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Timber Resource Statistics for the Porcupine Inventory Unit of Alaska, 1978

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Abstract

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A timber resource inventory of the Porcupine inventory unit, Alaska, was conducted in 1977 and 1978. Statistics on forest area, timber volumes, and annual growth and mortality from this inventory are presented. Timberland area is estimated at 1,453 thousand acres, and net growing stock volume, mostly softwood, is 530,505 thousand cubic feet. Net annual growth of growing stock is estimated at -3,415 thousand cubic feet and annual mortality at 5,841 thousand cubic feet.

Keywords: Forest surveys, timber resources, statistics (forest), Alaska (interior), interior Alaska.

Summary

The Forest Inventory and Analysis (FIA) work unit of the Pacific Northwest Research Station conducted a timber resource inventory of the Porcupine inventory unit in 1977 and 1978. The 8,905-thousand-acre unit is bounded, roughly, on the north by Spike Mountain and White Snow Mountain; on the west by the Christian River and Canvassback Lake; on the south by Burman Lake, Birch Creek, Twentytwo Mile Slough, Bear Mountain, and Steamboat Mountain; and on the east by the Canadian border.

Statistics on forest area, net timber volumes, and annual growth are presented from the 1978 inventory of the Porcupine unit. Timberland area is estimated at 1,453 thousand acres and net growing stock volume at 530,505 thousand cubic feet. Net annual growth of growing stock is estimated at -3,415 thousand cubic feet and annual mortality at 5,841 thousand 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 Research Station at Portland, Oregon, is responsible for inventories in Alaska, California, Hawaii, Oregon, and Washington.

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Highlights

	<i>Thousand acres</i>	<i>Thousand hectares</i>
Total Porcupine inventory unit area:	8,905	3 604
Forest land	7,542	3 052
Nonforest land	1,000	405
Non-Census water	156	63
Census water	208	84
Forested area:		
Timberland	1,453	588
Other forest land	6,089	2 464
Forest land type composition:		
Black spruce	3,432	1 389
White spruce	2,717	1 100
Balsam poplar	114	46
Aspen	1,063	430
Birch	206	83
Nonstocked	10	4

	A11 growing stock		Sawtimber	
	<i>Thousand cubic feet 1/</i>	<i>Thousand cubic meters 1/</i>	<i>Thousand board feet 2/</i>	<i>Thousand cubic meters 3/</i>
Volumes on forest land:	1,065,479	30 153	1,923,122	10 289
Net volume on timberland	530,505	15 013	1,413,896	7 564
Net annual growth on timberland	4/ -3,415	-97	-15,182	-79
Annual mortality on timberland	5,841	165	17,491	90
	<u>Softwood Sawtimber</u>		<u>Hardwood sawtimber</u>	<u>Total</u>
	<i>Thousand cubic feet</i>			
Net annual growth on timberland	-2,801		4	-2 797
Annual mortality on timberland	3,170		--	3 170

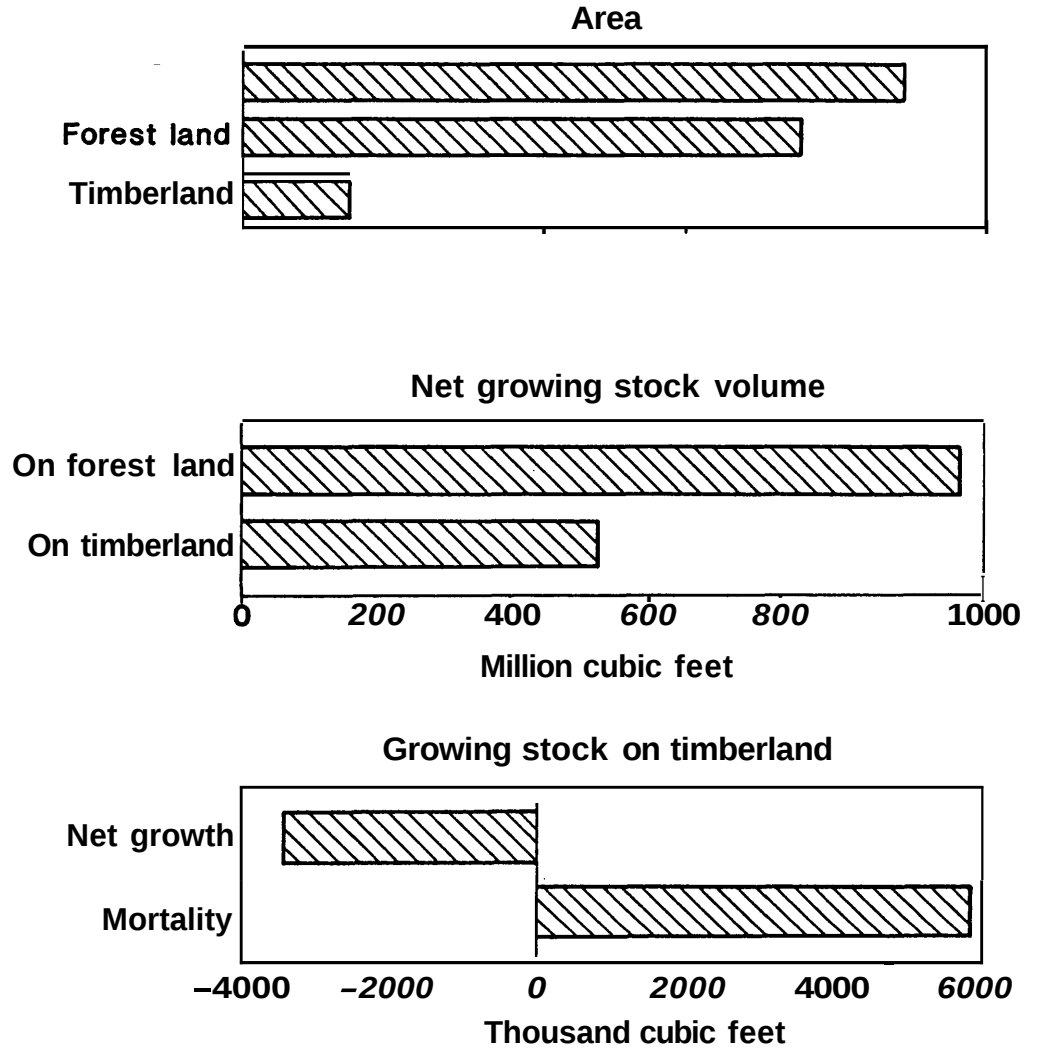
1/ Volume of roundwood for live trees
5.0 inches (12.7 cm) in d.b.h. and larger.

2/ ~~Net~~ volume, International 1/4-inch
rule, for trees 9.8 inches (22.9 cm) in
d.b.h. and larger.

3/ Volume of roundwood for trees 9.0 inches
(22.9 cm) in d.b.h. and larger.

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

Porcupine unit at a glance



Introduction

The Porcupine inventory unit lies between 65°55' and 67°40' N. latitude, and 141°0 and 146°30' W. longitude. Fieldwork for the unit was completed in 1978 by the Alaska Forest Inventory and Analysis (FIA) work unit of the Pacific Northwest Research Station. Planning and preliminary work began in 1976.

