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Forest Resources of Southeast Alaska, 2000: Results of a Single-Phase Systematic Sample

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Abstract

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A baseline assessment of forest resources in southeast Alaska was made by using a single-phase, unstratified, systematic-grid sample, with ground plots established at each grid intersection. Ratio-of-means estimators were used to develop population estimates. Forests cover an estimated 48 percent of the 22.9-million-acre southeast Alaska inventory unit. Dominant forest types are the western hemlock-Sitka spruce, mixed conifer, and western hemlock types. The timberland portion of productive forest land for all owners is estimated to be 4.1 million acres. Net volume on timberland was estimated at 21,040 million cubic feet. Estimated gross growth of timberland forests exceeded estimated mortality by 55.8 million cubic feet. Field data collection was conducted from 1995 to 2000, and data compilation progressed through 2002.

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

Summary

The southeast Alaska panhandle, 22.9 million acres, stretches from Yakutat Bay at the northern end to Dixon Entrance at the southern end. It is a large and physiographically complex region—the result of collision of several crustal plates with the North American continent. Terrain that is generally mountainous, in concert with a maritime climate, contributes dramatically to the diverse character of the forest resource. Wind and precipitation patterns, influenced by the terrain, have substantial impact on forest composition, structure, and distribution.

A baseline assessment of forest resources in southeast Alaska was made by using a single-phase, unstratified, systematic-grid sample, with ground plots established at each grid intersection. Each plot consisted of a cluster of four subplots. At each subplot, tree, seedling, vegetation structure, and down wood measurements were made.

Forest cover of the 22.9-million-acre southeast Alaska inventory unit is estimated to be about 11.0 million acres. Dominant forest types are the western hemlock-Sitka spruce (3.3 million acres), mixed conifer (2.4 million acres), and western hemlock types (1.8 million acres.) (See “Names of Trees” for scientific names.) Estimates of the timberland portion (not withdrawn from timber use) of productive forest land and net volume on timberland are 4.1 million acres and 21,040 million cubic feet respectively. The average timberland acre supports about 5,100 cubic feet of net volume. Estimated gross growth of timberland forests exceeded mortality by 55.8 million cubic feet. Field data collection was conducted from 1995 to 2000, and data compilation progressed through 2002.

Contents

Highlights

Land cover

	Thousand acres	*Thousand hectares*
Southeast inventory area:		
Forest land—		
Timberland	4,096	1658
Other forest	6,898	2792
Total forest	10,995	4449
Nonforest land	11,873	4805
Total	22,868	9255
Forest land composition:		
Softwoods—		
Alaska cedar–hemlock	403	163
Lodgepole pine	361	146
Mixed conifer	2,352	952
Mountain hemlock	1,533	620
Sitka spruce	407	165
Western hemlock	1,835	743
Western hemlock–Sitka spruce	3,312	1340
Western redcedar–hemlock	673	272
Total softwoods	10,877	4402
Hardwoods—		
Mixed hardwoods	12	5
Paper birch	6	2
Poplar	38	15
Poplar–birch	12	5
Poplar–spruce	17	7
Red alder	34	14
Total hardwoods	118	48

Volumes on timberland

	Growing stock		**Sawtimber**	
	Thousand cubic feet	*Thousand cubic meters*	*Thousand board feet*[1]	*Thousand cubic meters*
Net volume	21,040,019	595 787	105,653,348	566 408
Gross annual growth	174,101	4930	763,687	3810
Annual mortality	118,328	3350	482,361	3054

[1] International ¼-inch rule.

Introduction

Forest Inventory and Analysis (FIA) is a nationwide project of the USDA Forest Service. Under the McSweeney-McNary Act of 1928, and further authorized by the National Forest Management Act of 1976 and the Forest and Rangeland Renewable Resources Research Act of 1978, the Secretary of Agriculture was directed to collect, analyze, and report information about renewable resources on the Nation's forest, range, and related lands. More recent legislation, the Agriculture Research, Extension, and Education Reform Act of 1998, broadened the scope of resource measurements and began conversion from a periodic inventory to a continuous inventory conducted in all states simultaneously.

Work units located at Forest Service research stations conduct forest resource inventories throughout the United States. The FIA program of the Pacific Northwest Research Station (PNW), headquartered in Portland, Oregon, is responsible for inventories in the Pacific Trust Islands and the states of Alaska, California, Hawaii, Oregon, and Washington. Objectives of these inventories include provision of renewable resource data and information to enhance understanding and management of the forest resource.

Strategic Scale, Spatial Nature

Financial, logistic, and temporal constraints preclude conducting an inventory that simultaneously satisfies the needs of strategic and project-level planners. Data that can be used to address large-area planning needs must be available within reasonable timeframes and to a level of estimation precision amenable to informed decision-making. These considerations guide FIA inventory design and implementation.

The inventory design relies on a systematic grid of plots. This unbiased sample distribution facilitates description of spatial characteristics of the resource. When combined with geographic information systems (GIS) data, description of additional resource characteristics such as patchiness, plant community context, and complexity is possible. Also, with spatially located ground-truth data, predictive analyses in concert with GIS data can better describe areas not sampled on the ground.

Climatologic and Physiographic Influences on Vegetation

The physiographic regions of southeast Alaska are complex, resulting from the collision of several crustal plates with the North American continent. Although the islands look similar, most do not share a common origin. The climate is maritime with cool summers, moderate winters, high humidity, high precipitation, considerable cloudiness, little freezing weather, and an average temperature of 40 °F (fig. 1).

Although temperature is moderated by the ocean influence, precipitation and temperature gradients do occur. Cool Pacific air masses release moisture as they are lifted over mainland mountains. Precipitation generally increases with elevation on the windward side of mountains. Areas on the leeward side generally have considerably less precipitation. Temperature extremes increase with distance from coastline and with elevation. Some mainland valleys are influenced by cold air washing down from glaciers and ice fields, in some cases lowering local temperatures by several degrees during the growing season (fig. 2). All these differences affect plant distribution and growth and account for much of the heterogeneity of plant communities in this area (Selkregg 1976.)

Climate and physiography of the region affect development of soils and plant communities. The area has undergone repeated glaciations, the most recent advance being about 10,000 years ago. Glaciers sculpted the land and removed soils down to bedrock. As they retreated, they deposited glacial till and flooded much of the recently

Figure 1—The mouth of Glacier Bay, Alaska. Copyright © 1999, Pete Hanson, http://www.well.com/ user/wolfy.

Figure 2—Looking toward Skagway, Alaska. Copyright © 1999, Pete Hanson, http://www.well.com/ user/wolfy.

exposed land near sea level. Poorly drained soils, derived from compacted glacial till, cover much of the gently sloping land below 1,500 feet. Other soils, formed on soft limestone, are better drained. Islands and benches adjacent to the Stikine River benefit from the deposition of silt from interior winds blowing down the river during winter when sandbars and mudflats are exposed. The loess soils that have been deposited owe their high pH and lack of a deep organic layer to the yearly deposition of this wind-deposited silt. In other areas, high precipitation and cool temperatures have slowed decomposition of organic matter, increasing soil acidity. These sites are covered with a thick duff layer, high in organic matter and constantly moist. Such conditions severely limit the amount of nutrients available to plants, effectively lowering site productivity (Nowacki and others 2001, Selkregg 1976.)

Wind is another major influence on vegetation patterns in this region. Wind acts in concert with root rot and mistletoe to weaken tree stems. As it uproots trees or breaks tree stems, wind can create forest gaps (Nowacki and Kramer 1998, Wittwer 2000.) If larger areas are affected, it may create stands of even-aged forests or two-aged forests where only part of the stand is destroyed. Wind disturbance usually occurs during fall and winter cyclonic storms that typically move along the North Pacific from west to east. Powerful southeast winds occur along the leading edge of these storms as the winds rotate in a counterclockwise direction. These winds are often funneled up straits, and wind velocities are increased. Consequently, ridges with southeast exposure are more likely to experience catastrophic windthrow. Local areas also are influenced considerably by winds funneling down drainages from the coastal mountains. Where such winds are of sufficient intensity, frequency, and coldness, they create exposed landscapes devoid of trees.

Forests extend from sea level to about 2,600 feet. Stands with greatest tree volume are generally near tidewater, with stand heights and wood quality diminishing with increasing elevation (Harris and Farr 1974). Interspersed among the forest stands are muskeg plant communities growing on deep organic soils and dominated by plants such as mosses, sedges, rushes, and ericaceous shrubs that tolerate saturated soils. Between the forests and muskegs, open forests grow on wet organic soils. These open stands of mixed conifers generally have grown slowly and are of poorer form than other forest types occurring in the area. They have a dense shrub layer with many species, thereby making them important food and cover areas for wildlife (Selkregg 1976). The other major group of plant communities is the alpine type that occurs above timberline (about 2,600 feet). Heath shrubs, grasses, and low-growing forbs such as deer-cabbage (*Fauria crista-galli* (Menzies) Makino) dominate these types. Trees are occasional, stunted, and shrublike owing to short, cool summers, extended snowpack, and strong winds. The southeast Alaska landscape is a mix of old growth, wind-disturbed even- and uneven-aged forests, open forest, muskegs, alpine, and grass flats. A generalized overview of forest and nonforest land cover distribution is shown in figure 3.

Methods

Survey Design

The inventory of forest resources in southeast coastal Alaska used a single-phase, unstratified systematic-grid sample with grid spacing of 3 miles. Ground plots were established at each grid intersection. Sampling intensity was chosen to meet sampling error guidelines of ±3 percent per million acres for productive forest area and ±10 percent per billion cubic feet for net volume. Productive forest land is capable of producing at least 20 cubic feet per acre per year of merchantable wood.

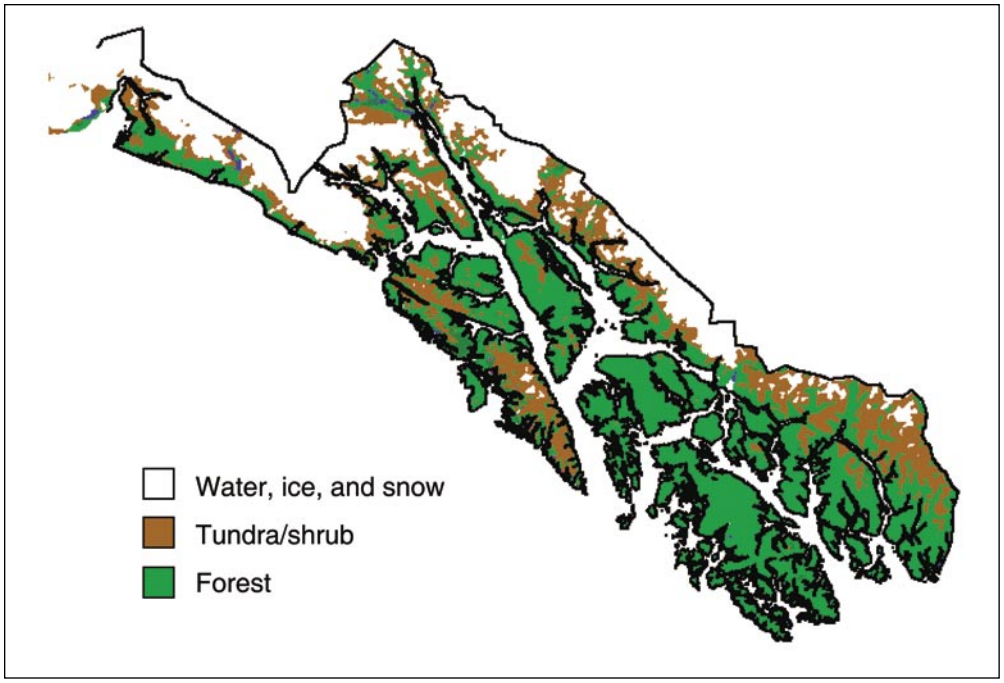

Figure 3—General land cover, southeast Alaska; derived from the statewide vegetation/land cover map of Alaska (Fleming 1998).

Several pieces of information were required to derive the desired sampling intensity. Landsat imagery, classified to show broad land cover, was used to estimate forest land area. Sample variances and the proportion of productive forest area within the forested area were provided by previous stratified samples (LaBau and van Hees 1983; van Hees 1984; van Hees and LaBau 1983a, 1983b, 1983c, 1984.) By using these pieces of information, grid spacing was chosen so the estimated number of productive forest-land plots at least equaled that of the number of productive forest-land plots in previous inventories. The inventory unit is shown in figure 4.

Land cover was visually interpreted for each plot by using high-resolution orthophotoquads and high-resolution satellite imagery. Plots that were barren or covered with ice and snow were not visited on the ground. All vegetated plots were ground visited and subsampled by using a cluster of four, 24-foot fixed-radius subplots. From the first centrally located subplot, three other subplots were located 120 feet north, southeast, and southwest, respectively. Each subplot was mapped for land cover (fig. 5). Field plot design is detailed in Scott and Bechtold (1995.)

Trees, if present, were sampled at each of the four subplots. Seedlings and saplings also were sampled, but with a 6.8-foot fixed-radius microplot at each subplot. A horizontal-vertical characterization (HV plot) of vegetation structure was made at the first point in each vegetation type. The HV plot had an 18.5-foot radius. Downed wood was sampled on three intersecting 37-foot transects centered at each HV plot. Data collection procedures are described in USDA Forest Service (1995–2000.)

In all, 3,946 plots were located within southeast Alaska. Of these plots, 862 had some productive forest on them. About half (1,984) of the locations had some forested land cover whether productive, nonproductive, or inaccessible forest.

