTAL	28,513	--	--	--	--	--	28,513
CLOSED DECIDUOUS FOREST,							
OLD STANDS-COTTO —D:							
SAWTIMBER	--	10,541	10,541	--	--	--	21,083
POLETIMBER	--	--	--	--	--	--	--
SEEDLING AND SAPLING							
WONSTOCKED *AREAS*							
TOTAL	--	10,541	10,541	--	--	-_	21,083

TABLE 2--ABKA OF FOREST IAND BY VEGETATION/LAND COVER CLASS, STAND SIZE CLASS, AND CUBIC-FOOT SITE CLASS. BELUGA BLOCK. SUSITNA UNIT, ALASKA, 1980 (continued)

VEGF3ATIONl LAND COYER CLASS AND STAND SIZE CLASS	SITE CLASS (CUBIC PEW) &/ 1-9	10-14	15-19	20-49	50-84	WCLASSIFIED	ALL CLASSES
				ACRES			
OPEN CONIFEROUS FOREST,							
SHORT STANDS-WHITE SPRUCE:							
SAUTIHBER	28,513	--	--	--	--	--	28,513
WLWIHBER	--	--	13,698	--	--	--	13,698
SEEDLING AND SAF'LING	13,698	--	--	--	--	--	13,698
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	42,212	--	13,698	--	--	--	55,910
OPEN CONIFEROUS FOREST,							
TALL STANDS-WHITE SPRUCE:							
SAUTIHBER	13,698	13,698	10,541	--	--	--	37,938
POLETIlIBER	--	10,541	--	--	--	--	10,541
SEEDLING AND SAPLING	--	--	--	--	--	--	13,698
NONSTOCKED AREAS						--	--
TOTAL	13,698	37,938	10,541	--	--	--	62,178
OPEN CONIPBBOUS FOREST,							
SHORT STANDS-BLACK SPRUCE:							
SAUTIHBER							
POLETIMBER	--	--	--	--	--	--	--
SKBDLING AHD SAPLING	48,480	--	--	--	--	--	48,480
~SrOcKBDAREAS	--	--	--	--	--	--	--
mAL	48,480	--	--	--	--	--	48,480
OPEH DRCIWOUS FORBST,							
=DIM AGE STANDS-							
DECIDUOUSRIIICBD:							
SAWIIIIBER	--	--	13,698	13,698	--	--	27,397
PoLIIIlzIBER	--	--	--	--	--	--	--
SEEDLING AMD SAPLUG	--	--	--	--	--	--	--
NONSTQCKBD 116LMs	--	--	--	--	--	--	--
TOTAL	--	--	13,698	13,698	--	--	27,391
OPEN DECIDUOUS FOREST.							
OLD STANDS-DECIDUWS/KIXXD:							
SAUTIlIBER	13,698	24,240	52,753	93,802	--	--	184,493
POLETIMBER	--	--	--	--	--	--	--
SEEDLING AND SAPLING	--	--	24,240	13,698	--	--	37,938
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	13.698	24.240	76,993	107,500	--	--	222,431
OPEN DECIDUOUS FOREST,							
KEDIUll AGE STANDS-COTTONWOOD:							
SAUTIIIBER	--	--	--	--	--	--	--
POLETIHBER	--	13,698	--	--	--	--	13,698
SEEDLING AND SAPLING	--	--	--	--	--	--	--
NONSTOCKED AREAS							
TOTAL	--	13,698	--	--	--	--	13,698
OPEN DECIDUOUS FOREST.							
OLD STANDS-COTTONWOOD:							
SAWIIHBER	--	42,212	--	--	--	--	42,212
POLETIMBER	--	--	--	--	--	--	--
SEEDLING AND SAPLING	--	--	--	--	--	--	--
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	--	42,212	--	--	--	--	42,212
ALL CUSSES	188,767	170,795	157,096	131,740	--	--	648,398

Estimates are subject to sampling error.

Totals may be off because of roundings.

-- = no data were collected.

&/ Potential yield per acre, mean annual increment.

TABLE 3--ARBA OF FOREST KAHD BY FOEESf TYPE, SPLWD SIZE U S , *M D* CUBIC-FOOT SITE CUSS, BELUGA BLOCK, SUSITWA UHIT, ALASKA, 1980

FOREST TYPE AMD STAND SIZE CLASS	SITE CLASS (CUBIC FEET) 1/ 1-9	10-14	15-19	20-49	50-84	ULBCLASSIFIED	ALL CLASSBS
				ACRES			
BLACK SPRUCE:							
SAWTIMBER	--	--	--	--	--	--	--
POLETIMBER	--	--	--	--	--	--	--
SEEDLING AND SAPLING	80,104	10,541	--	--	--	--	90,645
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	80,104	10,541	--	--	--	--	90.645
WHITE SPRUCE:							
SAUTILPBER	66,452	48,480	60,138	83,261	--	--	258,329
POLETIMBER	--	21,083	24,240	--	--	--	45,322
SEEDLIWG AID SAPLING	13,698	13,698	24,240	13,698	--	--	65,335
NONSTOCRBD AREB	--	10,541	--	--	--	--	10,541
TOTAL	80,150	93,802	108,617	96,959	--	--	379.528
COTTONWOOD:							
SAWTIMBER	--	52,753	24,240	--	--	--	76,993
POLETIMBER	--	13,698	--	--	--	--	13,698
SEEDLING AND SAPLING	28,513	--	--	--	--	--	28,513
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	28,513	66,452	24,240	--	--	--	119,205
BIRCH:							
SAWTIMBER	--	--	24,240	34,781	--	--	59,021
POLETIMBER	--	--	--	--	--	--	--
SEEDLING AND SAPLING	--	--	--	--	--	--	--
NONSTOCKED AREAS	--	--	--	--	--	--	--
TOTAL	--	--	24,240	34,781	--	--	59,021
ALL TYPES AND CLASSES	188,767	170,795	157,096	131,740	--	--	648,398

Estimates are subject to sampling error.