The 8,905-thousand-acre Porcupine unit (figs. 1-3) includes the Porcupine Plateau physiographic province on the north and east, and part of the Yukon Flats province in the west (Wahrhaftig 1965). The Porcupine River flows through the tract from the northeast to the southwest and empties into the Yukon River. Fort Yukon, the area's largest town, lies where the two rivers join. The Black, Sheenjek, Christian, and Coleen Rivers are other prominent drainages in the unit. The rivers, for the most part, are heavily braided and subject to flooding. All but the Yukon, which is fed by glaciers, are considered clearwater streams.

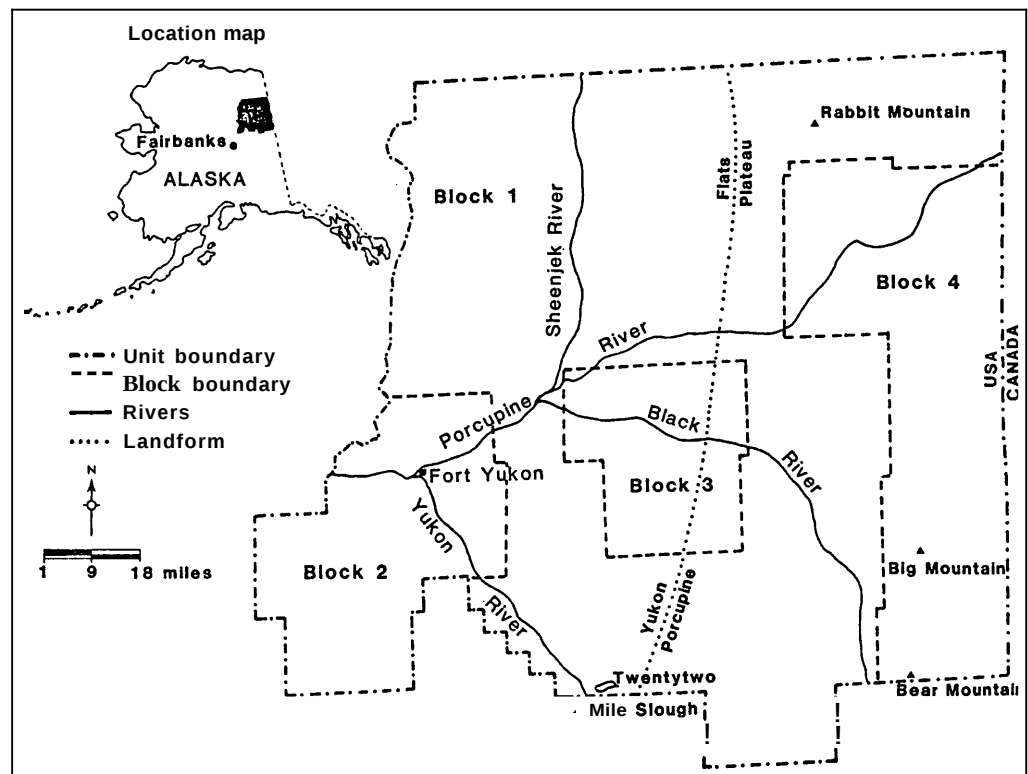


Figure 1--Porcupine inventory unit with the plateau to the east and the flats to the west.



Figure 2--Large stands of pole- and small sawtimber-sized white spruce occur in the Porcupine unit. The white spruce type occupies about 2.7 million acres.



Figure 3--A rare aspen pole stand, about 55-65 feet tall and 50-60 years old. The Porcupine unit has more than a million acres of aspen type; almost all is in seedling-sapling stands less than 40 years old. The aspen occurs mainly in the western portion of the unit.

About two-thirds of the unit is north of the Arctic Circle. Temperatures can range from -70 to 90 °F. Precipitation is low with an annual average of 8 to 10 inches. Elevations range from about 3,600 feet along the Canadian border on the east to less than 500 feet along the Yukon River. Generally, elevation ranges between 500 and 1,500 feet.

There are thousands of lakes within the boundaries, and the wetlands of the Yukon Flats provide some of the most productive waterfowl nesting habitat in the world (fig. 4). Much wildlife is present, including moose, black and grizzly bear, caribou, and wolves; fish species include northern pike, Arctic grayling, whitefish, and Salmon--king, chum, and silver.

Moderately thick to thin permafrost and isolated masses of permafrost occur throughout the area but especially along the major drainages. Discontinuous permafrost underlies smaller portions of the unit.

Fewer than 2,000 people live in the Porcupine area, Recreational activities are increasing, however, and several developmental projects (including oil and gas exploration) have been started or are being considered.



Yukon in late summer. Open water is not as evident as it usually is in late spring and early summer, but the area is still wet.

Inventory Procedures

A double-sampling method was used to derive estimates of area and timber volume (Bickford 1952). To provide for adequate statistical precision, 15,146 points were systematically distributed on 1:120,000-scale color infrared aerial photos. This level of sampling in the photo interpretation phase provided slightly more than one photo point per square mile. At each photo point, a 1-acre sample of the land class surrounding the point was examined stereoscopically and placed into the following sampling strata:

Forest land			Nonforest land
<i>Forest</i>	<i>Volume</i>	<i>Cubic feet</i>	Shrub
Softwood	High	>1,500	Grassland and tundra
	Medium	500-1,499	Barren
	Low	<500	Census water
Hardwood	High	>1,500	Fonds (non-Census water)
	Medium	500-1,499	Streams (non-Census water)
	Low	<500	
Black spruce	High	>500	
	Low	<500	

Ancillary data collected at this phase of sampling included land ownership, exploratory soil survey classification, and topographic aspect.

From these photo points, a random sample of 521 points was allocated based on strata areas and expected timber volume variation. These 521 points were used for ground observation and measurement during the field seasons. Ground plots were located at, or very near, the exact corresponding points established on the photos. At each of these 1-acre ground plots, a 10-point cluster of variable- and fixed-radius plots were measured. These measurements were the basis for the estimates given in this resource bulletin. 5/

5/ Unpublished report, 1980. "Field Procedures for the Cooperative Vegetation Inventory of the Susitna River Basin, Alaska," by Bert R. Head, U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Forestry Sciences Laboratory, 201 East Ninth Avenue, Suite 303, Anchorage, Alaska 99501.

Reliability of Inventory Data

On each forested point, a 40-square-foot basal area factor gauge was used to select sample trees larger than 5 inches d.b.h. (diameter at breast height) for detailed measurement of size, productivity, and quality. Trees less than 5 inches were measured on 1/300-acre circular plots at each of the 10 points.

Through data-processing procedures, the photo sample and the ground samples of tree volume, land class, and other factors were expanded to provide the data needed or specified for area and volume.

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 <u>6/</u>	Sampling error achieved	Sampling error of the total estimate
	Percent		
Timberland area:			
Per million acres	3.0	11.5	
For the total 1,453,052 acres			f9.6
Other forest land area:			
Per million acres	10.0	6.9	
For the total 6,088,154 acres			f2.8
Net growing stock volume:			
Per billion cubic feet	10.0	14.8	
For the total 530,504,922 ft ³			f20.3
Net annual growth of growing stock:			
Per billion cubic feet	10.0	5.4	
For the total -3,415,486 ft ³ (see footnote 4)			±92.1

The estimate of net growing stock volume for the Porcupine unit, all blocks combined, is 530.505 million cubic feet, ±20.3 percent, yielding 68-percent confidence limits of 638.197 million and 422.812 million cubic feet. A 68-percent confidence level means that if repeated samples are taken of this population, the total volume would be between 638.197 million and 422.812 million cubic feet, 68 percent of the time.