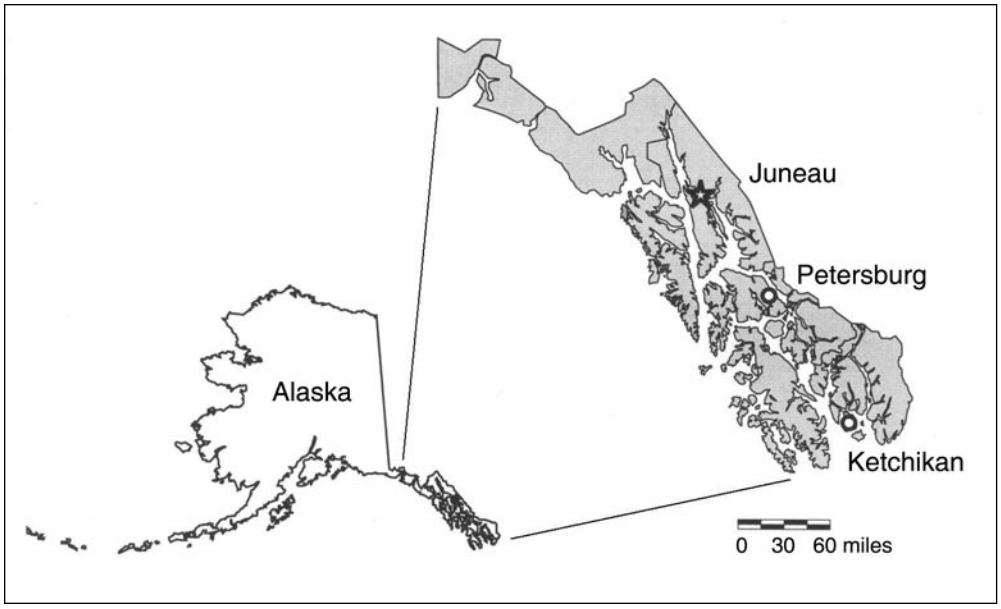

Figure 4—Southeast Alaska inventory unit, 2000.

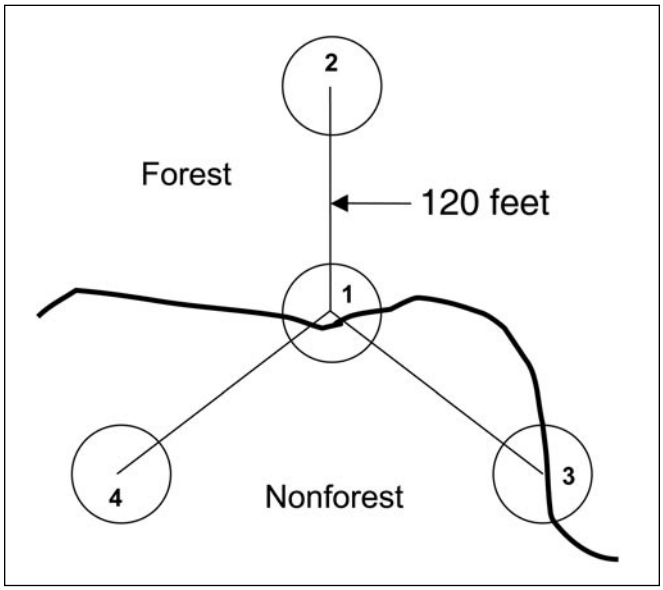

Figure 5—Example of field plot layout with two different land covers.

The sample selection and field plot design differ from those used in previous inventories. Unstratified, systematic selection of plots, number of subplots per plot, fixed-radius versus variable-radius ground sampling of trees, and mapping of ground plots are the major differences. Because of these differences, estimates from this sample are considered baseline estimates for future annual remeasurement of a subsample of the plots.

Data Compilation

Estimation of forest resource attributes, such as area and volume, was based on ratio-of-means estimators as recommended by Zarnoch and Bechtold (2000.) The ratio-of-means estimator is defined as:

$$\hat{R} = \frac{\sum_{i=1}^{n} y_i}{\sum_{i=1}^{n} x_i} \times CA = \frac{\bar{y}}{\bar{x}} \times CA \quad (1)$$

where

y_i = the variable of interest on plot i,

x_i = an auxiliary variable (such as area) on plot i that is correlated with y_i ,

n = number of plots selected from the population, and

CA = survey (control) area.

Estimation of forest resource attributes such as area of productive forest land and volumes of timber on that land, and sorting of those estimates by descriptors such as forest type require procedures for characterization of site productivity, definitions of forest type, and modeling of tree volume and components of change (growth and mortality).

Site Productivity

Determination of forest-land productivity requires estimation of site index. Three trees of the primary species making up the stand were selected for estimation of site index in each forest condition on a plot. Suitable site trees were 5.0 inches in diameter at breast height (d.b.h.) or larger, generally vigorous and healthy, dominant or codominant throughout their lives, and more than 40 years old but less than 250 years old. Age and height were recorded for each site tree used to estimate site index.

Low-productivity sites, such as those in lodgepole pine or mixed conifer, occasionally did not contain trees meeting the above age and criteria. In such instances, crew members were instructed to select trees that most closely met the requirements.

For Pacific silver fir, subalpine fir, Sitka spruce, western hemlock, and mountain hemlock less than 200 years old, a site index equation was fitted to data from Taylor (1934) by using a model form defined by Payandeh (1974). (See “Names of Trees” for scientific names.) For Pacific silver fir, subalpine fir, Sitka spruce, western hemlock, and mountain hemlock at least 200 years old, site index curves developed by Hegyi and others (1979) were used. Curves developed by Hegyi and others (1979) also were used for Alaska yellow-cedar, lodgepole pine, western redcedar, and red alder, of all ages.

Forest Type

The USDA Forest Service research station inventory crews historically have used the following basic definition of forest type: “…a classification of forest land based upon the species forming a plurality of live-tree stocking” (USDA Forest Service 1967). Few forests are composed of a single species. Consequently, many forest type definitions include stocking of various mixes of tree species.

Until recently, forest types used in Forest Service research inventories were primarily established for the more productive forest components (forest land capable of producing at least 20 cubic feet per acre per year at culmination of mean annual increment). Changing philosophies of land management have highlighted the need to characterize forest conditions not previously a focus of inventory. With these changes came the

Table 1—Models for calculating tree volume

	Poletimber	Sawtimber	
Species	**Cubic-foot volume**	**Cubic-foot volume**	**Board-foot volume**
Alaska cedar	Brackett 1973	Brackett 1973 >38 inches d.b.h. Embry and Haack 1965	USDA 1998a
Lodgepole pine	Brackett 1973	Brackett 1973	Brackett 1973
Mountain hemlock	Embry and Haack 1965	Embry and Haack 1965	USDA 1998a
Pacific silver fir	Embry and Haack 1965	Embry and Haack 1965	USDA 1998a
Sitka spruce	Embry and Haack 1965	USDA 1998a	
Subalpine fir	Embry and Haack 1965	Embry and Haack 1965	USDA 1998a
Western hemlock	Embry and Haack 1965	Embry and Haack 1965	USDA 1998a
Western redcedar	Brackett 1973	Brackett 1973 >56 inches d.b.h. Embry and Haack 1965	USDA 1998a
Hardwoods	Brackett 1973	Brackett 1973	Brackett 1973

need to create new forest type names. When the FIA program of the PNW Research Station began field data collection for this inventory, biologists and ecologists interested in using the data helped name, modify, and define necessary forest types.

Although new forest type definitions were created, the structure within which they were placed had been designed primarily for forest types on productive forest land. During field data collection, crews visually determined forest type. Subsequently, forest type was computed in the office as a check of field determinations. Computed forest type often did not match field-identified forest type (generally fewer than 30 percent matched), particularly in low-productivity stands. Adjustments of definitions were made through field experience and discussion with users. A number of such iterations did not improve the ability of field crews to make appropriate forest type assignments. Review of the data was undertaken to identify more effective means of arriving at appropriate stocking-level definitions.

The nature of data used to create forest type rules (groups of stocking levels by species) indicated cluster analysis would help refine species stocking levels. An application of cluster analysis to the development of forest type definitions was performed and appropriate forest type definitions were developed (van Hees and others 2000). See glossary for specific forest type definitions.

Volume

Various models were used to calculate tree volumes. Table 1 lists citations for volume calculation by species, tree size class, and type of volume. Cubic-foot volumes are for that part of the tree between a 1-foot stump and 4-inch top diameter inside bark (d.i.b.); board-foot volumes are to a 6-inch top d.i.b. See glossary for minimum diameters at breast height.

Change

Estimation of components of tree volume change, such as growth and mortality, is relatively straightforward in remeasurement inventories. Changes in diameter and height are measurable as is information about the health of the tree. However, in an initial inventory such as the one for which results are presented in this report, these observations are unavailable.

In an initial inventory, changes in tree diameter can be estimated by measuring radial increment. For this inventory, field crews measured 10-year radial increment at breast height on the first live, growing-stock tally tree (≥ 5 inches d.b.h.) of each species in each 2-inch d.b.h. class. These measurements were used to develop models expressing radial growth rate as a function of d.b.h., crown length, and crown radius. Similarly, changes in tree height were estimated from models relating tree diameter to tree height (USDA 1998b.)

Estimation of tree mortality relied on estimation of time since death for dead trees on the plot. By using guides to estimate time since death, field crews determined if the tree had died more than 5 years or less than or equal to 5 years before the inventory. Trees that had died within the previous 5 years were used to estimate average annual mortality volumes.

Sampling Error

Estimates presented in this report are based on sampling and are subject to two types of error. The first is sampling error. This type of error can be estimated mathematically. The second type of error arises from measurement mistakes or equipment limitations. The second error cannot be estimated mathematically but is minimized through proper training, supervision, emphasis on careful work, and a program of quality assurance and control. The reliability of the inventory is expressed as relative sampling error at the 68-percent confidence level. Estimates of sampling error are provided in appendix table 29.

Sampling errors were estimated by using a variance estimator associated with the ratio-of-means estimator as defined by (Cochran 1977):

$$V\left(\hat{R}\right) = \frac{1}{n(n-1)\left(\frac{\sum x_i}{n}\right)^2}\left(\sum y_i^2 + \hat{R}^2\sum x_i^2 - 2\hat{R}\sum y_i x_i\right), \quad (2)$$

where $\hat{R}$, y_i, x_i, and n are as defined in equation (1) above.

The timberland estimate, for example, is 4.096 million acres, ± 3.31 percent, with 68 percent confidence limits of 3.965 and 4.232 million acres. That is, if repeated samples were taken of this population, the estimate of timberland area would be between 3.965 and 4.232 million acres 68 percent of the time.

Caution should be exercised when reading and interpreting results and inferences presented below. Sampling errors can increase dramatically as the focus of estimates narrows because sample sizes decrease. The following presentation generally addresses resource quantities of, or occurring on, 50,000 acres or more.

Resource Estimates

Estimates of forest-land attributes presented in this report are not in complete agreement with the sum of estimates presented in earlier reports (van Hees 2001a, 2001b, 2001c) for two reasons: improved ownership information and characteristics of population estimation procedures.

Subsequent to publication of estimates of forest resources on unreserved lands of the Tongass National Forest and prior to compilation of estimates for the entire southeast Alaska panhandle, improved ownership information from the Alaska Department of Natural Resources became available (ADNR 1999). This information resulted in minor changes in field location ownership causing slight differences in ratios of means.

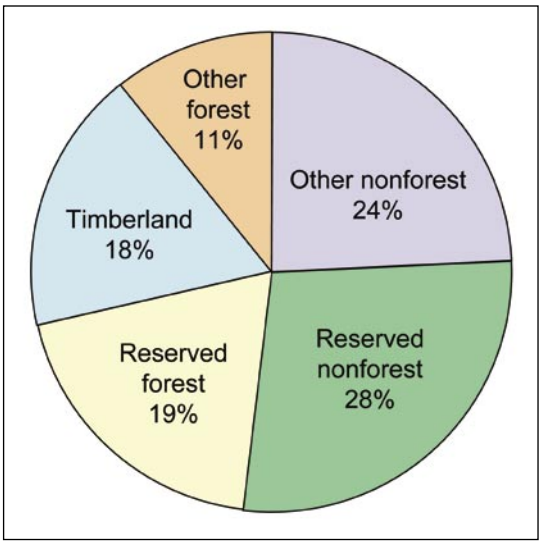

Figure 6—Percentage of area by land class, southeast Alaska, 2000.

The procedure used to make population estimates also causes slight changes in estimates. Reference to equation (1) shows why this occurs. If population estimates are made for subsets of the whole survey area, the ratio of means is computed from the plots within that subset and applied to the control area for that subset. These ratios are not constant from one subset to the next. The ratios of means, and the survey areas to which they are applied, differ from one subset to the next. Summation of these separate ratios of means estimates will not provide the same answer that would result from using a single ratio applied to the larger control area.

Area

The total land and fresh water area of the southeast Alaska inventory area is 22.9 million acres. This area estimate was taken from a boundary map provided by the ADNR (1998). From that total, 10.8 million acres (47 percent) have been withdrawn from consideration for timber production. National parks, national forest wilderness areas, and game refuges are some of the lands removed from the available forest land base. Fifty-three percent, 12.1 million acres, remains unreserved within the area (fig. 6).

Less than half of the southeast area has some type of forest cover on it (about 48 percent or 10.9 million acres). Forty percent of this forest land (4.4 million acres) is reserved. The unreserved forest land base, 6.5 million acres, is about 29 percent of the entire southeast area. Within this unreserved forest land base, about 4.1 million acres (roughly 63 percent of the unreserved forest land and about 18 percent of the total southeast area) are considered timberland (fig. 6).

The USDA Forest Service (USFS) manages 16.9 million acres (74 percent) of land in southeast Alaska (fig. 7). Nearly 40 percent, 6.7 million acres, of this land managed by the USFS is reserved, or withdrawn from consideration for timber management. More than one-half, 57 percent or 3.8 million acres, of this reserved land is forested (fig. 8). Estimates pertaining to the USFS presented here derive from a sample and do not precisely match similar estimates in the Tongass National Forest Plan Revision (USDA 1997a.)