Totals mag be off because of rounding.

-- = no data were collected.

■ Potential yield pee acre, man annual incrcmat.

TABLE 4--AREA OF TIMBERLAND BY CUBIC-FOOT STAND V O L W CLASS AND FOREST TYPE, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

STAND V O L W CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
CUBIC FEET PER ACRF			ACRES			
0-299	--	--	--	--	--	--
300-799	--	27,397	--	--	--	27,397
800-1,499	--	24,240	--	--	24,240	48,480
1,500-2,199	--	34,781	--	--	10,541	45,322
2,200 AND OVER	--	10,541	--	--	--	10,541
ALL CLASSES	--	96,959	--	--	34,781	131,740

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 5--AREA OF TIMBERLAND BY STAND V O L W CLASS, INTERNATIONAL 114-INCH RULE, AND FOREST TYPE, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

STAND VOLUHE CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
BOARD ETET, INTERNATION& 1/4-IUCH RULE			ACRES			
0-299	--	--	--	--	--	--
300-799	--	--	--	--	--	--
800-1,499	--	13,698	--	--	--	13,698
1,500-2,199	--	13,698	--	--	24,240	37,938
2,200-2,999	--	10,541	--	--	--	10,541
3,000-4,999	--	48,480	--	--	10,541	59,021
5,000-6,999	--	10,541	--	--	--	10,541
7,000 AND OVER	--	--	--	--	--	--
ALL CLASSES	--	96,959	--	--	34,781	131,740

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE *6--AREA* OF TIHBERLAND BY CUBIC-HOOT STAND VOllJHE CUSS AND CUBIC-FOOT SITE CLASS, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1988

STAND VOLu#E CLASS	SITE CUSS (CUBIC FEET) &/ 20-49	50–84	85-119	ALL CLASSES
CUBIC FEET		*ACRES*		
0-299	27,397	--	--	27,397
300-799	48,480	--	--	48,480
800-1,499	45,323	--	--	45,323
1,500-2,199	10,541	--	--	10,541
2,200 AND OVER	--	--	--	--
ALL CLASSES	131,740	--	--	131,740

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

&/ Potential yield per acre, mean annual increment.

TABLE 7--AREA OF TIMBERLAND BY *AREA* CONDITION CUSS AND FOREST TYPE, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

AREA CONDITION CLASS	BUCK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
			ACRES			
10 and 20	--	--	--	--	--	--
30 and 40	--	10,541	--	--	--	10,541
50	--	10,541	--	--	10,541	21,083
60	--	24,240	--	--	10,541	34,781
70	--	51,637	--	--	13,698	65,335
ALL CLASSES	--	96,959	--	--	34,781	131,740

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 8--NU11BBR OF GRWING STOCK TREES ON TILIBBRLAND BY DIAlfBTER CLASS *AND* SPECIES, BELUGA BLOCK, SUSITNA UNIT, ALILSKA, 1980

DIMKTKR CLASS	SOFNOODS			HABDVOODS					
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWODS	PAPER BIRCH	*BALSAM* poPL4R	QUAKIHG bSPW	BLACK C O m N W O D	TOTAL HARWOQDS	*ALL* SPECIES
INCHBS AT BREAST HEIGHT					***THOUSAND TREES***				
1.o-2.9	5,439	316	5,755	1,644	--	--	--	1,644	7,399
3.O-4.9	2,403	632	3,036	--	--	--	--	--	3,036
5.0-6.9	3,013	--	3,013	208	--	--	--	208	3,221
7.0-8.9	1,198	--	1,198	1,182	--	--	--	1,182	2,380
9.o-10.9	1,880	--	1,880	581	--	--	--	581	2,461
11.0-12.9	827	--	827	372	--	--	49	421	1,249
13.0-14.9	604	--	604	324	--	--	--	324	928
15.0-16.9	131	--	131	190	--	--	--	190	322
17.0-18.9	113	--	113	85	--	--	84	169	282
19.0-20.9	--	--	--	25	--	--	39	64	64
21.0-22.9				--	--	--	--	--	--
23.0-24.9	--	--	--	--	--	--	--	--	--
25.0 AND LARGER	--	--	--	--	--	--	12	12	12
ALL mhSSES	15,609	949	16,557	4,610	--	--	184	4,794	21,351

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 9--NU!¶BEROF ROUGH TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

DIAMETER CUSS	S0PRKX)DS			HABDVOODS					
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWODS	PAPBR BIRCH	BALSAM poem	QUAKING ASPEN	BLACK COTTONWOOD	TOTAL HABDVOODS	ALL SPECIKS
INCHBS AT BREAST HBIccrr					***THOUSAND TREES***				
1.o-2.9	949	316	1,265			--	--	--	1,265
3.0-4.9	949	--	949	--	--	--	--	--	949
5.0-6.9	--			309	--	--	--	309	309
7.0-8.9	205	--	205	--	--	--	--	--	205
9.o-10.9	--	--	--	65	--	--	--	65	65
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 AND LABGKR	--	--	--	--	--	--	--	--	--
ALL CLASSES	2,103	316	2,419	374	--	--	--	374	2,793

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE lO--MUHBItB OF ROfiBN TREES ON TIMBERLWD BY DIAMETER CLASS AND SPECIES, BELUGA BLOCK, SUSITNA UNIT, U K A , 1980

DIAMBTBB CLILSS	SOFTWOODS WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	m D S PAPER BIRCH	W A I Y PoPL4R	QUAKING ASP=	BLACK COT1Y)#YOOD	TOTAL HdaDYOODS	Au SPECIES
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	--	--	--	168	--	--	--	168	168
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 MID LARGER	--	--	--	--	--	--	--	--	--
ALL CLASSES	--	--	--	168	--	--	--	168	168

EetimateS are eubject to sampling error.