6/ Forest Service Handbook 9813.1.
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 ^{1/}

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

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 4-1/2 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; measurement is 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.

^{1/} Terminology is from the manual of field procedures for the Susitna River basin inventory (see footnote 5), and Forest Service Handbook 4813.1 (see footnote 6).

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 (Figure 2). 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.

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 (Figure 3). 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 cover 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 (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.

Wet 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 to 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 to qualify as nonforest land.

Monstockable 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.

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 that do not contain a saw log now and are not likely to, primarily because of rot.

Rough trees--Live trees that do not contain a saw log now and are not likely to, primarily because of roughness or 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 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 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 or saplings, or both, 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 or the number of trees in a stand, or both, 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.

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

Water--See Census water and non-Census water.

Names of Trees

Comon name

Scientific name ^{8/}

Softwoods:

Black spruce

Picea mariana (Hill.) B.S.P.

Tamarack

Larix laricina (Du Roi) K. Koch

White spruce

Picea glauca (Moench) Voss

Hardwoods:

Balsam poplar

Populus balsamifera L.

Black cottonwood

Populus trichocarpa Torr, and Gray

Paper birch

Betula papyrifera Harsh.

Quaking aspen

Populus tremuloides Michx.

^{8/} 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 FOREST TYPE AND LAND CLASS, BLOCK 1, PORCUPINE UNIT, ALASKA, 1978

FOREST TYPE	LAND CLASS								ALL CLASSES
	TIMBERLAND	OTHER FOREST LAND, OPERABLE	OTHER FOREST LAND, INOPERABLE	TOTAL FOREST LAND	NONFOREST LAND	NON-CENSUS WATER	TOTAL NONFOREST	CENSUS WATER	
THOUSAND ACRES									
BLACK SPRUCE	67	34	2,360	2,461	—	—	—	—	2,461
WHITE SPRUCE	416	82	1,354	1,852	—	—	—	—	1,852
BALSAM POPLAR	51	—	31	83	—	—	—	—	83
ASPEY	304	—	286	590	—	—	—	—	590
BIRCH	77	—	85	162	—	—	—	—	162
NONSTOCKED	—	—	—	—	—	—	—	—	—
UNCLASSIFIED	—	—	—	—	623	90	713	98	811
ALL CLASSES	915	117	4,116	5,148	623	90	713	98	5,959

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 2--AREA BY FOREST TYPE AND LAND CLASS, BLOCK 2, PORCUPINE UNIT, ALASKA, 1978

WREST TYPE	LAND CLASS								ALL CLASSES
	TIMBERLAND	OTHER FOREST LAND, OPERABLE	OTHER FOREST LAND, INOPERABLE	TOTAL FOREST LAND	NONFOREST LAND	NON-CENSUS WATER	TOTAL NONFOREST	CENSUS WATER	
THOUSAND ACRES									
BLACK SPRUCE	--	--	37	37	--	--	--	--	37
WHITE SPRUCE	158	25	142	325	--	--	--	--	325
BALSAM POPLAR	22	--	--	22	--	--	--	--	22
ASPEN	124	--	183	307	--	--	--	--	307
BIRCH	1	--	13	14	--	--	--	--	14
NONSTOCKED	--	--	--	--	--	--	--	--	--
UNCLASSIFIED	--	--	--	--	177	38	215	79	294
ALL CLASSES	304	25	375	705	177	38	215	79	999

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 3--AREA BY FOREST TYPE AND LAND CLASS, BLOCK 3, PORCUPINE UNIT, ALASKA, 1978

FOREST TYPE	LAND CLASS							
	TIMBERLAND	OTHER FOREST LAND, OPERABLE	OTHER FOREST LAND, INOPERABLE	TOTAL FOREST LAND	NONFOREST LAND	NON-CENSUS WATER	TOTAL NONFOREST	CENSUS WATER
THOUSAND ACRES								
BLACK SPRUCE	28	--	146	174	--	--	--	--
WHITE SPRUCE	82	--	88	170	--	--	--	--
BALSAM POPLAR	10	--	--	10	--	--	--	--
ASPEN	40	--	72	112	--	--	--	--
BIRCH	5	--	10	15	--	--	--	--
NONSTOCKED	10	--	--	10	--	--	--	--
UNCLASSIFIED	--	--	--	--	104	19	123	31
ALL CLASSES	175	--	316	491	104	19	123	31

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 4--AREA BY FOREST TYPE AND LAND CLASS, BLOCK 4, PORCUPINE UNIT, ALASKA, 1978

FOREST TYPE	LAND CLASS							
	TIMBERLAND	OTHER FOREST LAND, OPERABLE	OTHER FOREST LAND, INOPERABLE	TOTAL FOREST LAND	NONFOREST LAND	NON-CENSUS WATER	TOTAL NONFOREST	CENSUS WATER
THOUSAND ACRES								
BLACK SPRUCE	--	--	760	760	--	--	--	--
WHITE SPRUCE	55	--	313	368	--	--	--	--
BALSAM POPLAR	--	--	--	--	--	--	--	--
ASPEN	1	--	52	53	--	--	--	--
BIRCH	--	--	15	15	--	--	--	--
NONSTOCKED	--	--	--	--	--	--	--	--
UNCLASSIFIED	--	--	--	--	96	9	105	--
ALL CLASSES	56	--	1,140	1,196	96	9	105	--

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 5--AREA BY FOREST TYPE AND LAND CLASS, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

FOREST TYPE	LAND CLASS							
	TIMBERLAND	OTHER FOREST LAND, OPERABLE	OTHER FOREST LAND, INOPERABLE	TOTAL FOREST LAND	NONFOREST LAND	NON-CENSUS WATER	TOTAL NONFOREST	CENSUS WATER
THOUSAND ACRES								
BLACK SPRUCE	9s	34	3,383	3,422	--	--	--	--
WHITE SPRUCE	712	108	1,897	2,717	--	--	--	--
BALSAM POPLAR	83	--	31	114	--	--	--	--
ASPEN	470	--	593	1,063	--	--	--	--
NONSTOCKED	10	--	--	10	--	--	--	--
UNCLASSIFIED	--	--	--	--	1,000	156	1,156	208
ALL CLASSES	1,453	142	5,947	7,542	1,000	156	1,156	208

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 6--AREA OF FOREST LAND BY FOREST TYPE, STAND SIZE CLASS, AND CUBIC-FOOT SITE CLASS, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