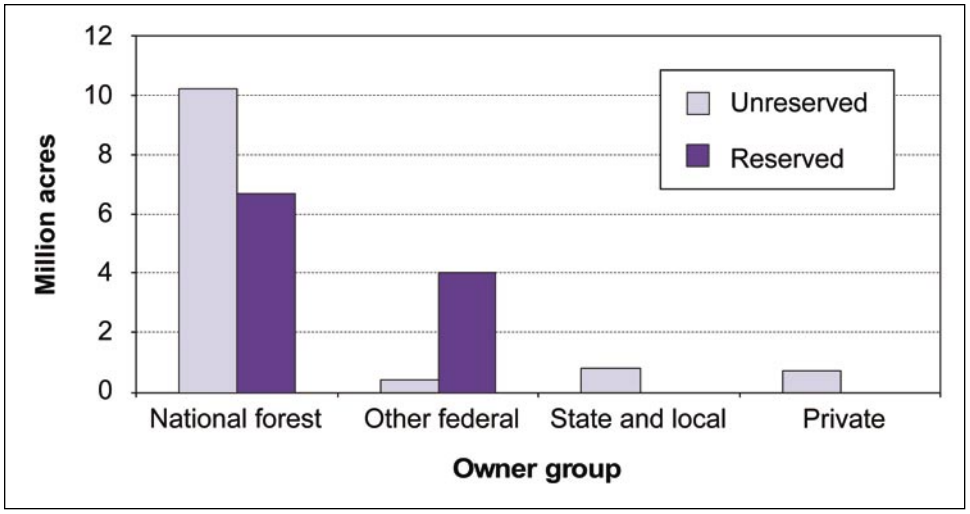

Figure 7—Area of land by owner group and reserved status, southeast Alaska, 2000.

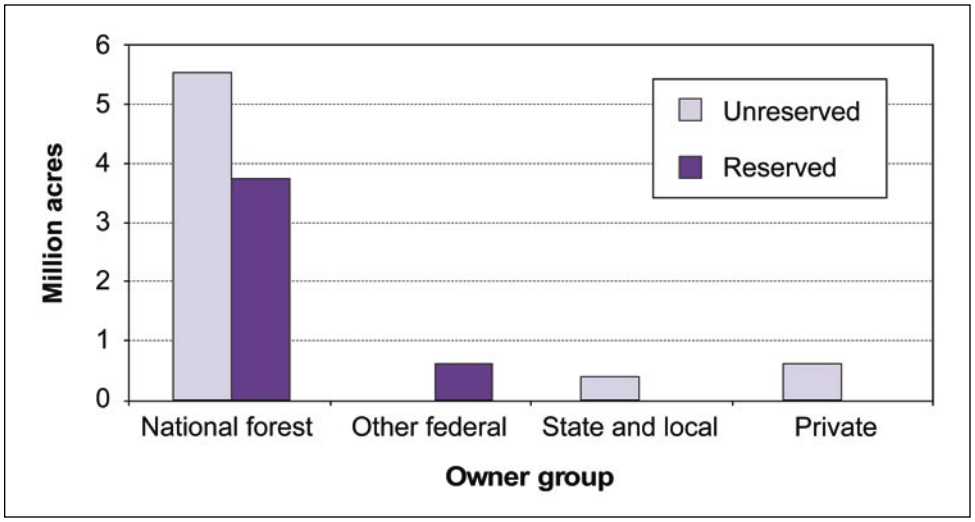

Figure 8—Area of forest land by owner group and reserved status, southeast Alaska, 2000.

Eighty-four percent of timberland, the productive component of forest land available for management, is managed by the USFS (3.42 million acres). Under restrictions imposed by the current land use management plan for the Tongass National Forest, 676,000 acres (20 percent of USFS timberland, 3 percent of the entire southeast inventory area) are considered suitable for timber harvest (USDA 1997b.) The state of Alaska and private owners control about 258,000 and 396,000 acres of timberland, respectively. Other federal agencies and municipalities combined control less than 1 percent of all timberland (app. table 2).

Timberland forest type composition in southeast Alaska is not complex. Approximately 80 percent of the estimated timberland area is forested with four forest types: western hemlock, western redcedar–hemlock, western hemlock–Sitka spruce, and mixed conifer. The dominant forest type is western hemlock (fig. 9). Sitka spruce and mountain

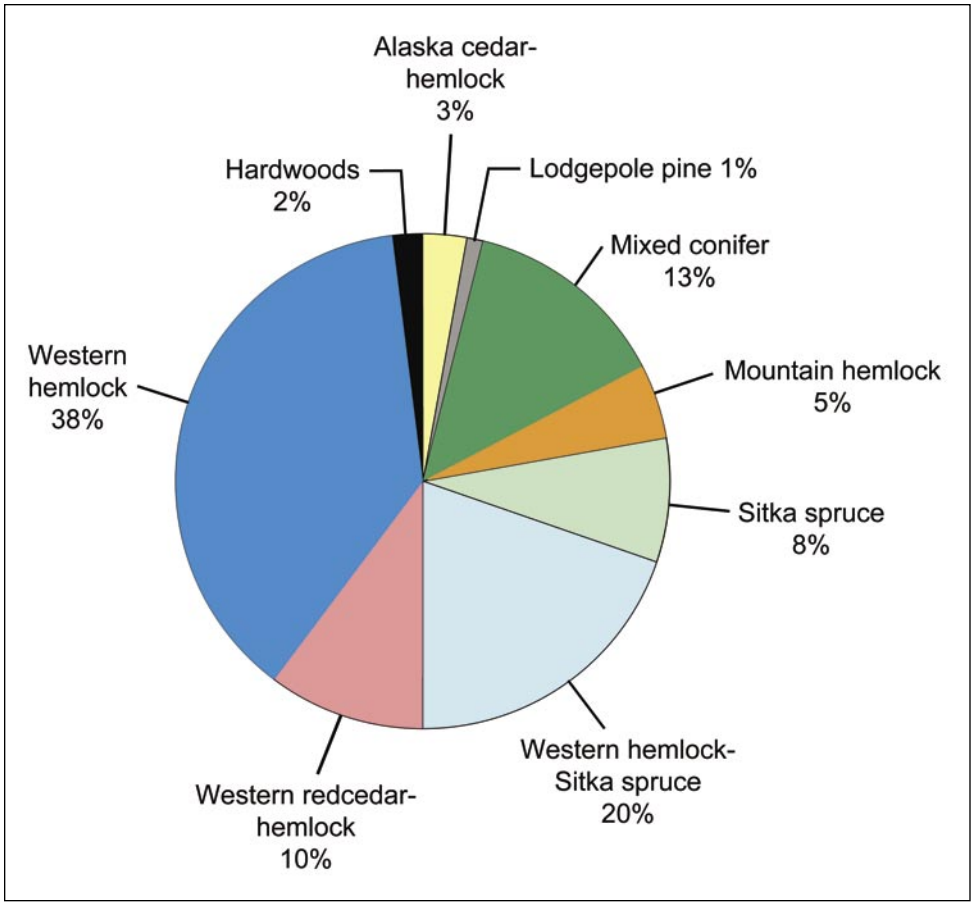

Figure 9—Area of timberland by forest type, southeast Alaska, 2000.

hemlock stands account for less than 10 percent each. The Alaska cedar–hemlock and lodgepole pine forest types are minor components of the timberland base as are all hardwood types combined.

Timberland in southeast Alaska is dominated by old (>150 years) sawtimber stands (fig. 10). About 74 percent of the timberland area is occupied by such stands. Twelve percent is nonstocked or has seedling and sapling stands on it. The remaining 14 percent is in poletimber and young sawtimber stands (app. table 6). The most common component of the timberland base is old sawtimber stands of western hemlock. Twenty-eight percent (1.1 million acres) of all timberland has such stands on it. Old sawtimber stands of the mixed conifer, western hemlock-Sitka spruce, and western redcedar-hemlock forest types compose an additional 35 percent of timberland.

The bulk of timberland within each owner category is composed of sawtimber stands. Within the private owner category, however, the estimated percentage of timberland in seedling/sapling and nonstocked stand size classes is almost five times that in other owner groups (app. table 6). Nonstocked areas likely represent timberland recently cutover or subjected to natural disaster. Seedling/sapling stands are areas less recently affected by such disturbances. Almost 80 percent of USFS timberland has old (>150 years) sawtimber stands on it. Private and state holdings have just over 40 percent of their timberland area occupied by old sawtimber stands.

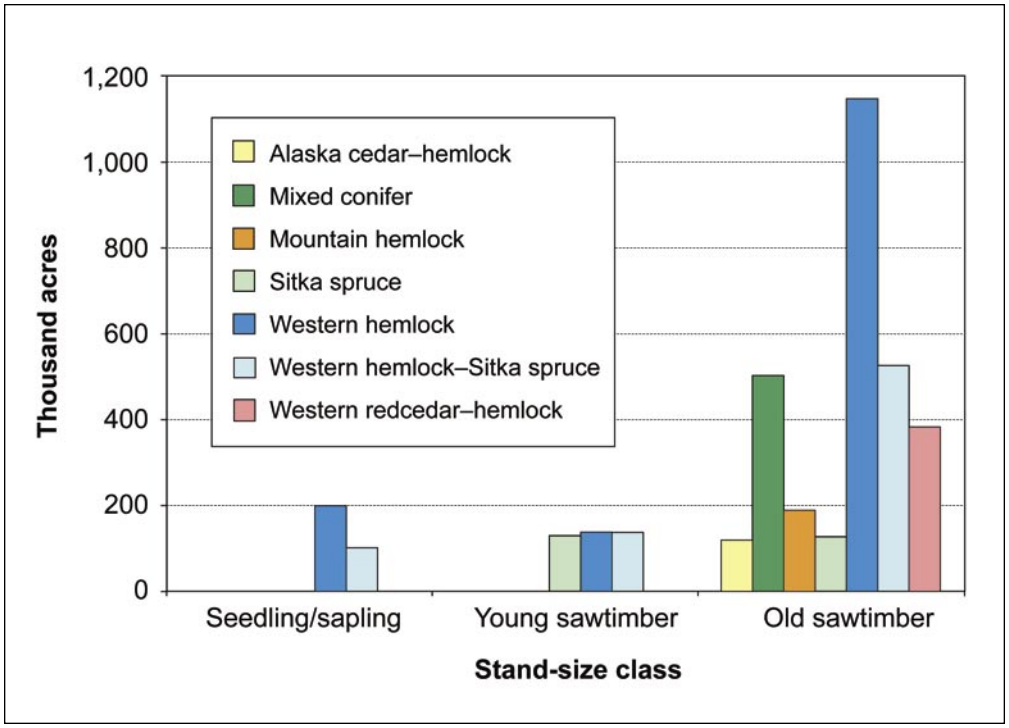

Figure 10—Area of timberland by softwood forest type and stand-size class, southeast Alaska, 2000.

Most timberland in southeast Alaska is only slightly more productive than the minimum needed to qualify as timberland. Nearly 77 percent of all timberland produces less than 85 cubic feet of merchantable wood per acre per year at culmination of mean annual increment (m.a.i.). This productivity class is estimated to make up 77 percent of USFS, 60 percent of state, and 82 percent of private timberland (fig. 11). Timberland under state of Alaska control has a component of noticeably higher productivity. Nearly 40 percent of state-owned timberland produces between 85 and 165 cubic feet per acre per year.

Highly productive timberland (greater than 165 cubic feet per acre per year) is a minor component of southeast Alaska's forests. This inventory estimated 32,000 acres of timberland in this productivity category. All of these acres are under USFS management.

Relative productivity of forest types is noticeable when comparing the area of timberland to the area of unreserved forest land by forest type. Relatively low-productivity forest types such as mixed conifer, mountain hemlock, and lodgepole pine are more prominent in forest land generally (app. table 3) than in timberland specifically (app. table 4). Ratios of timberland to unreserved forest land by forest type are shown in figure 12.

Western hemlock and Sitka spruce forest types are generally more productive than other forest types. Ninety percent or more of unreserved Sitka spruce stands and 80 percent or more of unreserved western hemlock stands are timberland. Western redcedar-hemlock forests also have a major timberland component with over 60 percent of unreserved forest land acres in this type managed by the USFS and private owner groups (fig. 12).

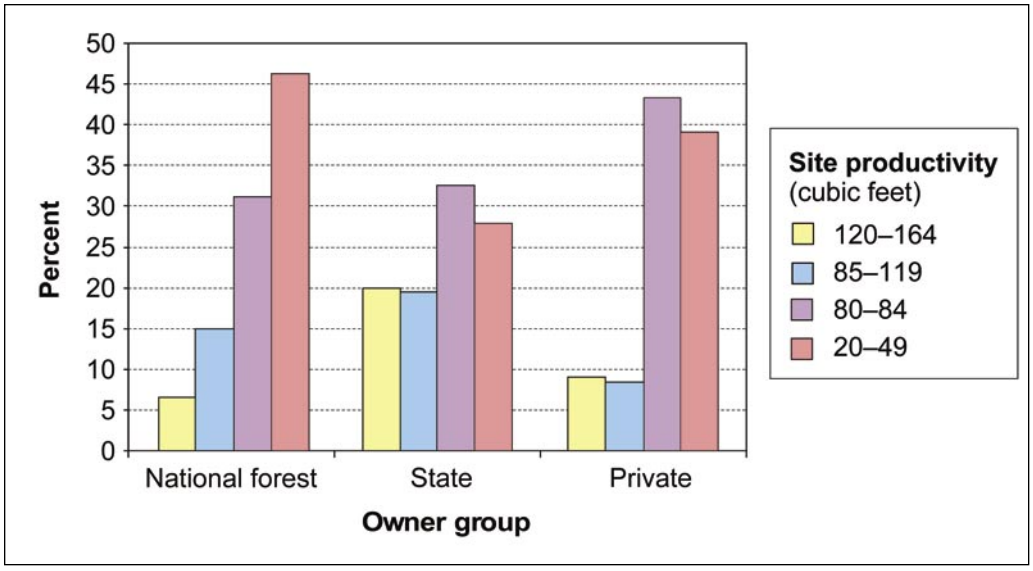

Figure 11—Timberland site productivity class as percentage of owner group, southeast Alaska, 2000.