Totals may be Off because Of rounding.

-- = no data were collected.

TABLE ll--NUnBER OF LIVE TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

DIAMETER CLASS	SOFTWOODS WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTVSWOODS	HARDWOODS PAPER BIRCH	BALSAU POPLAR	QUAKING ASPEN	BLACK COTTONUSWOOD	TOTAL HARDWOODS	ALL SPECIES
INCHES AT EREAS' HEIGHT				*THOUSAND TFSES*					
1.o-2.9	6,387	632	7,020	1,644	--	--	--	1,644	8,664
3.O-4.9	3,352	632	3,984	--	--	--	--	--	3,984
5.0-6.9	3,013	--	3,013	517	--	--	--	517	3,530
7.0-8.9	1,403	--	1,403	1,182	--	--	--	1,182	2,585
9.0-10.9	1,880	--	1,880	814	--	--	--	814	2,695
11.0-12.9	827	--	827	372	--	--	49	421	1.249
13.0-14.9	604	--	604	324	--	--	--	324	928
15.0-16.9	131	--	131	190	--	--	--	190	322
17.0-18.9	113	--	113	85	--	--	84	169	282
19.0-20.9	--	--	--	25	--	--	39	64	64
21.0-22.9	--	--	--	--	--	--	--	--	--
23.O-24.9	--	--	--	--	--	--	--	--	--
25.o AND LARGER	--	--	--	--	--	--	12	12	12
ALL CLASSES	17,711	1,265	18,976	5,153	--	--	184	5,337	24,313

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 12--NET VOLUME OF GROWING STOCK BY FOREST TYPE AND LAND CLASS, BELUGA BLOCK, SUSITNA UNIT, U K A , 1980

FOREST TYPE	TRIBEBLAND	OTHER FOREST LAND, OPEBABLE	OTHER FOBEST LAND, INOPERABLE	TOTAL FOREST LAND	NONFOREST LAND	ALL CLASSES
			THOUSAND CUBIC			
BLACK SPRUCE	--	--	17,338	17,338	--	17,338
WHITE SPRUCE	74,817	37,846	74,725	187,388	--	187,388
COTTONWOOD	--	103,417	16,426	119,843	--	119,843
ASPEN	--	--	--	--	--	--
BIRCH	24,556	20,746	--	45,302	--	45,302
WCLASSIPIED	--	--	--	--	--	--
ALL TYPES	99,373	162,009	108,488	369,871	--	369,871

Estimates are subject to eampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 13--NET VOLW OF SAYTIMBER BY FOREST TYPE AND LAND CUSS, BELUGA BLOCK, SUSITNA WIT, ALASKA, 1980

FOREST TYPE	TIMBERLAND	OTHER FOREST LAND, OPERAELE	OTHER FOREST LAND, INOPEBABLE	TOTAL FOREST LAND	NONFOREST LAND	ALL CLASSES
		THOUSAND BOARD PBBT, IMWRNATIONAL 1/4-I= RULB				
BLACK SPRUCE	--	--	4,288	4,288	--	4,288
WHITE SPRUCE	328,192	126,365	245,019	699,576	--	699,576
COTTONWOD	--	472,818	71,951	544,769	--	544,769
ASPEN	--	--	--	--	--	--
BIRCH	95,969	84,109	--	180,078	--	180,078
UNCLASSIFIED	--	--	--	--	--	--
ALL TYPES	424,161	683,292	321,258	1,428,711	--	1,428,711

Estimates are subject to ampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 14--#8T VOLW OF CROYIIK STOCK 01 TILIBBRLAMD BY D—ER— CUSS AND FOREST TYPE, BRLUCBL BLOCK, SUSITHA WIT, ALASKA, 1980

DIAMETER CLASS	BLACK SPRUCE	WHITE SPRUCE	C(rPrO$HOOD	ASPEU	BIRCH	ALL TYPES
INCHBS AT BREAST HEIGHT			THtnIsAnD *CUBIC FRET*			
5.0-6.9	--	5,136	--	--	386	5*522
7.O-8.9	--	7,587	--	--	2,889	10,475
9.O-10.9	--	18,735	--	--	2,458	21,193
11.0-12,9	--	15,446	--	--	4,739	20,185
13.0-14.9	--	14,651	--	--	5,010	19,660
15.0-16.9	--	6,059	--	--	3,451	9,510
17.0-18.9	--	5,983	--	--	4,636	10,619
19.0-20.9	--	1,221	--	--	624	1,845
21.0-22.9	--	--	--	--	--	--
23.0-24.9			--	--	--	--
25.0 AND LARGER	--	--	--	--	365	365
ALL mASSES	--	74,817	--	--	24,556	99,373

Eetimates are e'ubject to sampling error.

Totale may be off because of rounding.

-- = no data were collected.