FOREST TYPE AND STAND SIZE CLASS	SITE CLASS (CUBIC FEET) ^{1/}					ALL CLASSES
	1-9	10-14	15-19	20-49	50-84	
ACRES						
BLACK SPRUCE:						
SAWTIMBER	--	--	--	--	--	--
POLETIMBER	--	--	34	--	--	34
SEEDLING AND SAPLING	2,303	309	194	75	--	2,881
NONSTOCKED AREAS	463	34	--	19	--	517
TOTAL	2,166	343	228	95	--	3,432
WHITE SPRUCE:						
SAWTIMBER	--	--	--	46	--	46
POLETIMBER	--	43	61	112	--	222
SEEDLING AND SAPLING	825	512	414	520	--	2,391
NONSTOCKED AREAS	15	0	--	34	--	58
TOTAL	840	623	541	712	--	2,717
BALSAM POPLAR:						
SAWTIMBER	--	--	--	--	--	--
POLETIMBER	--	--	--	33	--	33
SEEDLING AND SAPLING	--	16	15	50	--	81
NONSTOCKED AREAS	--	--	--	--	--	--
TOTAL	--	16	15	83	--	114
ASPER:						
SAWTIMBER	--	--	--	--	--	--
POLETIMBER	--	--	--	14	--	14
SEEDLING AND SAPLING	168	185	240	456	--	1,049
NONSTOCKED AREAS	--	--	--	--	--	--
TOTAL	168	185	240	470	--	1,063
BIRCH:						
SAWTIMBER	--	--	--	--	--	--
POLETIMBER	--	--	--	29	--	29
SEEDLING AND SAPLING	85	15	23	54	--	177
NONSTOCKED AREAS	--	--	--	--	--	--
TOTAL	85	15	23	83	--	206
NONSTOCKED:						
SAWTIMBER	--	--	--	--	--	--
POLETIMBER	--	--	--	--	--	--
SEEDLING AND SAPLING	--	--	--	--	--	--
NONSTOCKED AREAS	--	--	--	10	--	10
TOTAL	--	--	--	10	--	10
ALL TYPES:						
SAWTIMBER	--	--	--	46	--	46
POLETIMBER	--	43	101	188	--	332
SEEDLING AND SAPLING	3,381	1,097	946	1,155	--	6,519
NONSTOCKED AREAS	418	42	--	63	--	584
TOTAL	3,859	1,182	1,047	1,453	--	7,542

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

^{1/} Potential yield per acre, based on annual increment.

TABLE 7--NUMBER OF GROWING STOCK TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, BLOCK 1, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT	THOUSAND TREES							
1.0-2.9	141,971	16,098	158,071	34,363	11,584	212,071	264,017	422,088
3.0-4.9	44,504	473	44,977	10,428	8,180	30,120	48,727	93,705
5.0-6.9	17,601	--	17,601	6,503	877	412	7,793	25,393
7.0-8.9	9,598	1,096	10,694	1,397	207	--	1,604	12,297
9.0-10.9	5,330	199	5,529	116	48	--	164	5,693
11.0-12.9	1,947	--	1,947	--	38	--	30	1,985
13.0-14.9	763	--	763	--	\$0	--	50	813
15.0-16.9	231	--	231	--	--	--	--	231
17.0-18.9	120	--	120	--	--	--	--	120
19.0-20.9	70	--	70	--	--	--	--	70
21.0-22.9	--	--	--	--	--	--	--	--
23.0-24.9	--	--	--	--	--	--	--	--
25.0 AND LARGER	--	--	--	--	--	--	--	--
ALL CUSSES	222,137	17,866	240,003	52,807	26,904	242,603	322,393	562,395

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 CLASS AND SPECIES, BLOCK 2, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT								
	THOUSAND TREES							
1.0-2.9	95,923	---	95,923	1,326	6,418	150,793	158,537	254,459
3.0-4.9	24,154	1,029	25,183	1,148	4,654	17,793	23,595	48,778
5.0-6.9	9,766	---	9,766	215	1,154	4,680	6,049	15,815
7.0-8.9	3,562	---	3,562	59	1,095	1,137	2,291	5,854
9.0-10.9	1,728	---	1,728	9	604	---	613	2,341
11.0-12.9	918	---	918	---	113	---	113	1,030
13.0-14.9	713	---	713	---	41	---	41	754
15.0-16.9	133	---	133	---	23	---	23	156
17.0-18.9	174	---	174	---	---	---	---	174
19.0-20.9	25	---	25	---	16	---	16	40
21.0-22.9	---	---	---	---	---	---	---	---
23.0-24.9	16	---	16	---	---	---	---	16
25.0 AND LARGER	---	---	---	---	---	---	---	---
ALL CLASSES	137,112	1,029	138,141	2,757	14,118	174,403	191,278	329,417

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 9--NUMBER OF GROWING STOCK TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, BLOCK 3, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT								
THOUSAND TREES								
1.0-2.9	82,392	23,026	105,418	3,133	8,131	66,391	77,655	183,073
3.0-4.9	16,287	1,449	17,736	287	1,509	5,697	7,493	25,229
5.0-6.9	4,736	152	4,888	162	1,843	1,303	3,308	8,191
7.0-8.9	1,202	---	1,202	171	1,630	668	2,469	3,671
9.0-10.9	519	---	519	---	385	369	754	1,273
11.0-12.9	260	---	260	---	54	---	54	314
13.0-14.9	109	---	109	---	82	---	82	191
15.0-16.9	56	---	56	---	---	---	---	56
17.0-18.9	23	---	23	---	---	---	---	23
19.0-20.9	10	---	10	---	---	---	---	10
21.0-22.9	---	---	---	---	---	---	---	---
23.0-24.9	---	---	---	---	---	---	---	---
25.0 AND LARGER	---	---	---	---	---	---	---	---
ALL CLASSES	105,594	24,627	130,221	3,753	13,634	74,428	91,815	222,036

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 10--NUMBER OF GROWING STOCK TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, BLOCK 4, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT	THOUSAND TREES							
1.0-2.9	11,229	2,670	13,899	—	88	3,247	3,335	17,234
3.0-4.9	4,662	—	4,662	—	—	176	176	4,838
5.0-6.9	2,610	—	2,610	141	—	321	463	3,073
7.0-8.9	811	—	811	—	—	88	88	899
9.0-10.9	220	—	220	—	—	—	—	220
11.0-12.9	—	—	—	—	—	—	—	—
13.0-14.9	53	—	53	—	—	—	—	53
15.0-16.9	68	—	68	—	—	—	—	68
17.0-18.9	—	—	—	—	—	—	—	—
19.0-20.9	—	—	—	—	—	—	—	—
21.0-22.9	—	—	—	—	—	—	—	—
23.0-24.9	—	—	—	—	—	—	—	—
25.0 AND LARGER	—	—	—	—	—	—	—	—
ALL CLASSES	19,653	2,670	22,322	141	88	3,034	4,062	26,385

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 11--NUMBER OF GROWING STOCK TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT								
	THOUSAND TREES							
1.0-2.9	331,516	41,794	373,310	38,822	32,221	432,502	503,545	876,855
3.0-4.9	89,606	2,952	92,558	11,863	14,343	51,786	79,992	172,550
5.0-6.9	34,713	U 2	34,865	7,022	3,874	6,717	17,613	52,478
7.0-8.9	15,173	1,096	16,269	1,628	2,932	1,893	6,453	22,722
9.0-10.9	7,796	199	7,995	124	1,038	369	1,531	9,526
11.0-12.9	3,125	--	3,125	--	205	--	205	3,330
13.0-14.9	1,638	--	1,638	--	173	--	173	1,811
15.0-16.9	489	--	489	--	23	--	23	s12
17.0-18.9	317	--	317	--	--	--	--	317
19.0-20.9	104	--	104	--	16	--	16	120
21.0-22.9	--	--	--	--	--	--	--	--
23.0-24.9	16	--	16	--	--	--	--	16
25.0 AND LARGER	--	--	--	--	--	--	--	--
ALL CLASSES	484,493	46,193	530,686	59,459	54,825	495,267	609,551	1,140,237