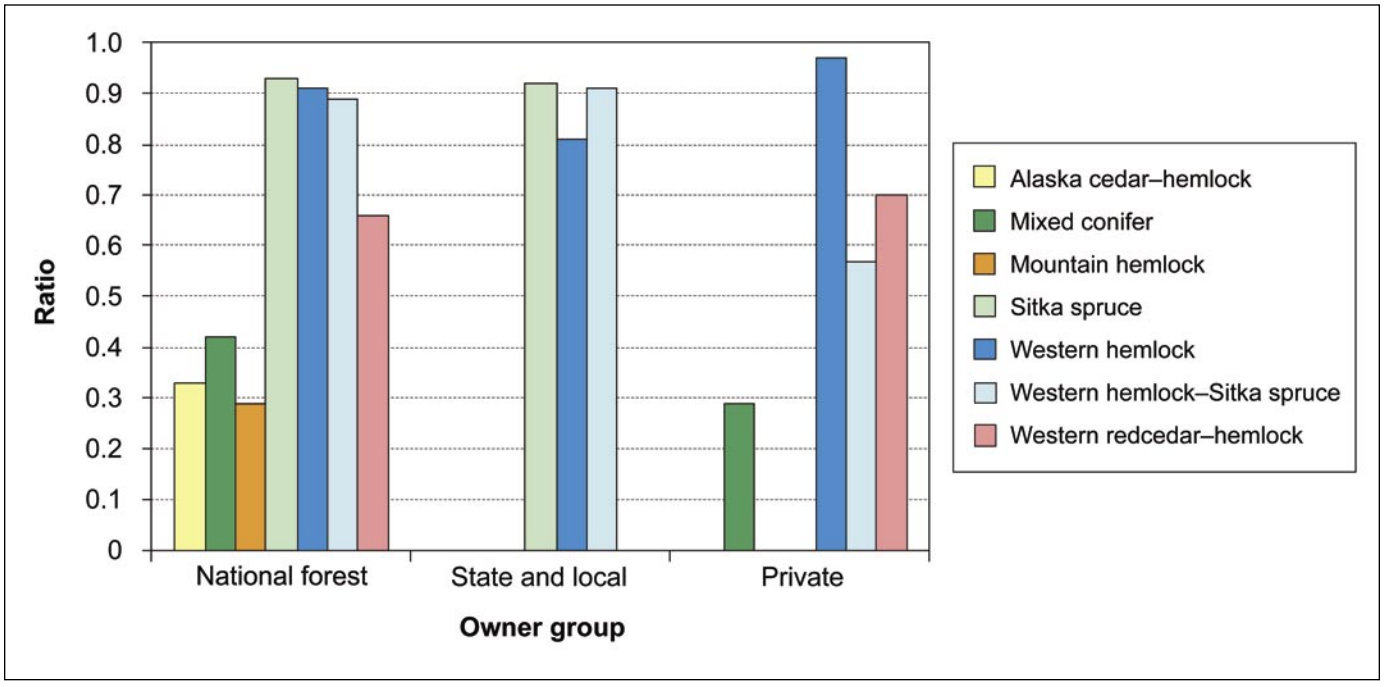

Figure 12—Ratio of timberland to forest land by selected owner groups and softwood forest type, southeast Alaska, 2000.

Number of Trees

Examination of numbers of trees, whether all live, growing stock only, or seedling/sapling, can provide management insights on a regional scale, including product recovery potential and possible future forest composition. Product recovery potential depends, in part, on distribution of tree sizes and on the density of desirable trees (growing stock) relative to total number of trees. Possible forest tree species compositions depend on current regeneration as shown by numbers of seedlings per acre.

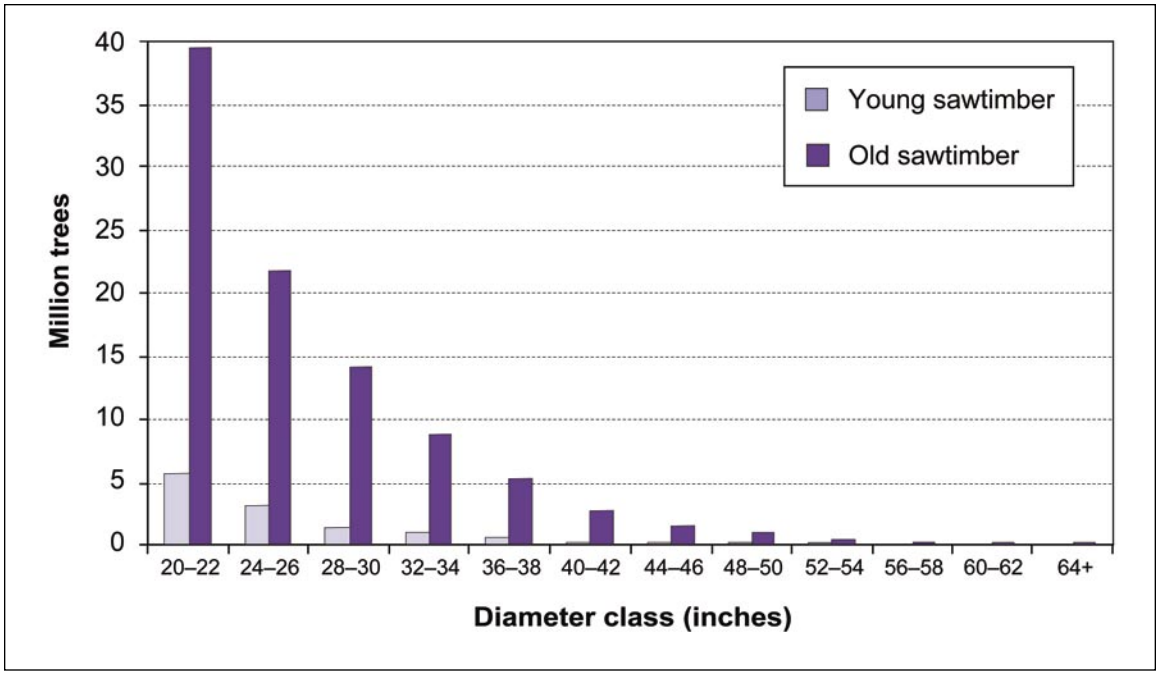

Figure 13—Number of live trees on timberland by diameter class and sawtimber stand-size class, southeast Alaska, 2000.

Forests of sawtimber are subdivided into young and old sawtimber, as noted above. This distinction reflects differences in stand structure. Older sawtimber stands generally have higher maximum diameters than do the younger sawtimber stands (fig. 13). Also, young sawtimber stands often are more evenly aged than old sawtimber stands. Relatively narrow age distributions in young sawtimber result in stands with narrower diameter distributions (fig. 14) than old sawtimber-sized stands (fig. 15). This difference, largely, is a result of aging; as stands mature, some trees die, creating gaps for recruitment of young trees.

Declining tree quality, in terms of merchantable wood volume, is reflected in the difference between numbers of all live trees and numbers of growing-stock trees in stands. As trees age they succumb to increasing numbers of damaging agents. If sufficient wood volume has been affected, the tree is no longer classified as growing stock although it may still be a live tree. In larger diameter classes, this effect is shown in decreasing ratios of growing stock to all live trees (fig. 16). Increasing age is not the only consideration. Some live trees in the smaller diameter classes are also considered cull for a variety of reasons. Resistance to the effects of damaging agents differs among tree species. Noticeable in figure 16 is that Sitka spruce maintains a high ratio throughout the diameter ranges.

Almost all major softwood forest types have a relatively high estimated number of seedlings per acre in at least one of the stand-size categories (fig. 17). The mountain hemlock type shows the lowest estimated seedling productivity. No sampled stand-size class in the mountain hemlock type had more than an estimated 1,500 seedlings per acre. Some categories of forest type and stand-size class do not have estimates for number of seedlings per acre, most likely because of the extensive nature of the inventory. With sample locations spaced 3 miles apart, undersampling of rare or scarce forest components may occur.

Figure 14—Young-growth sawtimber stand near Yakutat, southeast Alaska.

Figure 15—Old-growth sawtimber stand near Juneau, southeast Alaska.

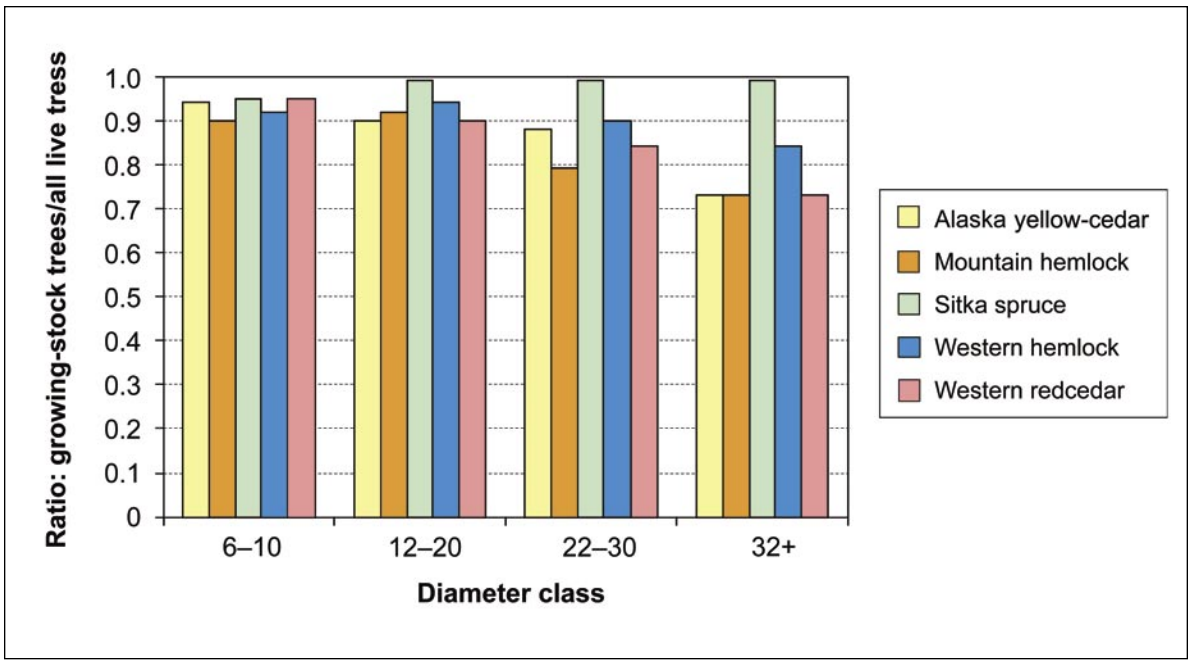

Figure 16—Ratio of growing-stock trees to all live trees on timberland by diameter class for predominant softwood species, southeast Alaska, 2000. (Diameter classes span 2 inches; e.g., 6-in. class = 5 to 6.9 in.)

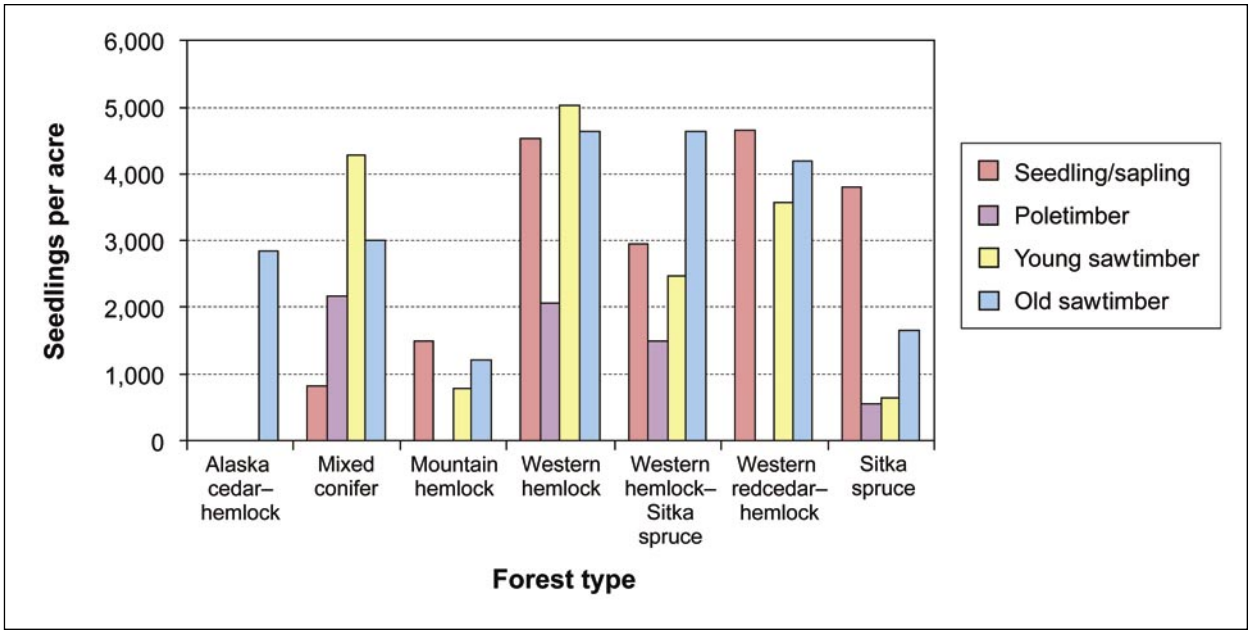

Figure 17 –Seedlings per acre on timberland by softwood forest type and stand-size class, southeast Alaska, 2000.