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

DIAMETER CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
INCHES AT BREAST HEIGHT		*THOUSAND BOARD FEEI', INTERNATIONAL 1/4-INCH RULE*				
9.o-10.9	--	94,226	--	--	4,447	98,673
11.0-12.9	--	81,471	--	--	23,576	105,047
13.O-14.9	--	81,356	--	--	22,278	103,635
15.0-16.9	--	32,140	--	--	16,303	48,443
17.0-18.9	--	32.407	--	--	24,168	56,576
19.0-20.9	--	6,592	--	--	3,171	9,763
21.0-22.9	--					
23.0-24.9	--	--	--	--	--	--
25.0 AND LARGER	--	--	--	--	2,025	2,025
ALL CLASSES	--	328,192	--	--	95,969	424,161

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 16--NET V O L W OF GROWING STOCK ON TIHBERIAND BY DIAMETER CLASS AND CUBIC–FOOT STAND VOLuITB CLASS, BELUGA BLOCK, SUSITNA UNIT, IILASKA, 1980

DIAMETER CLASS	STAND VOLUME CLASS (CUBIC FEET PER ACRE) 0-299	300-799	800-1,499	1,500-2,199	2,200 AND OVER	ALL CLASSES
INCHES AT BREAST HBICHT			*THOUSAND CUBIC FEET*			
5.O-6.9	--	288	5,046	188	--	5,522
7.0-8.9	669	2,586	4,371	2,850	--	10,475
9·0-10.9	3,439	4,473	8,659	4,623	--	21,193
11.0-12.9	--	2,545	14,133	3,507	--	20,185
13.0-14.9	2,503	6,136	9,218	1,804	--	19,660
15.0-16.9	--	3,051	3,451	3,008	--	9,509
17.0-18.9	--	6,843	2,743	1,032	--	10,618
19.0-20.9	614	624	607	--	--	1,845
21.0-22.9	--	--	--	--	--	--
23·0-24.9	--	--	--	--	--	--
25.0 AND LARGER	--	365	--	--	--	365
ALL CLASSES	7,224	26,910	48,228	17,011		99,373

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 17--NET VOLm ON TIMBERLAND BY TIMBER CLASS AND CUBIC-FOOT SITE CLASS, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

TIMBER CLASS	SITE CLASS (CUBIC FEET) &/ 20-49	50-84	85-119	ALL CLASSES
	TPPOUSAWD CUBIC FBE!!'			
SAWTIMBER TREES :				
SAWLOG PORTION	70,622	--	--	70,622
UPPER STEH PORTION	7,558	--	--	7,558
TOTAL	78,179	--	--	78,179
POLETIHBER TREES	21,194	--	--	21,194
ALL GROWING STOCK	99,373	--	--	99,373
ROUGH TREES:				
SAWTIMBER	--	--	--	--
POLETIHBEB	1,042	--	--	1,042
TOTAL	1,042	--	--	1,042
ROTTEN TREES:				
SAWTIMBER	--	--	--	--
POLETIMBER	258	--	--	258
TOTAL	258	--	--	258
SALVABLE DEAD TREES:				
SAWTIMBER	1,883	--	--	1,883
POLETIMBER	406	--	--	406
TOTAL	2,289	--	--	2,289
ALL CLASSES	102,962	--	--	102,962

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

&/Potential yield per acre, mean annual increment.

TABLE 18--NET VOLUME OF TIMBER ON TIMBERLAND BY TIMBER CLASS AND DIAMETER CLASS, BELUGA BLOCK, SUSITNA 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	11.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0 AND LARGER	ALL CLASSES
						THOUSAND CUBIC FEhT						
SAYTIHBER TREES:												
SAWLOG PORTION	--	--	13,892	17,829	17,868	8,833	10,099	1,744	--	--	357	70,622
UPPER STEM PORTION	--	--	2,105	2,356	1,192	611	519	101	--	--	a	7,558
TOTAL	--	--	15,996	20,185	19,660	9,509	10,618	1,845	--	--	365	78,179
POLETIMBER TREES	5,522	10,475	5,196	--	--	--	--	--	--	--	--	21,194
ALL GROWING STOCK	5,522	10,475	21,192	20,185	19,660	9,509	io.6ia	1,845	--	--	365	99,373
ROUGH TREES:												
SAWlMBER	--	--	--	--	--	--	--	--	--	--	--	--
POLETIMBER	193	507	342	--	--	--	--	--	--	--	--	1,042
TOTAL	193	507	342	--	--	--	--	--	--	--	--	1,042
ROTTEN TREES:												
SAWIMBER	--	--	--	--	--	--	--	--	--	--	--	--
POLETIMBER	--	--	258	--	--	--	--	--	--	--	--	258
TOTAL	--	--	258	--	--	--	--	--	--	--	--	258
SALVABLE DEAD TRRES:												
SAWTIMBER	--	--	817	544	522	--	--	--	--	--	--	1,883
POLETIMBER	--	406	--	--	--	--	--	--	--	--	--	406
TOTAL	--	406	817	544	522	--	--	--	--	--	--	2,289
ALL CLASSES	5,714	11,389	22,609	20,129	20,182	9,509	10,618	1,845	--	--	365	102,962

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 19--PET VOLUHE OF TIHBER OM TIP4BERIAHD BY TIHBER CLASS AND SPECIES, BELUGA BLOCK, SUSIT?U UNIT, U K A . 1980