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 12--NUMBER OF LIVE TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, BLOCK 1, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
DIAMETER AT BREAST HEIGHT								
THOUSAND TREES								
1.0-2.9	151,267	61,768	213,035	41,489	23,720	277,941	343,156	558,191
3.0-4.9	46,185	5,793	51,898	15,041	11,015	42,831	68,887	120,785
5.0-6.9	19,224	--	19,224	6,886	1,188	1,209	9,283	28,907
7.0-8.9	10,578	1,096	11,674	1,397	457	281	2,135	13,809
9.0-10.9	5,637	199	5,836	116	206	--	322	6,150
11.0-12.9	1,947	--	1,947	132	38	--	170	2,117
13.0-14.9	763	--	763	--	50	--	50	813
15.0-16.9	231	--	231	--	--	--	--	231
17.0-18.9	120	--	120	--	--	--	--	120
19.0-20.9	70	--	70	--	--	--	--	70
21.0-22.9	--	--	--	--	--	--	--	--
23.0-24.9	--	--	--	--	--	--	--	--
25.0 AND LARGER	--	--	--	--	--	--	--	--
ALL CLASSES	235,942	70,896	306,798	65,061	36,674	322,268	424,003	730,801

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 13--NUMBER OF LIVE TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, BLOCK 2, PORCUPINE UNIT, ALASKA, 1978

	SOFTWOODS			HARDWOODS				
DIAMETER CLASS	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	ALL SPECIES
DIAMETER AT BREAST HEIGHT	THOUSAND TREES							
1.0-2.9	98,742	--	98,742	1,841	9,108	175,140	186,089	284,831
3.0-4.9	24,411	1,286	25,697	1,188	6,519	21,190	28,897	54,594
5.0-6.9	9,766	--	9,766	215	2,100	5,243	7,558	17,324
7.0-8.9	3,681	--	3,681	59	1,380	1,283	2,722	6,483
9.0-10.9	1,728	--	1,728	9	669	--	678	2,406
11.0-12.9	918	--	918	--	255	--	255	1,173
13.0-14.9	713	--	713	--	91	--	91	804
15.0-16.9	168	--	168	--	27	--	27	195
17.0-18.9	174	--	174	--	--	--	--	174
19.0-20.9	25	--	25	--	16	--	16	41
21.0-22.9	--	--	--	--	--	--	--	--
23.0-24.9	16	--	16	--	--	--	--	16
25.0 AND LARGER	--	--	--	--	--	--	--	--
ALL CLASSES	140,342	1,286	141,628	3,312	20,165	202,856	226,333	367,961

Estimates are subject to sampling error.

totals may be off because of rounding.

-- = no data were collected.

TABLE 14--NUMBER OF LIVE TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, BLOCK 3, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
DIAMETER AT BREAST HEIGHT								
THOUSAND TREES								
1.0-2.9	91,738	29,625	121,363	3,133	9,641	80,578	93,352	214,715
3.0-4.9	16,287	3,171	19,458	287	1,953	5,999	8,239	27,697
5.0-6.9	4,736	152	4,888	584	2,066	1,712	4,352	9,240
7.0-8.9	1,202	--	1,202	227	1,630	807	2,664	3,866
9.0-10.9	519	--	519	--	385	369	754	1,273
11.0-12.9	260	--	260	--	113	--	113	373
13.0-14.9	109	--	109	--	82	--	82	191
15.0-16.9	56	--	56	--	--	--	--	56
17.0-18.9	23	--	23	--	--	--	--	23
19.0-20.9	10	--	10	--	--	--	--	10
21.0-22.9	--	--	--	--	--	--	--	--
23.0-24.9	--	--	--	--	--	--	--	--
25.0 MID LARGER	--	--	--	--	--	--	--	--
ALL CLASSES	114,940	32,948	147,888	4,231	15,860	89,465	109,557	257,444

Estimates are subject to sampling error.

totals may be off because of rounding.

-- = no data were collected.

TABLE 15--NUMBER OF LIVE TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, BLOCK 4, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
DIAMETER AT BREAST HEIGHT								
	THOUSAND TREES							
1.0-2.9	11,531	2,670	14,201	--	132	3,291	3,423	17,624
3.0-4.9	4,662	--	4,662	--	--	176	176	4,838
5.0-6.9	2,610	--	2,610	141	--	321	462	3,072
7.0-8.9	811	--	811	--	--	88	88	899
9.0-10.9	220	--	220	--	--	--	--	220
11.0-12.9	--	--	--	--	--	--	--	--
13.0-14.9	53	--	53	--	--	--	--	53
15.0-16.9	68	--	68	--	--	--	--	68
17.0-18.9	--	--	--	--	--	--	--	--
19.0-20.9	--	--	--	--	--	--	--	--
21.0-22.9	--	--	--	--	--	--	--	--
23.0-24.9	--	--	--	--	--	--	--	--
25.0 AND LARGER	--	--	--	--	--	--	--	--
ALL CLASSES	19,955	2,670	22,625	141	132	3,876	4,149	26,714

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 16--NUMBER OF LIVE TREES ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
THOUSAND TREES								
1.0-2.9	353.278	96.063	449.341	46.463	42.601	536.957	626.021	1.075.362
3.0-4.9	91.464	10.250	101.714	16.516	19.487	70.196	106.199	207.913
5.0-6.9	36.336	152	36.488	7.826	5.344	8.486	21.656	58.144
7.0-8.9	16.270	1.096	17.366	1.683	3.467	2.459	7.609	24.975
9.0-10.9	8.103	199	8.302	124	1.261	369	1.754	10.056
11.0-12.9	3.125	---	3.125	132	406	---	538	3.663
13.0-14.9	1.638	---	1.638	---	223	---	223	1.861
15.0-16.9	524	---	524	---	27	---	27	551
17.0-18.9	317	---	317	---	---	---	---	317
19.0-20.9	104	---	104	---	16	---	16	120
21.0-22.9	---	---	---	---	---	---	---	---
23.0-24.9	16	---	16	---	---	---	---	16
25.0-AND LARGER	---	---	---	---	---	---	---	---
ALL CLASSES	511.175	107.760	618.935	72.744	72.832	618,467	164.043	1,382,978

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 17--**NET** VOLUME OF GROWING STOCK BY FOREST TYPE AND LAND CLASS,
BLOCK 1, PORCUPINE UNIT, ALASKA, 1978

LAM) CLASS				
FOREST TYPE	TIMBERLAND	OTHER FOREST LAM), OPERABLE	OTHER FOREST LAND, INOPERABLE	TOTAL ALL CLASSES
THOUSAND CUBIC FEET				
BLACK SPRUCE	--	42,423	62,436	104,859
WHITE SPRUCE	221,734	80,285	198,995	501,014
BALSAM POPLAR	1,068	--	--	1,068
ASPEN	2,361	--	766	3,127
BIRCH	72,522	--	9,749	82,271
ALL TYPES	297,685	122,708	271,946	692,339

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 18--**NET** VOLUME OF GROWING STOCK BY FOREST TYPE AND LAND CLASS,
BLOCK 2, PORCUPINE UNIT, ALASKA, 1978

FOREST TYPE	LAND CLASS			TOTAL ALL CLASSES
	TIMBERLAND	OTHER FOREST LAND, OPERABLE	OTHER FOREST LAND, INOPERABLE	
THOUSAND CUBIC FEET				
BLACK SPRUCE	--	--	2,269	2,269
WHITE SPRUCE	130,417	24,699	15,820	170,936
BALSAM POPLAR	9,941	--	--	9,941
ASPEN	10,242	--	2,079	12,321
BIRCH	1,550	--	1,410	2,960
ALL TYPES	152,150	24,699	21,578	198,427

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 19--**NET VOLUME OF GROWING STOCK BY FOREST TYPE AND LAND CLASS,**
BLOCK 3, PORCUPINE WIT, ALASKA, 1978