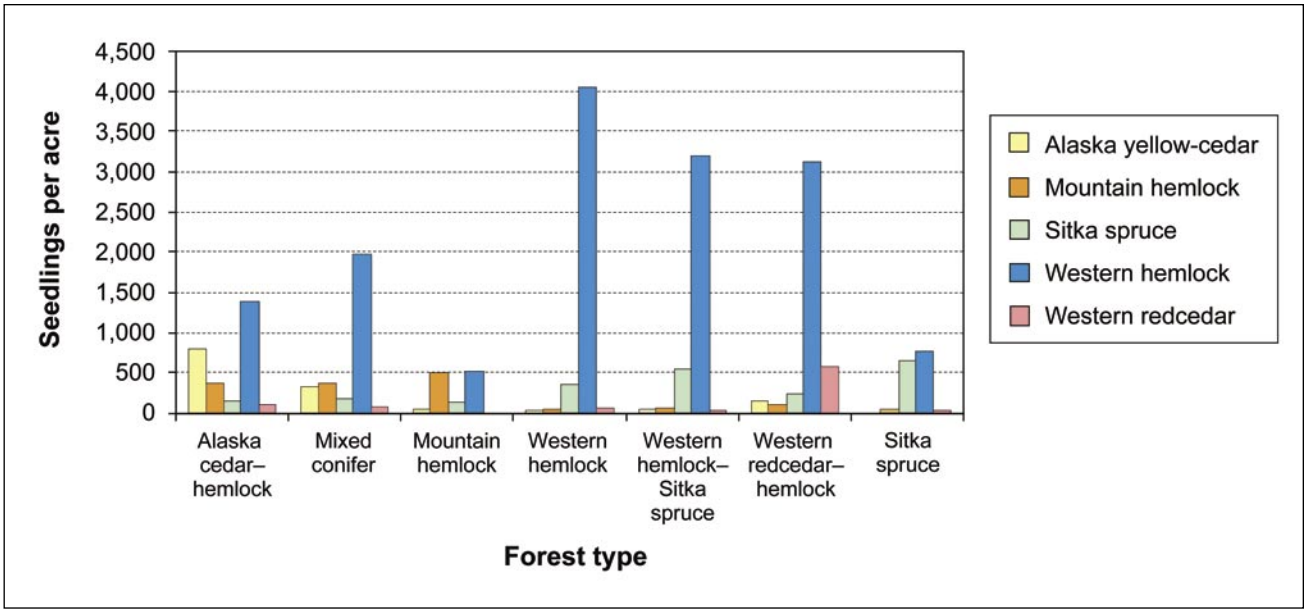

Figure 18—Seedlings per acre on timberland by softwood forest type and species, southeast Alaska, 2000.

Western hemlock shows prolific seeding capacity (fig. 18). Most of the estimated reproduction in all the dominant softwood forest types is western hemlock. Sitka spruce also reproduces readily; it was the second most common seedling sampled in three forest types. In both cedar forest types, the respective cedars are second most common. In the Sitka spruce type, Sitka spruce and western hemlock seedlings are almost equally present. Similarly, in the mountain hemlock type, western hemlock seedlings are as common as mountain hemlock seedlings. These estimates suggest western hemlock readily occupies a variety of sites whereas other species require a narrower set of site characteristics for successful regeneration.

Volume

Net growing-stock volume on timberland is estimated at 21.04 billion cubic feet. About one-half (10.48 billion cubic feet) of this volume is in western hemlock trees (fig. 19). Another 28 percent (5.85 billion cubic feet) is Sitka spruce and 9 percent (1.93 billion cubic feet) is Alaska yellow-cedar; western redcedar (1.21 billion cubic feet) and mountain hemlock (1.35 billion cubic feet) account for about 6 percent each. The remaining volume is in lodgepole pine, Pacific silver fir, mountain hemlock, and various hardwoods.

The USFS manages almost 88 percent (18.41 billion cubic feet) of all net growing-stock volume on timberland. Volumes on state and local lands make up almost 6 percent of the total. Volume on private lands is slightly more than 6 percent of the total (app. table 13).

The bulk, 84 percent (17.68 billion cubic feet) of all net growing-stock volume on timberland is in old sawtimber stands (fig. 20). An additional 3.11 billion cubic feet (15 percent) is in young sawtimber stands. Over one-third (7.23 billion cubic feet) of all net cubic-foot volume on timberland is in old sawtimber stands of western hemlock. Combined with stands of western hemlock–Sitka spruce, the old sawtimber stands of these two forest types account for 11.02 billion cubic feet (52 percent) of total net volume.

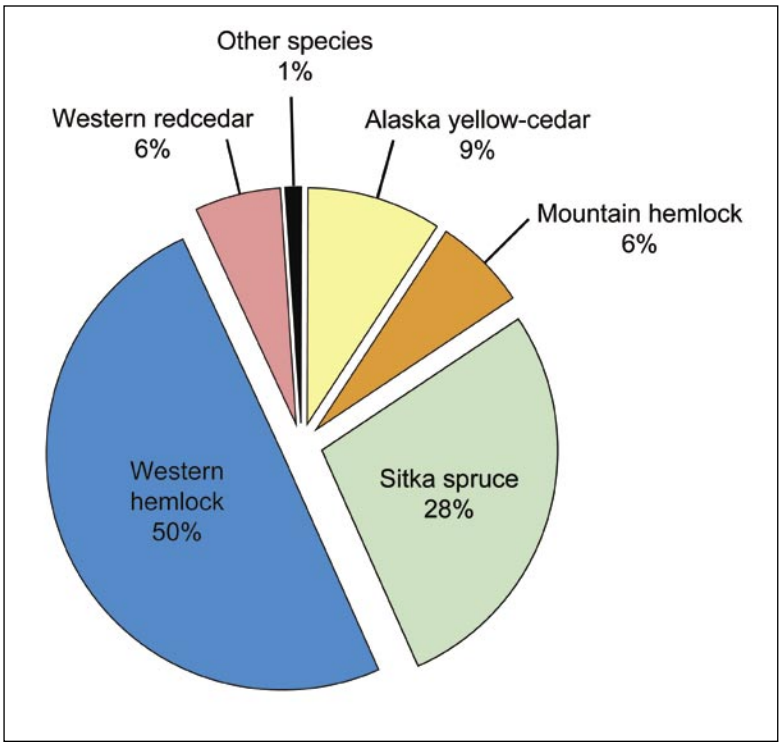

Figure 19—Percentage of growing-stock volume on timberland by softwood species, southeast Alaska, 2000.

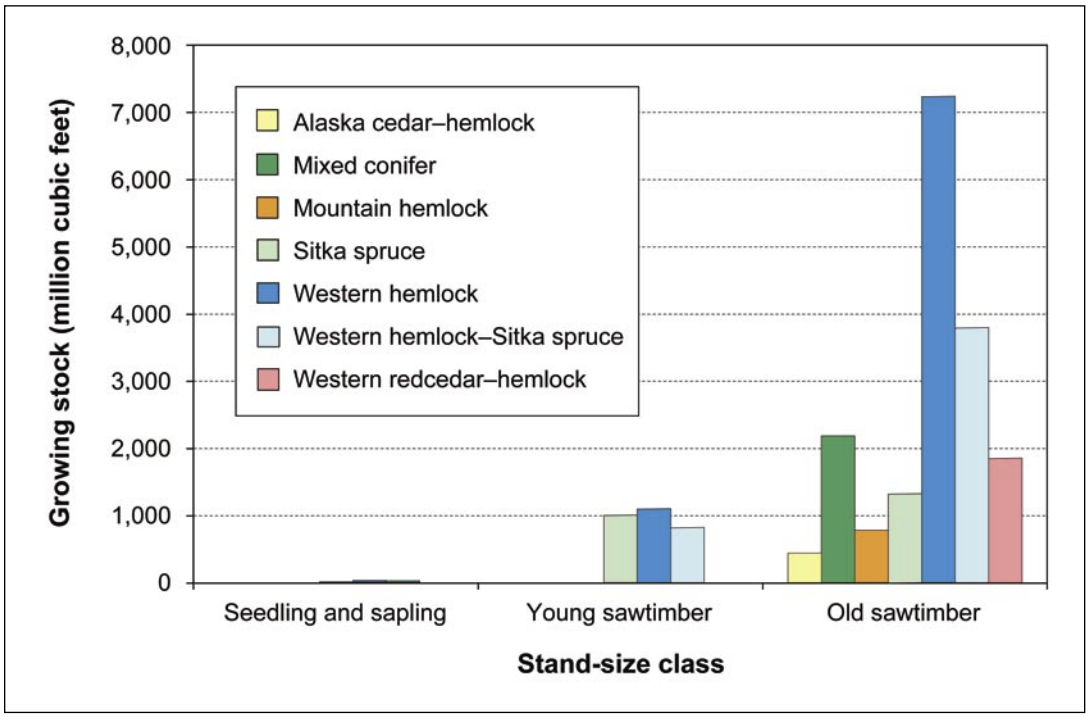

Figure 20—Growing-stock volume on timberland by stand-size class and softwood forest type, southeast Alaska, 2000.

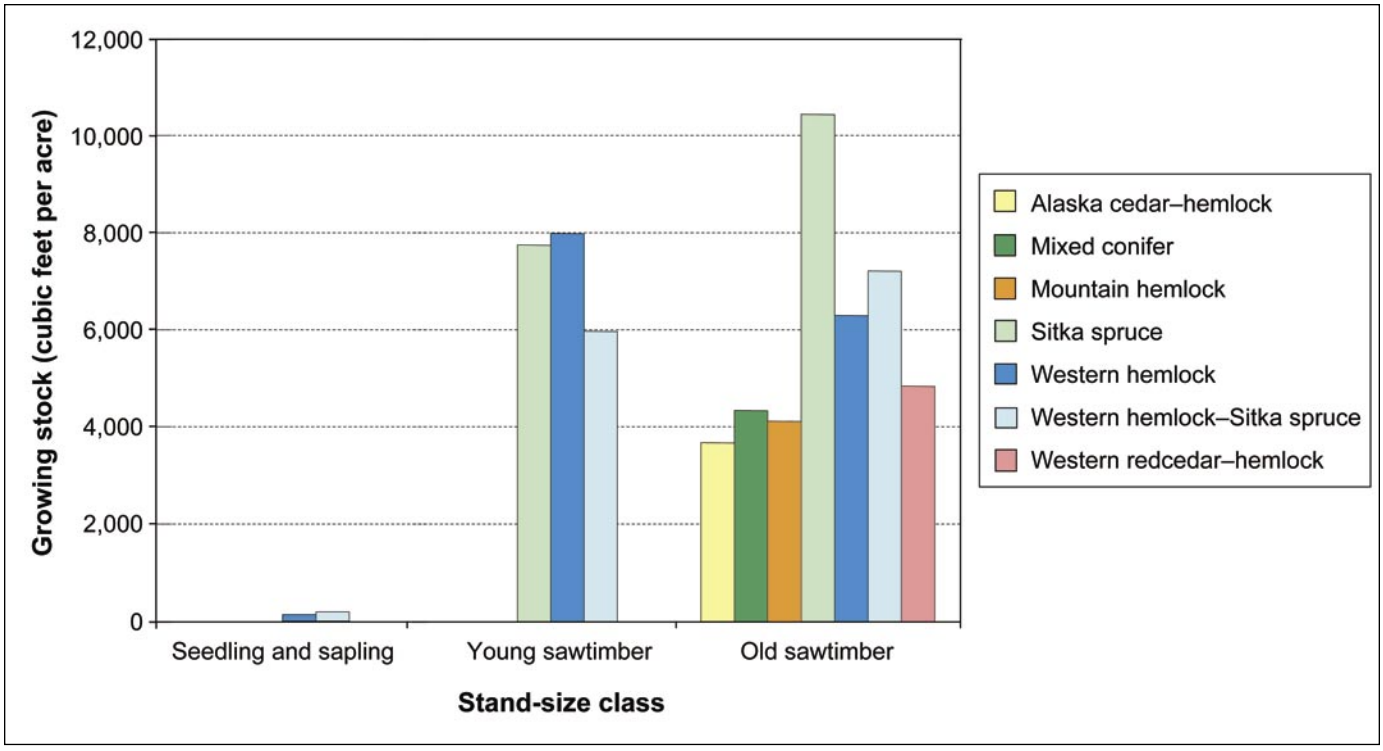

Figure 21—Growing-stock volume per acre on timberland, by stand-size class and softwood forest type, southeast Alaska, 2000.

Although stands of the western hemlock and western hemlock-Sitka spruce forest types account for the bulk of net growing-stock volume, these stands do not exhibit the highest volumes per acre. Old sawtimber stands of Sitka spruce have the highest estimated net volumes per acre (fig. 21). Per acre net volumes in these stands can exceed 10,000 cubic feet. More common stands such as old sawtimber western hemlock and western hemlock-Sitka spruce, and young sawtimber stands of western hemlock and Sitka spruce have 6,000 to 8,000 cubic feet per acre.

Within the major owner groups, the state, local, and private sectors manage forest stands with the highest average volumes per acre (fig. 22). Forest stands under USFS management are generally less productive in terms of volumes per acre than those managed by other owners. Of Sitka spruce stands, only those managed by the USFS have relatively high volumes per acre.

Growth and Mortality

Average gross annual growth of growing stock on timberland is estimated at 174.10 million cubic feet. About one-third of this growth, or 60.28 million cubic feet, occurred in the western hemlock forest type (fig. 23). All forest types except for mixed conifer showed positive net growth (gross annual growth minus annual mortality). In the mixed conifer type, mortality exceeded gross growth, resulting in a negative net growth of -3.19 million cubic feet (fig. 24). All of this mortality occurred in sawtimber stands.