PIDIBBR CUSS	SOFTWODS			HABDSIOODS					
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOPIYOODS	PAPER BIRCH	BALSM POPLAB	QUAKING ASP=	BLACK COIMMWOD	TOTAL HABD#)ODS	ALL SPECIXS
				THOUSAND CUBIC FEET					
SIUrrRIBER TIMIIS:									
W PORTION	49,199	--	49,199	16,961	--	--	4,462	21,423	70,622
UPPgP STKH PORTION	3.981	--	3,981	3,182	--	--	393	3,577	7,558
TOTAL	53,180	--	53,180	20.145	--	--	4.855	25,000	78,179
POLETIMBER TREES	10,375	--	10,375	10,819	--	--	--	10,819	21,194
ALL CpoYIUC STOCK	63,555	--	63,555	30,964	--	--	4,855	35.819	99,373
RWGH TREES:									
SAWTIMBER	--	--	--	--	--	--	--	--	--
POLEIILIBER	507	--	507	535	--	--	--	535	1,042
TOTAL	507	--	507	535	--	--	--	535	1,042
ROTTEN TREES:									
SAWTIMBER	--	--	--	--	--	--	--	--	--
POLETIMBER	--	--	--	258	--	--	--	258	258
TOTAL	--	--	--	258	--	--	--	258	258
SALVABLE DEAD TREES:									
SAWTIMBER	1,361	--	1,361	522	--	--	--	522	1,883
POLETIMBER	406	--	406	--	--	--	--	--	406
TOTAL	1,768	--	1,768	522	--	--	--	522	2,289
ALL CLASSES	65,829	--	65,829	32,278	--	--	4,855	37,133	102,962

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 2O--NgI VOLUME OF GRWIIG STOCK OM TILIBEULAWD BY BASAL AREA CLASS AliD SPECIES, BRLUGA BWK, SUSITNA UNIT, ALASKA, 1980

BASAL AREA CUSS	SOFTWOODS: VflITE SPRUCE	SOFTWOODS: BLACK SPRUCB	SOFTWOODS: TOTAL SORYOODS	HARDWOODS: PAPER BIRCH	HARDWOODS: BALSAM POPLAR	HARDWOODS: QUAKING ASPRW	HARDWOODS: BUCK COTTOHWOD	HARDWOODS: TOTAL	ALL SPECIES
SQUARE FEET PER ACRE	THOUSAND CUBIC FEET								
1-19	8,095	--	8,095	4,388	--	--	--	4,388	12,483
20-39	5,903	--	5,903	655	--	--	--	655	6,558
40-59	20,523	--	20,523	15,463	--	--	3,459	18,922	39,445
60-79	5,382	--	5,382	5,734	--	--	—	5,734	11,116
80-99	23,652	--	23,652	4,723	--	--	1,396	6,119	29,771
100-119	--	--	—	—	—	--	--	--	--
120 AYD O M	--	--	—	—	--	--	--	--	--
ALL CLASSES	63,554	--	63,554	30,964	--	--	4,855	35,819	99,373

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 2l--NET VOLUME OF SAWIIIBER ON TIMBERLAND BY BASAL AEKA CLASS AMD SPECIES, BELUGA BUCK, SUSITHA UNIT, ALASKA, 1980

BASAL ABEIL CLASS	SOPWOODS: WITE SPRUCE	SOPWOODS: BLACK SPRUCE	SOPWOODS: TOTAL SOPNOODS	HAXWWDS: PAPEP BIRCH	HAXWWDS: BALSAM POPLAR	HAXWWDS: QUAKING ASPEN	HAXWWDS: BUCK COITONWOD	HAXWWDS: TOTAL HbBL)#)ODS	ALL SPECIES
SQUARE FEET PER ACRE	THOUSAND CUBIC FEET, INTERNATIONAL 1/4-INCH RULE								
1-19	44,521	--	44,521	22,143	—	--	--	22,143	66,665
20-39	27,912	--	27,912	3,237	--	--	--	3,237	31,150
40-59	114,725	--	114,725	45,031	--	--	16,264	61,295	176,020
60-79	27,132	--	27,132	7,973	--	--	--	7,973	35,106
80-99	94,269	--	94,269	14,630	--	--	6,322	20,952	115,221
100-119	--	--	--	--	--	--	--	--	--
120 AND OVER	--	--	--	--	--	--	--	--	--
ALL CLASSES	308,560	--	308,560	93,015	--	--	22,586	115,601	424,161

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 TIMBERLAND BY FOREST TYPE AND CUBIC-FOOT SITE CLASS, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

FOREST TYPE	SITE CLASS (CUBIC FEET) 11			ALL CLASSES
	20-49	50-84	85-119	
	THOUSAMD CUBIC FEET			
BLACK SPRUCE	--	--	--	--
WHITE SPRUCE	994	--	--	994
COTTONWOOD	--	--	--	--
ASPEN	--	--	--	--
BIRCH	445	--	--	445
ALL TYPES	1,439	--	--	1,439

Estimates are subject to sampling error.

Totals mag be off because of rounding.

-- - no data were collected.

%/Potential yield per acre, mean annual increment.

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

FOREST TYPE	SITE CLASS (CUBIC FEET) &/ 20-49	50-84	85-119	ALL CLASSES
	THOUSAND BOARD FEET, IM'ERNATIONAL I/4-INCH RULE			
BLACK SPRUCE	--	--	--	--
WHITE SPRUCE	5,383	--	--	5,383
COTTONWOOD	--	--	--	--
ASPEN	--	--	--	--
BIRCH	1,769	--	--	1,769
ALL TYPES	7,152	--	--	7,152

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 TIMBEWAND BY DIAMETER CLASS *AND* FOREST TYPE, BELUGA BLOCK, SUSITNA UNIT, U K A , 1980

DIAHETER CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
INCHES AT BREAST HBICnr		*THOUSAND CUBIC FEET*				
5.0-6.9	--	371	--	--	48	419
7.0-8.9	--	265	--	--	67	332
9.0-10.9	--	412	--	--	41	453
11.0-12.9	--	305	--	--	80	385
13.0-14.9	--	1/ -151	--	--	76	-75
15.0-16.9	--	87	--	--	26	113
17.0-18.9	--	-304	--	--	92	-213
19.0-20.9	--	9	--	--	10	19
21.0-22.9	--	--	--	--	--	--
23.0-24.9	--	--	--	--	--	--
25.0 AND LARGER	--	--	--	--	6	6
ALL CUSSES	--	994	--	--	445	1,439

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Negative net annual growth indicates that annual mortality exceeded gross annual growth.