LAND CLASS				
FOREST TYPE	TIMBERLAND	OTHER FOREST LAND, OPERABLE	OTHER FOREST LAND, INOPERABLE	TOTAL ALL CLASSES
THOUSAND CUBIC FEET				
BLACK SPRUCE	4,298	--	7,630	11,928
WHITE SPRUCE	32,374	--	18,738	51,112
BALSAX POPLAR	17,817	--	--	17,817
ASPEN	5,325	--	--	5,325
BIRCH	2,550	--	--	2,550
ALL TYPES	62,364	--	26,368	88,732

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 20--**NET VOLUME OF GROWING STOCK BY FOREST TYPE AND LAND CLASS,**
BLOCK 4, PORCUPINE WIT, ALASKA, 1978

LAND CLASS				
FOREST TYPE	TIMBERLAND	OTHER FOREST LAND, OPERABLE	OTHER FOREST LAND, INOPERABLE	TOTAL ALL CLASSES
THOUSAND CUBIC FEET				
BLACK SPRUCE	--	--	20,291	20,291
WHITE SPRUCE	16,092	--	47,072	63,164
BALSAM POPLAR	--	--	--	--
ASPEN	2,215	--	314	2,529
BIRCH	--	--	--	--
ALL TYPES	18,307	--	67,677	85,984

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 21--**NET** VOLUME OF GROWING STOCK BY FOREST TYPE AND LAND CLASS,
ALL BLOCKS, PORCUPINE WIT, ALASKA, 1978

LAM) CLASS				
FOREST TYPE	TIMBERLAND	OTHER FOREST LAM), OPERABLE	OTHER FOREST LAND, INOPERABLE	TOTAL ALL CLASSES
THOUSAUD CUBIC FEET				
BLACK SPRUCE	4,298,	42,423	92,626	139,347
WHITE SPRUCE	400,617	104,984	280,624	786,225
BALSAM POPLAR	28,825	--	--	28,825
ASPEN	20,143	--	3,159	23,302
BIRCH	76,621	--	11,159	87,780
ALL TYPES	530,505	147,407	387,568	1,065,479

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 22--**NET** VOLUME OF SAWTIMBER BY FOREST TYPE AND LAND CLASS,
ALL BLOCKS, PORCUPINE WIT, ALASKA, 1978

LAM) CLASS				
FOREST TYPE	TIMBERLAND	OTHER FOREST W D , OPERABLE	OTHER FOREST LAND , INOPERABLE	TOTAL ALL CLASSES
THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE				
BLACK SPRUCE	9,149	--	57,340	66,489
WHITE SPRUCE	1,220,471	127,945	313,781	1,662,197
BALSAM POPLAR	15,953	--	--	15,953
ASPEN	5,460	--	--	5,460
BIRCH	162,863	--	10,160	173,023
ALL TYPES	1,413,896	127,945	381,281	1,923,122

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 23--NET VOLUME OF GROWING STOCK ON TIMBERLAND BY DIAMETER CLASS AND FOREST TYPE,
ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	FOREST TYPE					
	BLACK SPRUCE	WHITE SPRUCE	BALSAM POPLAR	ASPEN	BIRCH	ALL TYPES
INCHES AT BREAST HEIGHT	THOUSAND CUBIC FEET					
5.0-6.9	1,571	79,603	6,251	10,750	23,625	121,800
7.0-8.9	1,061	97,194	12,964	5,699	24,497	141,415
9.0-10.9	854	96,064	5,396	2,732	3,098	108,144
11.0-12.9	--	60,116	1,837	--	1,578	63,531
13.0-14.9	812	38,471	1,489	962	9,234	50,968
15.0-16.9	--	16,131	585	--	2,966	19,682
17.0-18.9	--	10,311	--	--	6,260	16,571
19.0-20.9	--	1,368	305	--	5,362	7,035
21.0-22.9	--	--	--	--	--	--
23.0-24.9	--	1,360	--	--	--	1,360
25.0 MID LARGER	--	--	--	--	--	--
ALL CLASSES	4,298	400,618	28,827	20,143	76,620	530,505

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 24--NET VOLUME OF SAWTIMBER ON TIMBERLAND BY DIAMETER CLASS AND FOREST TYPE,
ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	FOREST TYPE					
	BLACK SPRUCE	WHITE SPRUCE	BALSAM POPLAR	ASPEN	BIRCH	ALL TYPES
INCHES AT BREAST HEIGHT	THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE					
9.0-10.9	4,637	484,273	--	--	10,133	499,043
11.0-12.9	--	333,978	5,528	--	9,326	348,832
13.0-14.9	4,513	221,654	5,763	5,460	54,606	291,996
15.0-16.9	--	95,050	2,893	--	17,559	115,502
17.0-18.9	--	66,579	--	--	37,789	104,368
19.0-20.9	--	9,166	1,769	--	33,450	44,385
21.0-22.9	--	--	--	--	--	--
23.0-24.9	--	9,771	--	--	--	9,771
25.0 AND LARGER	--	--	--	--	--	--
ALL CLASSES	9,150	1,220,471	15,953	5,460	162,863	1,413,897

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 25--NET VOLUME OF GROWING STOCK ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT	THOUSAND CUBIC FEET							
5.0-6.9	80,323	440	80,763	21,380	6,846	12,811	41,037	121,800
7.0-8.9	100,735	8,123	108,858	10,104	14,862	7,590	32,556	141,414
9.0-10.9	92,699	1,680	94,378	1,198	9,836	2,732	13,766	108,144
11.0-12.9	61,194	---	61,194	---	2,338	---	2,338	63,532
13.0-14.9	48,358	---	48,358	---	2,609	---	2,609	50,967
15.0-16.9	19,098	---	19,098	---	585	---	585	19,683
17.0-18.9	16,571	---	16,571	---	---	---	---	16,571
19.0-20.9	6,729	---	6,729	---	305	---	305	7,034
21.0-22.9	---	---	---	---	---	---	---	---
23.0-24.9	1,360	---	1,360	---	---	---	---	1,360
25.0 AND LARGER	---	---	---	---	---	---	---	---
CLASSES	427,067	10,243	437,310	32,682	37,381	23,133	93,196	530,505

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = M data were collected.

TABLE 26--NET VOLUME OF SAWTIMBER ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT								
THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE								
9.0-10.9	490,098	8,944	499,042	---	---	---	---	499,042
11.0-12.9	341,459	---	341,459	---	7,373	---	7,373	348,832
13.0-14.9	282,321	---	282,321	---	9,674	---	9,674	291,995
15.0-16.9	112,609	---	112,609	---	2,893	---	2,893	115,502
17.0-18.9	104,368	---	104,368	---	---	---	---	104,368
19.0-20.9	42,615	---	42,615	---	1,769	---	1,769	44,384
21.0-22.9	---	---	---	---	---	---	---	---
23.0-24.9	9,771	---	9,771	---	---	---	---	9,771
25.0 MID LARGER	---	---	---	---	---	---	---	---
ALL CLASSES	1,383,241	8,944	1,392,186	---	21,710	---	21,710	1,413,896

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 27--NET VOLUME OF GROWING STOCK ON TIMBERLAND BY DIAMETER CLASS AND CUBIC-FOOT STAND VOLUME CLASS, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