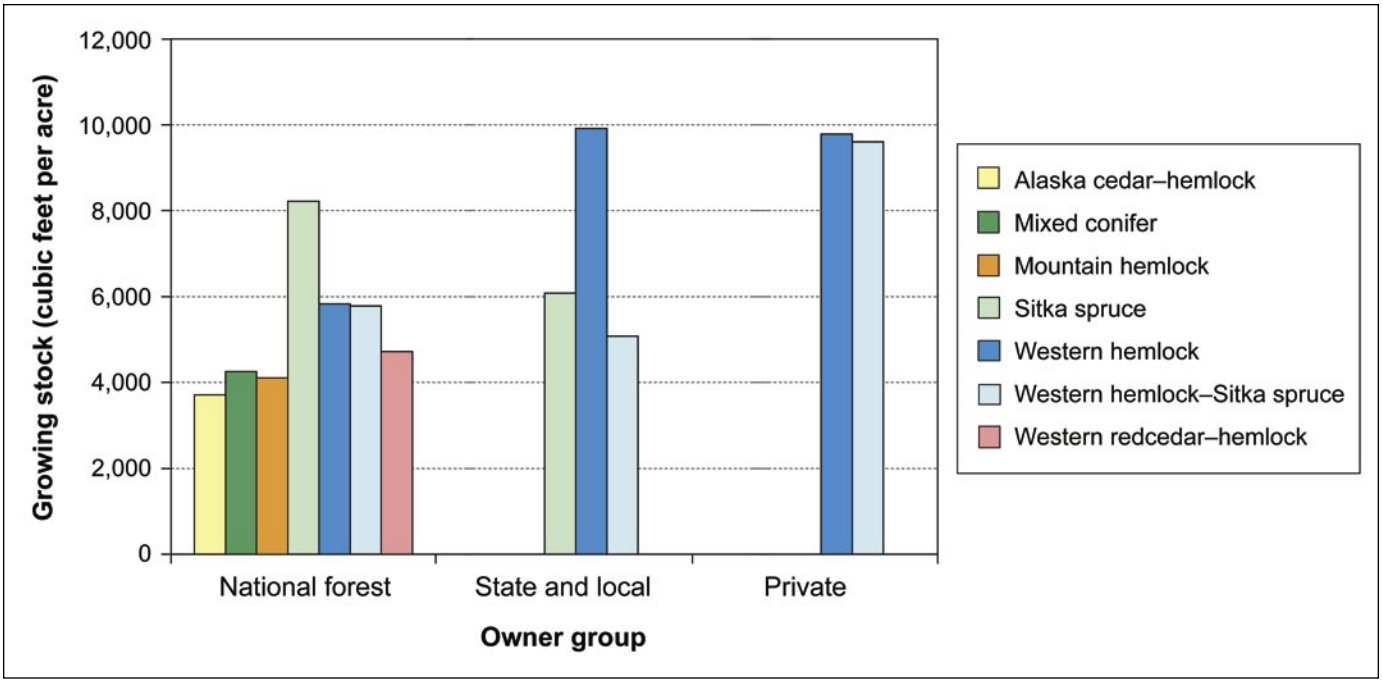

Figure 22—Growing-stock volume per acre on timberland, by owner group and softwood forest type, southeast Alaska, 2000.

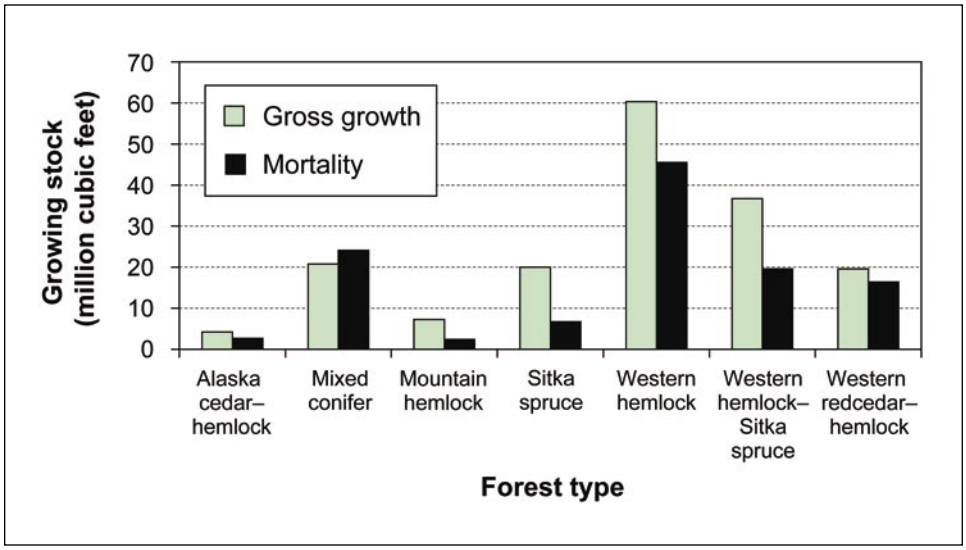

Figure 23—Average gross annual growth and average annual mortality of growing stock on timberland by softwood forest type, southeast Alaska, 2000.

The bulk of estimated negative average net annual growth occurred on less productive forest acres (fig. 25). Over one-half of the estimated negative net growth was in mixed conifer and western redcedar-hemlock stands on moderately low productivity sites (50 to 84 cubic feet per acre per year). Mortality in stands of the western hemlock forest type on moderately productive sites (85 to 119 cubic feet per acre per year) also accounted for much of the estimated negative net growth.

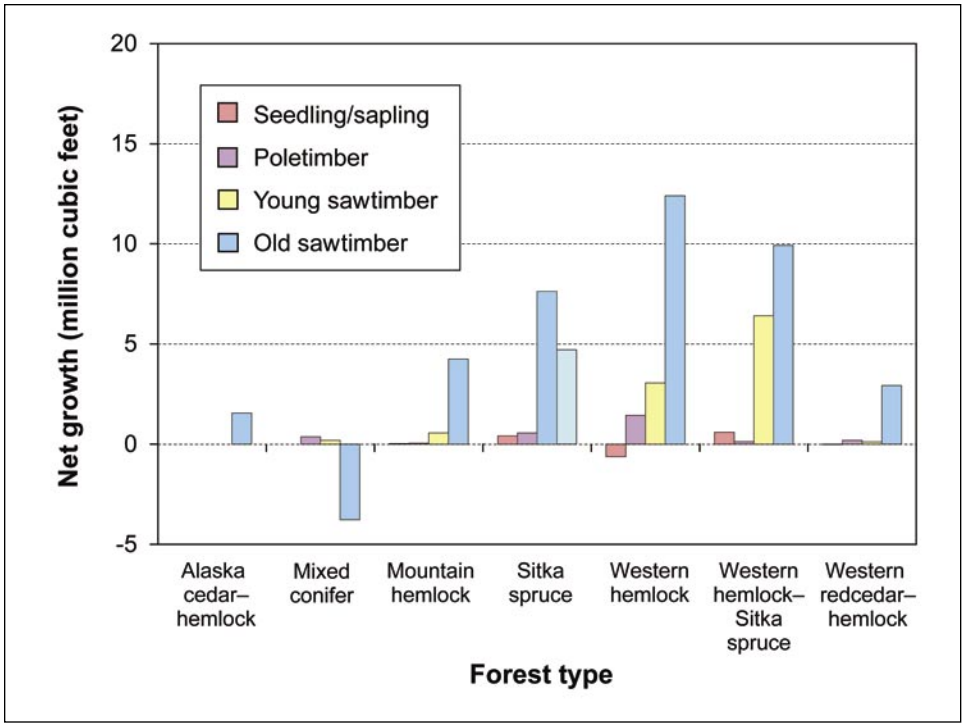

Figure 24—Average net annual growth of growing stock on timberland by softwood forest type and stand-size class, southeast Alaska, 2000.

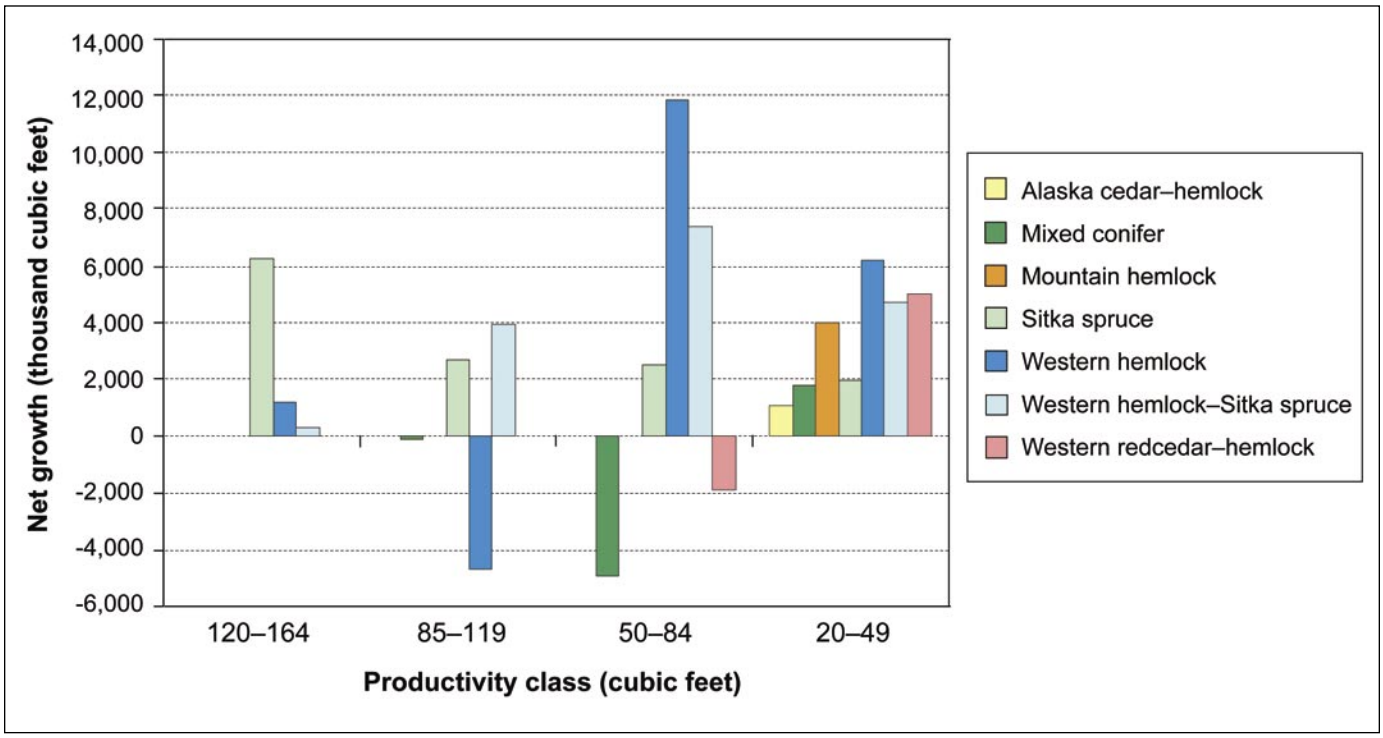

Figure 25—Average net annual growth of growing stock on timberland by productivity class and softwood forest type, southeast Alaska, 2000.

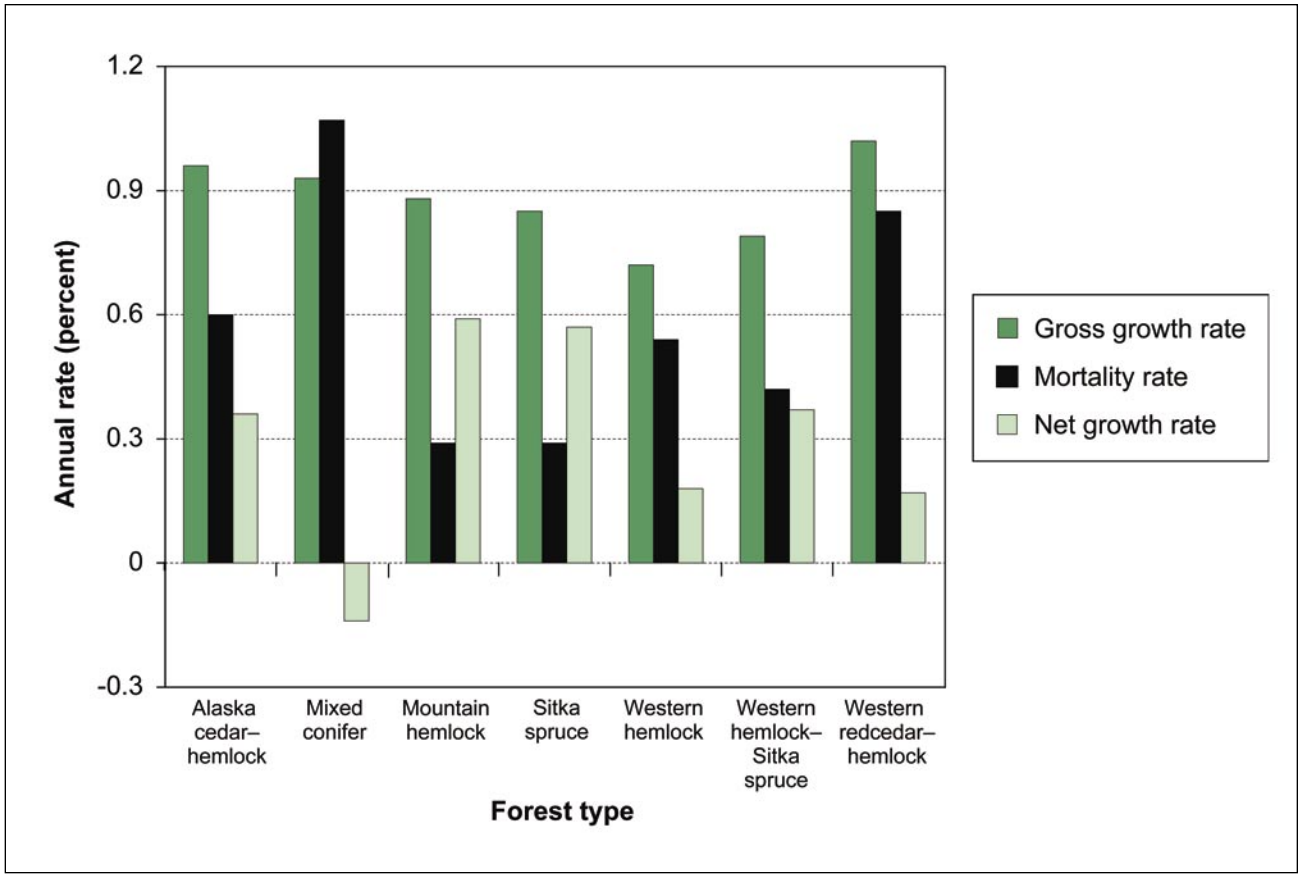

Figure 26—Rates of average gross annual growth, average annual mortality, and average net annual growth on timberland by softwood forest type, southeast Alaska, 2000.

Causes of mortality are often difficult to isolate in an initial inventory. Most often, trees die from multiple causes, and identifying the single most important cause is problematic. Almost 73 percent of the estimated mortality volume is in trees that died from unknown abiotic causes (app. table 28.) The most common identifiable cause of death is windthrow. About 15 percent of mortality is wind caused, and the bulk of that is in western hemlock trees. Alaska yellow-cedar decline, various insects, and human activity (primarily logging) each account for roughly 3 percent of mortality.