TABLE 25--NET ANNUAL GROWTH OF SAWI— ERON TIMBEBLAND BY DIaraETXR CLASS AND FOREST TYPE, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

DIAMETER CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	Au TYPES
INCHES AT BREAST HEIGHT		*THOUSAND BOARD PBBT. IWRNATIONAL 1/4-IUCH RULB*				
9.0-10.9	--	6,138	--	--	68	6,206
11.0-12.9	--	1,777	--	--	460	2,237
13.0-14.9	--	1/ -1,225	--	--	451	-774
15.0-16.9	--	522	--	--	140	663
17.0-18.9	--	-1,886	--	--	547	-1,340
19.0-20.9	--	57	--	--	65	122
21.0-22.9	--	--	--	--	--	--
23.0-24.9	--	--	--	--	--	--
25.0 AHD W B R	--	--	--	--	38	38
ALL CUSSES	--	5,383	--	--	1,769	7,152

Bitimtes are rubject to sampling error.

Totals mag be off because of rounding.

-- = no data were collected.

1/ Negative net annual growth indicates that annual amrtality exceeded gross annual growth.

TABLE 26--NET ANNUAL GBOYIH OF GRWING STOCK ON TIMBERLAND BY BASAL *AREA* CLASS AND SPECIES, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

BASAL AREA CLASS	SOFTWOODS			HABWOODS					
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWQDS	PAPER BIRCH	BALSAM POPW	QUAKING ASPEN	BLACK COTTONWOOD	TOTAL HABDVOODS	ALL SPECIES
m— ?7rriT *PER llcRB*				THWSAND *CUBIC PBBT*					
1-19	&/ -486	--	-486	74	--	--	--	74	-412
20-39	134	--	134	9	--	--	--	9	143
40-59	513	--	513	218	--	--	58	275	789
60-79	72	--	72	32	--	--	--	32	104
80-99	746	--	746	55	--	--	15	70	815
100-119	--	--	--	--	--	--	--	--	--
120 AND O m	--	--	—	--	--	--	--	--	--
ALLI CLASSBS	978	--	978	388	--	--	73	460	1,439

Estimator are oubject to rampling error.

Totalr may be off hcaure of rounding.

-- = no data were collected.

&/ Negative net annual growth indicator that mnual mortality excoeded gross mnual growth.

TABLE 27--NET ANNUAL G m OF SbYTmBR ON TIIIBEELAND BY BASAL ARBA CLASS *AIID* SPBCIES, BBUJCA BLOCK, SUSI'I#b WIT, U K 4 , 1980

BASAL ARBA CUSS	SOFlYOODS			m D S					
	UnITE SPBUCB	BLACK SPKUCB	TOTAL SOFlYOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	BLACK COTTOWOOD	TOTAL HABDYOODS	*ALL* SPECIES
m— *FEET* *PHR ACRR*				*THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE*					
1-19	1/ -3,467	--	-3,467	471	--	--	--	471	-2,996
20-39	491	--	491	66	--	--	--	66	558
40-59	6,716	--	6,716	655	--	--	343	998	7.714
60-79	358	--	358	-475	--	--	--	-475	-117
80-99	1,694	--	1,694	197	--	--	102	299	1.993
100-119	--	--	--	--	--	--	--	--	--
120 AND OVER			--	--	--	--	--	--	--
ALL CLASSES	5,793	--	5,793	914	--	--	446	1.360	7,152

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

&/ Negative net annual growth indicates that annual wrtality exceeded gross growth.

TABLE 28--m *AWMIAL* GROUTH OF GROWING STOCK OB TIHBERLAUD BY DIaWETER CLASS *AND* CUBIC-FOOT SITE CLASS, BELUGA BLOCK, SUSITPA UNIT, ALASKA, 1980

	SITE CLASS (CUBIC FEET) 1/			
DIAHETER CUSS	20–49	50–84	85–119	ALL CLASSES
INCHES AT BREAST HBIGM'	THOUSAND *CUBIC FEFT*			
5.0–6.9	419	--	--	419
7.O–8.9	332	--	--	332
9.o–10.9	453	--	--	453
11.0–12.9	385	--	--	385
13.0–14.9	2/ –75	--	--	–75
15.0–16.9	113	--	--	113
17.0–18.9	–213	--	--	–213
19.0–20.9	19	--	--	19
21.0–22.9	--	--	--	--
23.0–24.9	--	--	--	--
25.0–26.9	6	--	--	6
27.0–28.9	--	--	--	--
29.0 AM) LARGER	--	--	--	--
ALL CLASSES	1,439	--	--	1,439

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1/ Pote?tial yield per acre, mean annual increment.

2/ Negative net annual growth indicates that annual mortality exceeded gross annual growth.