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
<i>INCHES AT BREAST HEIGHT</i>	<i>THOUSAND CUBIC FEET</i>					
5.0-6.9	21,134	33,803	24,036	39,664	3,163	121,800
7.0-8.9	5,084	39,631	22,313	61,846	12,540	141,414
9.0-10.9	3,566	18,225	26,981	30,598	28,774	108,144
11.0-12.9	1,647	13,556	5,152	14,601	28,576	63,532
13.0-14.9	2,001	8,544	1,581	12,269	26,572	50,967
15.0-16.9	1,494	2,485	3,137	6,867	5,700	19,683
17.0-18.9	--	--	1,254	6,260	9,057	16,571
19.0-20.9	--	913	--	4,753	1,368	7,034
21.0-22.9	--	--	--	--	--	--
23.0-24.9	--	--	--	--	1,360	1,360
25.0 AND LARGER	--	--	--	--	--	--
ALL CLASSES	34,926	117,157	84,454	176,858	117,111	530,505

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 28--NET VOLUME OF TIMBER ON TIMBERLAND BY TIMBER CLASS AND CUBIC-FOOT SITE CLASS, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

TIMBER CLASS	SITE CLASS (CUBIC FEET) ^{1/}			ALL CLASSES
	20-49	50-84	85-119	
THOUSAND CUBIC FEET				
SAWTIMBER TREES:				
SAWLOG PORTION	232,279	--	--	232,279
UPPER STEM PORTION	21,246	--	--	21,246
TOTAL	253,525	--	--	253,525
POLETIMBER TREES	276,900	--	--	276,900
ALL GROWING STOCK	530,505	--	--	530,505
ROUGH TREES:				
SAWTIMBER	3,705	--	--	3,705
POLETIMBER	13,760	--	--	13,760
TOTAL	17,465	--	--	17,465
ROTTEN TREES:				
SAWTIMBER	675	--	--	675
POLETIMBER	2,240	--	--	2,240
TOTAL	2,915	--	--	2,915
SALVABLE DEAD TREES:				
SAWTIMBER	19,529	--	--	19,529
POLETIMBER	17,695	--	--	17,695
TOTAL	37,224	--	--	37,224
ALL CLASSES	588,109	--	--	588,109

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 VOLUME OF TIMBER ON TIMBERLAND BY TIMBER CLASS AND DIAMETER CLASS, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

TIMBER CLASS	DIAMETER CLASS (INCHES AT BREAST HEIGHT)											ALL CLASSES
	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 AND LARGER	
THOUSAND CUBIC FEET												
SAWTIMBER TREES:												
SAW-LOG PORTION	--	--	82,095	58,476	48,238	19,015	16,193	6,913	--	1,348	--	232,279
UPPER STEM PORTION	--	--	12,283	5,055	2,729	668	378	121	--	12	--	21,246
TOT&	--	--	94,378	63,531	50,967	19,683	16,571	7,034	--	1,360	--	253,525
POLETIMBER TREES	121,800	141,414	13,766	--	--	--	--	--	--	--	--	276,980
ALL GROWING STOCK	121,800	141,414	108,144	63,531	50,967	19,683	16,571	7,034	--	1,360	--	530,505
ROUGH TREES:												
SAWTIMBER	--	--	2,076	463	--	1,165	--	--	--	--	--	3,705
POLETIMBER	5,746	7,656	358	--	--	--	--	--	--	--	--	13,760
TOTAL	5,746	7,656	2,435	463	--	1,165	--	--	--	--	--	17,465
ROTTEN TREES:												
SAWTIMBER	--	--	--	494	151	30	--	--	--	--	--	675
POLETIMBER	1,090	731	419	--	--	--	--	--	--	--	--	2,240
TOTAL	1,090	731	419	494	151	30	--	--	--	--	--	2,915
SALVABLE DEAD TREES:												
SAWTIMBER	--	--	9,733	5,373	2,361	2,062	--	--	--	--	--	19,529
POLETIMBER	9,154	8,542	--	--	--	--	--	--	--	--	--	17,695
TOTAL	9,154	8,542	9,733	5,373	2,361	2,062	--	--	--	--	--	37,224
ALL CLASSES	137,790	158,343	120,731	69,861	53,479	22,940	16,571	7,034	--	1,360	--	588,109

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 30--NET VOLUME OF TIMBER ON TIMBERLAND BY TIMBER CLASS AND SPECIES. ALL BLOCKS. PORCUPINE UNIT, ALASKA, 1978

TIMBER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
THOUSAND CUBIC FEET								
SAWTIMBER TREES:								
SAWLOG PORTION	226,303	1,399	227,702	--	4,577	--	4,577	232,279
UPPER STEM PORTION	19,705	280	19,986	--	1,260	--	1,260	21,246
TOTAL	246,008	1,679	247,688	--	5,837	--	5,837	253,525
POLETIMBER TREES	181,058	8,564	189,622	32,681	31,543	23,134	87,358	276,980
ALL GROWING STOCK	427,066	10,243	437,310	32,681	37,380	23,134	93,195	530,505
ROUGH TREES:								
SAWTIMBER	3,241	--	3,241	109	354	--	463	3,705
POLETIMBER	8,133	--	8,133	--	2,681	2,945	5,627	13,760
TOTAL	11,374	--	11,374	109	3,035	2,945	6,090	17,465
ROTTER TREES:								
SAWTIMBER	--	--	--	--	675	--	675	675
POLETIMBER	--	--	--	485	730	1,025	2,240	2,240
TOTAL	--	--	--	485	1,405	1,025	2,915	2,915
SALVABLE DEAD TREES:								
SAWTIMBER	19,529	--	19,529	--	--	--	--	19,529
POLETIMBER	14,750	2,104	16,854	--	777	64	841	17,695
TOTAL	34,279	2,104	36,383	--	777	64	841	37,224
ALL CLASSES	472,719	12,347	485,067	33,275	42,597	27,168	103,041	588,109

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 31--NET VOLUME OF GROWING STOCK ON TIMBERLAND BY BASAL AREA CLASS AND SPECIES, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

BASAL AREA CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCEB	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAB	QUAKING ASPEN	TOTAL HARDWOODS	
SQUARE FEET PER ACRE	THOUSAND CUBIC FEET							
1-19	16,377	--	16,377	3,069	3,218	4,217	10,504	26,881
20-39	74,408	440	74,840	1,466	--	5,534	7,000	81,848
40-59	68,973	--	68,973	1,585	8,027	10,418	20,030	89,003
60-79	63,958	--	63,958	4,419	822	2,965	8,206	72,164
80-99	98,518	9,803	108,321	22,142	2,178	--	24,320	132,641
100-119	14,419	--	14,419	--	2,061	--	2,061	16,479
120-139	--	--	--	--	17,817	--	17,817	17,817
140-159	--	--	--	--	--	--	--	--
160-179	27,664	--	27,664	--	--	--	--	27,664
180-199	--	--	--	--	--	--	--	--
200 MID OVER	62,749	--	62,749	--	3,258	--	3,258	66,007
ALL CUSSES	427,066	10,243	437,310	32,681	37,381	23,134	93,196	530,505

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 32--NET VOLUME OF SAWTIMBER ON TIMBERLAND BY BASAL AREA CLASS AND SPECIES, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