Old forests, such as those in southeast Alaska, characteristically are slow growing. Peak mean annual tree growth occurs relatively early in a tree's life (Chapman and Demeritt 1936). Typically, mortality almost balances growth in mature forests. Estimated rates of net growth, the ratio of net growth volume to total volume expressed as a percentage, are generally positive, but well under 1 percent per year (fig. 26).

Comparison of rates of growth in the relatively unmanaged stands of southeast Alaska with those of relatively actively managed stands of western Oregon illustrates this point. Although there are climatic and physiographic differences between the regions, both regions are well within the range of western hemlock and Sitka spruce forest types (Viereck and Little 1972).

In southeast Alaska, stands of western hemlock, which account for almost 38 percent of timberland area, have an estimated gross annual growth rate of about 0.7 percent and an estimated annual mortality rate of 0.5 percent per year; Sitka spruce stands (8 percent of timberland area) have an estimated 0.8-percent accretion rate and a 0.3-percent mortality rate. In western Oregon, on nonfederal lands, the estimated gross annual growth rate of western hemlock stands is about 5 percent and the estimated annual mortality rate is about 0.6 percent. Sitka spruce stands in the same region have an estimated 4-percent gross annual growth rate and a 0.7-percent mortality rate. Roughly 50 percent of the Sitka spruce timberland and 80 percent of the western hemlock timberland in western Oregon is owned by forest industry interests (Azuma and others 2002). Although mortality rates are comparable between southeast Alaska and western Oregon, growth rates are substantially higher on managed timberlands in western Oregon. Change estimates for western Oregon are based on remeasurement data.

Historical Change

Results of the inventory presented here are not directly comparable with results of previous inventories owing to design and scope differences. The last complete inventory of forest resources in southeast Alaska across all ownerships was conducted in the early 1970s. Results of that inventory are presented in LaBau and van Hees (1983), van Hees (1984), and van Hees and LaBau (1983a, 1983b, 1983c, 1984). Comparison of broad results from the two inventories highlights major changes that have occurred in protected status of the land base.

Estimates of total forest land from both inventories are similar: 10.48 million acres from the 1970s inventory and 10.99 million acres from the current inventory. This difference likely is a sampling artifact. The distribution of these acres between timberland and other forest (which includes reserved areas) reflects increases in acreages withdrawn from timber production. The 1970s inventory estimated timberland area at 6.21 million acres; by 2000 timberland was estimated at 4.09 million acres. The estimate for “other forest,” which includes productive forest land withdrawn from timber use, increased from 4.28 million acres in the 1970s to 6.89 million acres by 2000.

Tree volumes on timberland also declined in the past three decades, largely owing to shifts in land status. The 1970s inventory estimated net volume at 35,198 million cubic feet. The current estimate of net volume on timberland is 21,040 million cubic feet.

Glossary

average gross annual growth—The increase in volume of wood for growing-stock trees during a specified year. Components of average gross annual growth are the increment in net volume of trees alive at the beginning of the specified year plus the net volume of trees reaching sawtimber or poletimber size during the year. Average net annual growth is average gross annual growth minus the net volume (after deducting defect) of trees that died during the year and minus the volume lost to tree decay during the year.

cull trees—Live trees of sawtimber or poletimber size that are not merchantable for saw logs and are unlikely to become merchantable because of defect, rot, or species.

diameter class—A classification of trees based on diameter of the tree outside bark measured at breast height (d.b.h.) 4.5 feet above the ground. Each 2-inch diameter class is assigned to the appropriate even inch at midpoint. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h.

forest density—(A ground-sample classification) The percentage of ground area covered (overtopped) by tree crowns.

forest land—(A ground-sample classification) Land at least 16.7-percent stocked by live trees of any size, or land formerly having such tree cover and not currently developed for nonforest use. The minimum area for classification as forest land or subclasses of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must be at least 120 feet wide to be classified as forest land. Unimproved roads and trails, streams, and clearings in forest areas must be less than 120 feet wide to be classified as forest land. (Also see timberland, other forest land, reserved forest land, and nonforest land.)

forest types—A classification of forest land based on the species forming a plurality of stocking on the area currently occupied by tree cover. Identification of the appropriate forest type for this inventory required application of the following decision tree. The field crew first established whether hardwood or softwood stocking exceeded 50 percent. Then the appropriate list of forest types was tested in the order presented below, and forest type was assigned based on the first successful test. If no forest type could be assigned, hardwood or softwood stocking (whichever was lowest) was excluded, stocking percentages were adjusted, and the list was tested again.

softwoods:

western hemlock—Forests in which western hemlock stocking is greater than 50 percent and the sum of all other softwood stocking is less than 30 percent of total tree stocking.

western hemlock–Sitka spruce—Forests in which western hemlock stocking is greater than 35 percent, Sitka spruce stocking is greater than 25 percent, and the sum of western hemlock plus Sitka spruce stocking is greater than 70 percent of the tree stocking.

western redcedar–hemlock—Forests in which western redcedar stocking is greater than 25 percent, the sum of western redcedar plus western hemlock stocking is greater than 70 percent, and lodgepole pine stocking is less than 10 percent of the tree stocking.

Alaska cedar–hemlock—Forests in which Alaska yellow-cedar stocking is greater than 25 percent, the sum of western hemlock stocking plus Alaska yellow-cedar stocking is greater than 60 percent, and lodgepole pine stocking is less than 10 percent of the tree stocking.

Sitka spruce—Forests in which Sitka spruce stocking is greater than 50 percent of the tree stocking.

mountain hemlock—Forests in which mountain hemlock stocking is greater than 40 percent and lodgepole pine stocking is less than 5 percent of the tree stocking.

lodgepole pine—Forests in which lodgepole pine stocking is greater than 50 percent of the tree stocking.

mixed conifer—Forests in which the sum of all softwood stocking is greater than 75 percent of the tree stocking.

hardwoods:

red alder—Forests in which red alder stocking is greater than 50 percent of the tree stocking.

growing-stock trees—All live trees except cull trees.

growing-stock volume—Net volume in cubic feet of live sawtimber and poletimber growing-stock trees from stump to a minimum 4.0-inch top (of central stem) outside the bark. Net volume equals gross volume less deductions for rot and missing bole sections.

land class—A classification of land by major use, such as timberland, other forest, or nonforest. The minimum area for classification is 1 acre.

mean annual increment (m.a.i.)—A measure of the productivity of forest land in terms of the average increase in cubic-foot volume per acre per year. The minimum standard for timberland is the ability to produce 20 cubic feet per acre per year.

mortality—The number of or the sound wood volume from live trees dying from natural causes during a specified period.

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

nonforest land—(A ground-sample classification) Land that does not qualify as forest land. Includes land that has never supported forest and land formerly forested where forest use is precluded by development for nonforest uses. Included is land used for agricultural crops, improved pasture, residential areas, city parks, improved roads, operating railroads and their right-of-way clearings, and pipeline clearings. If intermingled in forest areas, unimproved roads, streams, canals, and nonforest strips must be more than 120 feet wide, and clearings or other areas must be 1 acre or larger to qualify as nonforest land.

nonstocked land—(A ground-sample classification) Forest land less than 16.7-percent stocked with growing-stock trees.

other forest land—(A ground-sample classification) Forest land not capable of producing 20 cubic feet per acre per year or more of wood at culmination of mean annual increment (m.a.i.) and not withdrawn from timber use owing to administrative statute.

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

poletimber trees—Growing-stock trees greater than 5.0 inches d.b.h. and less than sawtimber size.

productive forest land—(A ground-sample classification) Forest land producing or capable of producing 20 cubic feet per acre per year or more of wood at culmination of mean annual increment (m.a.i.).

reserved forest land—Forest land withdrawn from timber use through statute or administrative regulation.

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—Growing-stock trees at least 11.0 inches d.b.h. for hardwoods and 9.0 inches for softwoods.

seedling and sapling stands—Stands at least 16.7-percent stocked with growing-stock trees and with saplings or seedlings making up more than half this stocking.

seedling and sapling trees—Growing-stock trees less than 1.0 inch d.b.h. for seedlings and 1.0 to 4.9 inches d.b.h. for saplings.

site class—A classification of forest land based on its capacity to grow wood.

site index—The height of dominant or codominant trees at some index age, usually 50 or 100 years.

stand size class—A classification of forest land based on the predominant size of timber present: sawtimber, poletimber, or seedlings and saplings.

stocking—A measure of the area occupied by trees of specified classes. The FIA forest inventories consider three categories of stocking: all live trees, growing-stock trees, and desirable trees. Stocking of all live trees is used to delineate forest land and forest types. Stocking of growing-stock trees is used in classifications of stand size and stand age.

timberland—(A ground-sample classification) Productive forest land not withdrawn from timber use by administrative statute.

Acknowledgments

Successful design and completion of this inventory depended on the efforts of many people. Special thanks go to the many landowners who allowed access to their lands for data collection. Thanks go to Ray Koleser, data collection team leader, and the data collection staff Ken Anderson, DeAnna Barbaria, Kent Barkhau, Aaron Bergdahl, Don Bertolette, J. Buck, Whitney Burgess, Gabriel Chapin, Brian Charlton, Ian Doleman, Jason Downing, Jason Edney, Walter Foss, Jahn Haddeland, Seth Hazard, Ken Hehr, Albert Helgenberg, Corey Henderson, Keith Kanoti, Dan Kenney, Tristan Kelley, Brad Kriekhaus, Chris Krum, Theresa Lysak, Joel Markis, Mary Miller, Jeremy Mills, L. Pejchar, Frank Pendleton, David Pierce, Brandy Reed, Julie Roller, Sadie Rosenthal, John Saddler, Adam Smith, Chris Teutsch, David Thompson, Fred Thorsteinson, Michael West, Marin Wilson, and August Wright. Thanks also to Kevin Dobelbower for database development and field data recorder and compilation programming, and to Kenneth Winterberger for remote sensing and GIS support.

Names of Trees[2]

Common name	Scientific name
Softwoods:	
Alaska yellow-cedar	*Chamaecyparis nootkatensis* (D. Don) Spach
Lodgepole pine	*Pinus contorta* Dougl.
Mountain hemlock	*Tsuga mertensiana* (Bong.) Carr.
Pacific silver fir	*Abies amabilis* (Dougl.) Forbes
Sitka spruce	*Picea sitchensis* (Bong.) Carr.
Subalpine fir	*Abies lasiocarpa* (Hook.) Nutt.
Western hemlock	*Tsuga heterophylla* (Raf.) Sarg.
Western redcedar	*Thuja plicata* (Donn)
Hardwoods:	
Black cottonwood	*Populus trichocarpa* Torr. & Gray
Maple	*Acer glabrum* Torr. var. *douglasii* (Hook.) Dipp.
Paper birch	*Betula papyrifera* Marsh.
Poplar	*Populus* spp.
Red alder	*Alnus rubra* Bong.

Metric Equivalents

1 inch = 2.54 centimeters

1 foot = 0.3048 meters

1 mile = 1.609 kilometers

1 acre = 0.4047 hectares

1 cubic foot = 0.0283 cubic meters

1 cubic foot per acre = 0.06997 cubic meters per hectare

Degrees Fahrenheit = 1.8 × degrees Celsius + 32

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Table 2—Estimated area by land class, owner group, and reserved component, southeast Alaska, 2000[a]

Owner group	Timberland	Other forest land	Total forest land	Nonforest land	All land
			Million acres		
National forest	3.4	5.9	9.4	7.6	16.9
Reserved		(3.8)	(3.8)	(2.9)	(6.7)
Other federal	*t*	.6	.6	3.8	4.4
Reserved		(.6)	(.6)	(3.4)	(4.0)
State and local	.3	.1	.4	.4	.8
Private	.4	.2	.6	.1	.7
All owners	4.1	6.8	10.9	11.9	22.9

t = less than 50,000 acres.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

Table 3—Estimated area of forest land by owner group, reserved status, and forest type, southeast Alaska, 2000[a]

Forest type	National forest	Other federal	State and local	Private	All owners
			Thousand acres		
Alaska cedar–hemlock:					
Reserved	34	—	—	—	34
Unreserved	341	—	16	11	368
Total	376	—	16	11	403
Lodgepole pine:					
Reserved	28	—	—	—	28
Unreserved	282	—	15	36	334
Total	310	—	15	36	361
Mixed conifer:					
Reserved	923	64	—	—	986
Unreserved	1,214	—	33	119	1,366
Total	2,137	64	33	119	2,352
Mixed hardwoods:					
Reserved	—	—	—	—	—
Unreserved	—	—	12	—	12
Total	—	—	12	—	12
Mountain hemlock:					
Reserved	710	81	—	—	791
Unreserved	663	10	35	34	741
Total	1,373	91	35	34	1,533
Paper birch:					
Reserved	—	—	—	—	—
Unreserved	—	—	6	—	6
Total	—	—	6	—	6
Poplar:					
Reserved	22	—	—	—	22
Unreserved	7	—	9	—	16
Total	29	—	9	—	38
Poplar–birch:					
Reserved	—	—	—	—	—
Unreserved	—	—	6	6	12
Total	—	—	6	6	12
Poplar–spruce:					
Reserved	12	—	—	—	12
Unreserved	6	—	—	—	6
Total	17	—	—	—	17

Table 3—Estimated area of forest land by owner group, reserved status, and forest type, southeast Alaska, 2000[a] (continued)

Forest type	National forest	Other federal	State and local	Private	All owners
			Thousand acres		
Red alder:					
Reserved	—	—	—	—	—
Unreserved	31	—	—	3	34
Total	31	—	—	3	34
Sitka spruce:					
Reserved	61	2	—	—	63
Unreserved	253	—	53	38	344
Total	314	2	53	38	407
Western hemlock:					
Reserved	132	—	—	—	132
Unreserved	1,393	—	124	187	1,704
Total	1,525	—	124	187	1,835
Western hemlock–Sitka spruce:					
Reserved	1,892	456	—	—	2,348
Unreserved	737	6	68	153	964
Total	2,629	462	68	153	3,312
Western redcedar–hemlock:					
Reserved	36	—	—	—	36
Unreserved	577	—	15	46	637
Total	612	—	15	46	673
All types:					
Reserved	3,849	603	—	—	4,452
Unreserved	5,506	15	390	632	6,543
Total	9,355	618	390	632	10,995