TABLE 29--NET ANNUAL GROWTH OF SAWTIHBER ON TIMBERLAND BY DIMTER CLASS AND CUBIC-FOOT SITE CLASS, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

	SITE CLASS (CUBIC FEET) &/			
DIAMETER CLASS	20-49	50-84	85-119	ALL CLASSES
INCHRS AT BRBAST HEIGIIT	*THOUSAND CUBIC FEE", IM'ERNATIONAL 1/1-INCH RULE*			
9.o-10.9	6,206	--	--	6,206
11.0-12.9	2,237	--	--	2,237
13.0-14.9	2/ -774	--	--	-774
15.0-16.9	663	--	--	663
17.0-18.9	-1,340	--	--	-1,340
19.0-20.9	122	--	--	122
21.0-22.9	--	--	--	--
23.0-24.9	--	--	--	--
25.0-26.9	38	--	--	38
27.0-28.9	--	--	--	--
29.0 AND LARGER	--	--	--	--
ALL CLASSES	7,152	--	--	7,152

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.

2/ Negative net annual growth indicates that annual mortality exceeded gross annual growth.

TABLE *30--ANNUAL* MORTALITY OF GROWING STOCK ON TIMBERLAND BY FOREST TYPE AND CUBIC-FOOT SITE CLASS, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

FOREST TYPE	SITE CLASS (CUBIC FEET) &/ 20-49	50-84	85-119	ALL CLASSES
	THOUSAND CUBIC FEH'			
BLACK SPRUCE	--	--	--	
WHITE SPRUCE	773	--	--	773
COTTONWOOD	--	--	--	--
ASPEN	--	--	--	--
BIRCH	--	--	--	--
ALL TYPES	773	--	--	773

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

1-1 Potential yield per acre, mean annual increment.

TABLE 31--ANNUAL MORTALITY OF SAUTIHBER ON TIHBERLAND BY FOREST TYPE AND CUBIC-FOOT SITE CLASS, BELUGA BLOCK, SUSITNA UNIT, W U , 1980

FOREST TYPE	SITE CLASS (CUBIC FEET) &/ 20-49	50-04	85-119	UL CLASSES
	THouslwD nARD PBBT, IMTBRNATIWAL 1/4-Iucat RULE			
BUCK SPRUCE	--	--	--	--
WHITE SPRUCE	4,929	--	--	4,929
COTTONWOOD	--	--	--	--
ASPKN	--	--	--	--
BIRCH	--	--	--	--
ALL rnES	4,929	--	--	4,929

Estimates are subject to sampling error.

Tstals may be off because of rounding.

-- = no data were collected.

1/ Potential yield per acre, mean annual increment.

TABLE 32--ANNUAL MORTALITY OF GROWING STOCK ON TIMEERUND BY DIAMETER CLASS AND FOREST TYPE, BELUGA BLOCK, SUSITNA UNIT, AWSKA, 1980

DIAMETER CLASS	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
IlVcHBS AT BREAST HRIGM'		THWSM CUBIC PBBT				
5.0-6.9	--	--				--
7.0-8.9	--	--	--	--	--	--
9.o-10.9	--	--	--	--	--	--
11.0-12.9	--	--	--	--	--	--
13.0-14.9	--	406	--	--	--	406
15.0-16.9	--	--	--	--	--	--
17.O-18.9	--	366	--	--	--	366
19.0-20.9	--	--	--	--	--	--
21.0-22.9	--	--	--	--	--	--
23.0-24.9	--	--	--	--	--	--
25.0 AND LARGER	--	--	--	--	--	--
ALL CLASSES	--	773	--	--	--	773

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 33--ANNUAL MORTALITY OF SAWECMEER ON TIMBEBLAND BY DIAMETER CLASS AND FOREST TYPE, BELUGA BLOCK, SUSITDIA UNIT, MdsKA, 1980

DIAMETER C W S	BLACK SPRUCE	WHITE SPRUCE	COTTONWOOD	ASPEN	BIRCH	ALL TYPES
INCHBS AT BREAST HEIGHT		THOUSAND BCMRD FHBT, INTERNATIONAL l/I-IUCH RULW				
9.0-10.9	--	--	--	--	--	
11.0-12.9	--	--	--	--	--	--
13.0-14.9	--	2,672	--	--	--	2,672
15.0-16.9	--	--	--	--	--	--
17.0-18.9	--	2,256	--	--	--	2,256
19.0-20.9	--	--	--	--	--	--
21.0-22.9	--	--	--	--	--	--
23.Q-24.9	--	--	--	--	--	--
25.O AND WGER	--	--	--	--	--	--
ALL CUSSES	--	4,929	--	--	--	4,929

Estimates are subject to sampling error.

Totals my be off because of rounding.

-- P no data rere collected.

TABLE 34–BLBIMIAL EORTALITY OF GBonUG STOCK ON TIMBERLAND BY BASAL ARSA CLASS AND SPECIES, BWGA BLOCK, SUSITUA UWIT, ALASKA, 1980

BASAL AREA CLASS	SOFTWOODS: YRITB SPRUCE	SOFTWOODS: BLACK SPRUCE	SOFTWOODS: TOTAL SOPrYOODS	HARDWOODS: PAPER BIRCH	HARDWOODS: BALSAM mew	HARDWOODS: QUAKIUG ASPEW	HARDWOODS: BLACK COIIOHWOD	HARDWOODS: TOTAL HABDVOODS	Au SPECIES
SQUARE FEET PER ACRE				*THOUSAND CUBIC FEET*					
1–19	681	--	681	--	--	--	--	--	681
20–39	--	--	--	--	--	--	--	--	--
40–59	--	--	--	--	--	--	--	--	--
60–79	--	--	--	92	--	--	--	92	92
80–99	--	--	--	--	--	--	--	--	--
100–119	--	--	--	--	--	--	--	--	--
120 AND OVER	--	--	--	--	--	--	--	--	--
AU CUSSES	681	--	681	92	--	--	--	92	773

Betimatee are eubject to samplfng error.