BASAL AREA CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
SQUARE FEET PER ACRE								
THOUSAND BOARD FEET INTERNATIONAL 1/4-INCH RULE								
1-19	38,828	--	38,828	--	1,030	--	1,030	39,858
20-39	203,074	--	203,074	--	--	--	--	203,074
40-59	161,216	--	161,216	--	7,311	--	7,311	168,527
60-79	156,702	--	156,702	--	--	--	--	156,702
80-99	305,631	8,944	314,575	--	1,767	--	1,767	316,342
100-119	76,124	--	76,124	--	4,727	--	4,727	80,851
120-139	--	--	--	--	6,876	--	6,876	6,876
140-159	--	--	--	--	--	--	--	--
160-179	102,324	--	102,324	--	--	--	--	102,324
180-199	--	--	--	--	--	--	--	--
200 AND OVER	339,344	--	339,344	--	--	--	--	339,344
ALL CLASSES	1,383,243	8,944	1,392,187	--	21,711	--	21,711	1,413,898

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 33—NET ANNUAL GROWTH OF GROWING STOCK ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT	THOUSAND CUBIC FEET							
5.0-6.9	251	--	251	51	1/-76	-40	-65	186
7.0-8.9	-822	7	-815	1	18	-46	-27	-842
9.0-10.9	-1,361	3	-1,358	3	32	3	38	-1,320
11.0-12.9	-982	--	-982	--	4	--	4	-978
13.0-14.9	-417	--	-417	--	--	--	--	-417
15.0-16.9	-78	--	-78	--	--	--	--	-75
17.0-18.9	17	--	17	--	--	--	--	17
19.0-20.9	11	--	11	--	--	--	--	11
21.0-22.9	--	--	--	--	--	--	--	--
23.0-24.9	3	--	3	--	--	--	--	3
25.0 AND LARGER	--	--	--	--	--	--	--	--
ALL CLASSES	-3,375	10	-3,365	55	-22	-83	-50	-3,415

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 34—NET ANNUAL GROWTH OF SAWTIMBER ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS			HARDWOODS				ALL SPECIES
	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
INCHES AT BREAST HEIGHT								
THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE								
9.0-10.9	1/-7,338	19	-7,319	--	--	--	--	-7,319
11.0-12.9	-5,383	--	-5,383	--	27	--	27	-5,356
13.0-14.9	-2,272	--	-2,272	--	--	--	--	-2,272
15.0-16.9	-437	--	-437	--	--	--	--	-437
17.0-18.9	107	--	107	--	--	--	--	107
19.0-20.9	72	--	72	--	--	--	--	72
21.0-22.9	--	--	--	--	--	--	--	--
23.0-24.9	23	--	23	--	--	--	--	23
25.0 AND LARGER	--	--	--	--	--	--	--	--
ALL CLASSES	-15,128	19	-15,209	--	27	--	27	-15,182

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 35--ANNUAL MORTALITY OF GROWING STOCK ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, ALL BLOCKS, PORCUPINE WIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS		HARDWOODS			TOTAL ALL SPECIES
	UHITE SPRUCE	TOTAL SOFTWOODS	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
INCHES AT BRBAST HEIGHT	THOUSAND CUBIC FEET					
5.0-6.9	1, 358	1, 358	92	88	180	1, 538
7.0-8.9	1, 058	1, 058	12	62	74	1, 133
9.0-10.9	1, 526	1, 526	--	--	--	1, 526
11.0-12.9	1, 075	1, 075	--	--	--	1, 075
13.0-14.9	472	472	--	--	--	472
15.0-16.9	97	97	--	--	--	97
17.0 AND LARGER	--	--	--	--	--	--
ALL CLASSES	5, 586	5, 586	104	150	254	5, 841

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 36--ANNUAL MORTALITY OF SAWTIMBER ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, ALL BLOCKS, PORCUPINE WIT, ALASKA, 1978

DIAMETER CLASS	SOFTWOODS		HARDWOODS			TOTAL ALL SPECIES
	WHITE SPRUCE	TOTAL SOFTWOODS	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	
<i>INCHES AT BRBAST HEIGHT</i>						
<i>THOUSAND BOARD FEET, INTERNATIONAL 1/4-INCH RULE</i>						
9.0-10.9	8,333	8,333	--	--	--	8,333
11.0-12.9	5,952	5,952	--	--	--	5,952
13.0-14.9	2,629	2,629	--	--	--	2,629
15.0-16.9	577	577	--	--	--	577
17.0 AND LARGER	--	--	--	--	--	--
ALL CLASSES	17,491	17,491	--	--	--	17,491

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

TABLE 37--TOTAL GREEN WEIGHT OF ABOVEGROUND TREE BIOMASS ^{1/} ON TIMBERLAND BY DIAMETER CLASS AND SPECIES, ALL BLOCKS, PORCUPINE UNIT, ALASKA, 1978

	SOFTWOODS			HARDWOODS				
DIAMETER CLASS	WHITE SPRUCE	BLACK SPRUCE	TOTAL SOFTWOODS	PAPER BIRCH	BALSAM POPLAR	QUAKING ASPEN	TOTAL HARDWOODS	ALL SPECIES
DIAMETER AT BREAST HEIGHT	THOUSAND GREEN TONS							
1.0-2.9	2,162.7	383.3	2,546.0	237.2	304.2	2,064.0	2,606.2	5,152.2
3.0-4.9	1,881.3	199.4	2,080.7	403.3	430.2	1,473.3		4,387.5
5.0-6.9	2,496.9	11.0	2,507.9	731.6	391.4	611.0	1,734.0	4,242.0
7.0-8.9	2,246.6	93.3	2,339.9	185.4	464.4	327.3	977.1	3,317.0
9.0-10.9	1,829.6	25.4	1,855.0	2.7	270.5	96.0	369.2	2,224.2
11.0-12.9	1,076.0	--	1,076.0	46.4	120.3	--	166.7	1,242.6
13.0-14.9	828.5	--	828.5	--	87.3	--	87.3	915.8
15.0-16.9	334.7	--	334.7	--	15.3	--	u . 3	350.0
17.0-18.9	236.5	--	236.5	--	--	--	--	236.5
19.0-20.9	91.8	--	91.8	--	u . 2	--	13.2	105.0
21.0-22.9	--	--	--	--	--	--	--	--
23.0-24.9	28.0	--	28.0	--	--	--	--	28.0
25.0-AND LARGER	--	--	--	--	--	--	--	--
ALL CLASSES	13,212.6	712.4	13,925.0	1,606.6	2,096.8	4,572.4	0,275.8	22,200.8

Estimates are subject to sampling error.

Totals may be off because of rounding.

-- = no data were collected.

^{1/} Bole, top, twigs, and leaves.

Metric Equivalents

1 inch = 2.54 centimeters
1 foot = 0.3048 meter
1 mile = 1.609 kilometers
1 acre = 0.4047 hectare
1 cubic foot = 0.0283 cubic meter
1 cubic foot per acre = 0.069 97 cubic meter per hectare
20 cubic feet per acre = 1.3994 cubic meters per hectare
1 square foot of basal area per acre = 0.2296 square meter per hectare
1°F = (9/5 °C) + 32

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A timber resource inventory of the Porcupine inventory unit, Alaska, was conducted in 1977 and 1978. Statistics on forest area, timber volumes, and annual growth and mortality from this inventory are presented. Timberland area is estimated at 1,453 thousand acres, and net growing stock volume, mostly softwood, is 530,505 thousand cubic feet. Net annual growth of growing stock is estimated at -3,415 thousand cubic feet and annual mortality at 5,841 thousand cubic feet.

Keywords: Forest surveys, timber resources, statistics (forest), Alaska (interior), interior Alaska.

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