Totale may be off because of rounding.

-- ₚ no data were collected.

TABLE *35--MIwuAL* MORTALITY OF SAUTMBBB *O1* TILlsHBLlID BY USAL ARKA CUSS AHD SPBCIES, BBLUCA BLOCK, SUSIIHA UNIT, ALASKA, 1980

BASAL AREA cuss	SOFTWOODS: VHITE SPpUcg	SOFTWOODS: BLACK SPEUCB	SOFTWOODS: TOTAL S O ~ D S	HARDWOODS: PAPRE BIRm	HARDWOODS: BALSAM POPLAR	HARDWOODS: WAKING ASPIBI	HARDWOODS: BLACK COTI0 ——D	HARDWOODS: rtAL H116UKIOODS	*ALL* SPECIES
SQUARE FEET PER ACRE				*THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE*					
1–19	4,311	--	4,311	--	--	--	--	--	4,311
20–39	--	--	--	--	--	--	--	--	--
40–59	--	--	--	--	--	--	--	--	--
60–79	--	--	--	618	--	--	--	618	618
80–99	--	--	--	--	--	--	--	--	--
100–119	--	--	--	--	--	--	--	--	--
120 AND OVKR	--	--	--	--	--	--	--	--	--
ALL CLASSBS	4,311	--	4,311	618	--	--	--	618	4.929

Betimatee are subject to sampling error

Totale may be off because of rounding.

-- = no data ware collected.

TABLE 36--ANNUAL MORTALITY OF GROWING STOCK ON TIHBERLAND BY DIAMETER CLASS AND CUBIC-FOOT SITE CLASS, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

	SITE CLASS (CUBIC FEET) &/			
DIMETER CLASS	20-49	50-84	85-119	ALL CLASSES
INCHBS AT BREAST HEIGHT	*THOUSAND CUBIC.PGFT*			
5.0-6.9	--	--	--	--
7.0-8.9	--	--	--	--
9.0-10.9	--	--	--	--
11.o-12.9	--	--	--	--
13.0-14.9	406	--	--	406
15.0-16.9.	--	--	--	--
17.0-18.9	366	--	--	366
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	773	--	--	773

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

11 Potential yield per acre, mean annual increment.

TABLE 37--ANNWAL MORTALITY OF SAWTIXBER ON TIXBERLAND BY DIAHETER CLASS AND CUBIC-FOOT SITE CLASS, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

	SITE CLASS (CUBIC FEET) a/			
DIAMETER CLASS	20-49	50-84	85-119	ALL CLASSES
INCHBS AT EREASP HEIGHT	THOUSAND BOARD FEET, IXI'ERNATIONAL a/e-INCH RULE			
1.0-2.9	--	--	--	--
3.0-4.9	--	--	--	--
5.0-6.9	--	--	--	--
7.0-8.9	--	--	--	--
9.0-10.9	--	--	--	--
11.0-12.9	--	--	--	--
13.0-14.9	2,692	--	--	2,672
15.0-16.9	--	--	--	--
17.O-18.9	2,256	--	--	2,256
19.0-20.9	--	--	--	--
21.0-22.9	--	--	--	--
23.O-24.9	--	--	--	--
25.0 AND LARGER	--	--	--	--
ALE CLASSES	4,929	--	--	4,929

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- - no data were collected.

11 Potential yield per acre, mean annual increment.

TABLE 38--NU?lBER OF GROWING STOCK TREES, CUBIC-FOOT VOLUXE PER ACRE, AND V O L W PER ACRE IN INTERNATIONAL 1/4-INCH RULE ON TIMBERLAND AND ALL FOREST LAND BY FOREST TYPE, BELUGA BLOCK, SUSITNA UNIT, ALASKA, 1980

FOREST TYPE	TREES PER ACRE &/	VOLUME PER ACRE	VOLUME PER ACRE
	NUMBER	CUBIC FBFT	BOARD FEbT, INTBRNA!FIONAL 1/4-INCH RULE
TIMBERLAND:			
BLACK SPRUCE	--	--	--
WHITE SPRUCE	93	772	3,385
COTTONWOOD	--	--	--
ASPEN	--	--	--
BIRCH	55	706	2,759
ALL TIHBERLAND	83	754	3,220
FOREST LAND:			
BLACK SPRUCE	68	191	47
WHITE SPRUCE	70	494	1,843
COTTONWOOD	59	1,005	4,570
ASPEN	--	--	--
BIRCH	66	768	3,051
ALL FOREST LAND	67	570	2,203

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 Equi\laients

1 inch = *25.4* millimeters (mm)
1 inch = *0.0254* meter (m)
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 basal area per acre = *0.2296* square meter per hectare (m^2/ha)

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Carroll, Gary L.; Setzer, Theodore S.; Head, Bert R. Timber resource statistics for the Beluga block, Susitna River basin multiresource inventory unit, Alaska, 1980. Resour. Bull. PNW-121. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station; 1985. 48 p.

A multiresource inventory of the Beluga block, Susitna River basin inventory unit, was conducted in 1980. Statistics on forest area, timber volumes, and growth and mortality from this inventory are presented. Timberland area is estimated at 131,740 acres and net growing stock volume, mostly hardwood, is 99.4 million cubic feet. Bet annual growth of growing stock is estimated at 1.4 million cubic feet and annual mortality at 773,000 cubic feet.

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

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.

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