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

Table 4—Estimated area of timberland by owner group, forest type, and forest density class, southeast Alaska, 2000[a]

Owner group and forest type	Forest density class (percentage of ground area)					
	0–19	20–39	40–59	60–79	80–100	All classes
	Thousand acres					
National forest:						
Softwoods—						
Alaska cedar–hemlock	—	4	45	58	6	113
Lodgepole pine	6	6	12	4	—	28
Mixed conifer	—	21	109	332	45	507
Mountain hemlock	6	7	99	76	3	191
Sitka spruce	3	16	56	124	37	236
Western hemlock	28	35	129	795	283	1,270
Western hemlock–Sitka spruce	19	36	82	376	145	659
Western redcedar–hemlock	1	—	73	256	52	382
Total softwoods	64	124	605	2,022	571	3,386
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	1	—	—	—	1
Poplar-birch	—	—	—	—	—	—
Poplar-spruce	6	—	—	—	—	6
Red alder	—	—	6	12	13	30
Total hardwoods	6	1	6	12	13	37
All national forest	70	125	611	2,033	584	3,423
Other federal:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	—	—	6	6
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	—	—	—	—	6	6
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar-birch	—	—	—	—	—	—
Poplar-spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All other federal	—	—	—	—	6	6

Table 4—Estimated area of timberland by owner group, forest type, and forest density class, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Forest density class (percentage of ground area)					
	0–19	20–39	40–59	60–79	80–100	All classes
	Thousand acres					
State and local:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	6	—	6
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	6	1	—	8
Mountain hemlock	—	—	—	12	—	12
Sitka spruce	—	6	11	20	12	49
Western hemlock	—	—	4	54	42	100
Western hemlock–Sitka spruce	—	17	—	36	9	62
Western redcedar–hemlock	—	—	—	3	—	3
Total softwoods	—	23	22	132	62	240
Hardwoods—						
Mixed hardwoods	—	6	6	—	—	12
Paper birch	—	—	6	—	—	6
Poplar	—	9	—	—	—	9
Poplar-birch	6	—	—	—	—	6
Poplar-spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	6	14	12	—	—	32
All state and local	6	38	34	132	62	272
Private:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	12	—	—	12
Mixed conifer	12	—	21	1	—	34
Mountain hemlock	—	—	5	1	—	6
Sitka spruce	6	1	4	1	23	36
Western hemlock	55	20	22	61	23	181
Western hemlock–Sitka spruce	19	—	16	36	16	87
Western redcedar–hemlock	6	—	—	12	14	32
Total softwoods	96	22	80	113	76	387
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar-birch	—	—	6	—	—	6
Poplar-spruce	—	—	—	—	—	—
Red alder	—	—	—	—	3	3
Total hardwoods	—	—	6	—	3	9
All private	96	22	85	113	79	396

Table 4—Estimated area of timberland by owner group, forest type, and forest density class, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Forest density class (percentage of ground area)					
	0–19	20–39	40–59	60–79	80–100	All classes
	Thousand acres					
All owners:						
Softwoods—						
Alaska cedar–hemlock	—	4	45	64	6	119
Lodgepole pine	6	6	23	4	—	39
Mixed conifer	12	21	136	335	45	548
Mountain hemlock	6	7	104	89	3	209
Sitka spruce	9	23	72	146	72	321
Western hemlock	83	55	156	910	348	1,551
Western hemlock–Sitka spruce	38	54	98	448	176	814
Western redcedar–hemlock	7	—	73	271	66	417
Total softwoods	160	169	707	2,267	716	4,019
Hardwoods—						
Mixed hardwoods	—	6	6	—	—	12
Paper birch	—	—	6	—	—	6
Poplar	—	10	—	—	—	10
Poplar-birch	6	—	6	—	—	12
Poplar-spruce	6	—	—	—	—	6
Red alder	—	—	6	12	15	33
Total hardwoods	12	16	23	12	15	78
Total all owners	172	185	730	2,279	731	4,096

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

Table 5—Estimated area of timberland by owner group, forest type, and site class, southeast Alaska, 2000[a]

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand acres						
National forest:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	17	97	113
Lodgepole pine	—	—	—	—	6	22	28
Mixed conifer	—	—	—	6	101	400	507
Mountain hemlock	—	—	6	4	27	154	191
Sitka spruce	12	—	70	51	59	44	236
Western hemlock	—	4	93	253	528	393	1,270
Western hemlock–Sitka spruce	—	16	45	185	234	179	659
Western redcedar–hemlock	—	—	—	6	94	282	382
Total softwoods	12	20	213	505	1,065	1,571	3,386
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	1	1
Poplar-birch	—	—	—	—	—	—	—
Poplar-spruce	—	—	—	—	—	6	6
Red alder	—	—	12	6	3	10	30
Total hardwoods	—	—	12	6	3	17	37
All national forest	12	20	225	511	1,068	1,588	3,423
Other federal:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	—	—	6	—	6
Western redcedar–hemlock	—	—	—	—	—	—	—
Total softwoods	—	—	—	—	6	—	6
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—
All other federal	—	—	—	—	6	—	6

Table 5—Estimated area of timberland by owner group, forest type, and site class, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand acres						
State and local:							
Softwoods—							
Alaska cedar-hemlock	—	—	—	—	—	6	6
Lodgepole pine	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	8	8
Mountain hemlock	—	—	—	—	—	12	12
Sitka spruce	—	—	23	4	22	—	49
Western hemlock	—	—	23	23	26	28	100
Western hemlock–Sitka spruce	—	—	1	14	29	17	62
Western redcedar–hemlock	—	—	—	—	—	3	3
Total softwoods	—	—	48	42	77	74	240
Hardwoods—							
Mixed hardwoods	—	—	6	—	6	—	12
Paper birch	—	—	—	—	6	—	6
Poplar	—	—	—	6	—	3	9
Poplar–birch	—	—	—	6	—	—	6
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	6	12	12	3	32
All state and local	—	—	54	53	89	76	272
Private:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	12	12
Mixed conifer	—	—	—	—	—	34	34
Mountain hemlock	—	—	—	—	—	6	6
Sitka spruce	—	—	12	4	14	6	36
Western hemlock	—	—	6	6	108	62	181
Western hemlock–Sitka spruce	—	—	17	23	41	5	87
Western redcedar–hemlock	—	—	—	—	5	27	32
Total softwoods	—	—	35	33	168	152	387
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	6	6
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	3	—	—	—	3
Total hardwoods	—	—	3	—	—	6	9
All private	—	—	38	33	168	158	396

Table 5—Estimated area of timberland by owner group, forest type, and site class, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand acres						
All owners:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	17	102	119
Lodgepole pine	—	—	—	—	6	34	39
Mixed conifer	—	—	—	6	101	441	548
Mountain hemlock	—	—	6	4	27	172	209
Sitka spruce	12	—	105	59	95	50	321
Western hemlock	—	4	122	282	662	482	1,551
Western hemlock–Sitka spruce	—	16	63	223	310	201	814
Western redcedar–hemlock	—	—	—	6	99	312	417
Total softwoods	12	20	296	580	1,317	1,795	4,019
Hardwoods—							
Mixed hardwoods	—	—	6	—	6	—	12
Paper birch	—	—	—	—	6	—	6
Poplar	—	—	—	6	—	4	10
Poplar–birch	—	—	—	6	—	6	12
Poplar–spruce	—	—	—	—	—	6	6
Red alder	—	—	14	6	3	10	33
Total hardwoods	—	—	20	17	14	26	78
All owners	12	20	316	598	1,331	1,821	4,096

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

Table 6—Estimated area of timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000[a]

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand acres			
National forest:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	113	—	113
Lodgepole pine	6	14	—	8	—	28
Mixed conifer	6	7	6	479	9	507
Mountain hemlock	6	1	6	178	—	191
Sitka spruce	20	14	92	110	—	236
Western hemlock	119	12	86	1,043	9	1,270
Western hemlock–Sitka spruce	89	6	99	440	26	659
Western redcedar–hemlock	6	6	15	353	1	382
Total softwoods	251	60	305	2,724	46	3,386
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	1	—	—	1
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	6	—	—	6
Red alder	3	20	—	6	1	30
Total hardwoods	3	20	7	6	1	37
All national forest	253	80	312	2,730	47	3,423
Other federal:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	6	—	—	6
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	—	—	6	—	—	6
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All other federal	—	—	6	—	—	6

Table 6—Estimated area of timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand acres			
State and local:						
Softwoods—						
Alaska cedar-hemlock	—	—	—	6	—	6
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	6	—	1	1	8
Mountain hemlock	—	—	6	6	—	12
Sitka spruce	12	—	26	12	—	49
Western hemlock	16	12	18	55	—	100
Western hemlock–Sitka spruce	6	—	25	32	—	62
Western redcedar–hemlock	—	—	—	3	—	3
Total softwoods	33	17	74	114	1	240
Hardwoods—						
Mixed hardwoods	—	6	6	—	—	12
Paper birch	—	6	—	—	—	6
Poplar	—	—	3	6	—	9
Poplar–birch	—	6	—	—	—	6
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	17	9	6	—	32
All state and local	33	35	83	120	1	272
Private:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	12	—	12
Mixed conifer	—	—	—	22	12	34
Mountain hemlock	—	1	—	5	—	6
Sitka spruce	11	—	12	6	7	36
Western hemlock	64	—	34	49	34	181
Western hemlock–Sitka spruce	7	—	8	54	17	87
Western redcedar–hemlock	6	—	—	26	—	32
Total softwoods	89	1	53	174	70	387
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	6	—	—	—	6
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	3	—	—	3
Total hardwoods	—	6	3	—	—	9
All private	89	7	56	174	70	396

Table 6—Estimated area of timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand acres			
All owners:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	119	—	119
Lodgepole pine	6	14	—	19	—	39
Mixed conifer	6	13	6	503	21	548
Mountain hemlock	6	3	12	188	—	209
Sitka spruce	43	14	130	127	7	321
Western hemlock	199	24	137	1,148	43	1,551
Western hemlock–Sitka spruce	102	6	137	526	43	814
Western redcedar–hemlock	12	6	15	383	1	417
Total softwoods	373	79	438	3,013	116	4,019
Hardwoods—						
Mixed hardwoods	—	6	6	—	—	12
Paper birch	—	6	—	—	—	6
Poplar	—	—	4	6	—	10
Poplar–birch	—	12	—	—	—	12
Poplar–spruce	—	—	6	—	—	6
Red alder	3	20	3	6	1	33
Total hardwoods	3	43	19	12	1	78
All owners	376	122	456	3,024	118	4,096

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

Table 7—Estimated number of live trees on timberland by species and 2-inch diameter class, southeast Alaska, 2000[a]

	Softwoods								Hardwoods					
Diameter class[b]	Fir[c]	Alaska yellow-cedar	Sitka spruce	Lodgepole pine	Western redcedar	Western hemlock	Mountain hemlock	Total softwoods	Black cottonwood	Red alder	Paper birch	Other	Total hardwoods	All species
						Thousand trees								
2	—	56,920	122,097	2,607	21,291	524,018	61,700	788,634	435	14,339	4,345	1,303	20,422	809,056
4	—	17,815	39,975	435	10,428	187,708	33,457	289,818	—	8,690	1,304	435	10,428	300,246
6	279	15,417	18,452	1,814	6,697	105,621	22,185	170,466	384	3,802	1,465	244	5,895	176,361
8	35	13,046	12,906	1,709	5,476	72,937	15,627	121,736	453	2,442	349	105	3,349	125,085
10	35	10,883	10,534	1,221	4,779	49,846	10,813	88,111	279	1,116	140	35	1,489	89,680
12	70	9,209	8,860	872	3,872	36,521	9,139	68,542	314	453	105	35	907	69,449
14	—	7,534	6,244	523	3,593	25,638	6,662	50,194	314	314	140	—	767	50,962
16	—	6,767	6,418	419	3,139	20,057	4,639	41,439	279	174	—	—	453	41,892
18	35	4,779	5,267	140	2,302	14,615	3,558	30,696	70	140	35	—	244	30,940
20	—	3,767	3,872	105	2,372	12,034	2,232	24,382	70	—	—	—	70	24,452
22	35	2,407	3,767	—	1,884	10,918	1,918	20,929	—	70	—	—	70	20,999
24	—	1,709	2,372	70	1,151	6,453	1,012	12,767	105	70	—	—	174	12,941
26	—	1,186	2,511	35	1,291	6,453	628	12,104	35	—	—	—	35	12,139
28	—	837	2,058	—	733	5,093	488	9,209	70	—	—	—	70	9,278
30	—	453	1,325	—	488	3,349	663	6,279	—	—	—	—	—	6,279
32	—	733	1,395	—	698	2,756	244	5,825	35	—	—	—	35	5,860
34	—	384	733	—	628	1,849	244	3,837	35	—	—	—	35	3,872
36	—	174	1,151	—	488	1,360	105	3,279	—	—	—	—	—	3,279
38	—	209	628	—	419	1,186	70	2,511	—	—	—	—	—	2,511
40+	—	314	2,860	—	1,012	2,477	244	6,907	—	—	—	—	—	6,906
Total	488	154,544	253,426	9,948	72,740	1,090,887	175,629	1,757,663	2,876	31,610	7,881	2,157	44,524	1,802,187

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

[b]Class of 2 = all trees 0 to 2.9 inches diameter at breast height.

[c]Includes Pacific silver fir and subalpine fir.

Table 8—Estimated number of growing-stock trees on timberland by species and 2-inch diameter class, southeast Alaska, 2000[a]

Diameter class[b]	Softwoods								Hardwoods					All species
	Fir[c]	Alaska yellow-cedar	Sitka spruce	Lodgepole pine	Western redcedar	Western hemlock	Mountain hemlock	Total softwoods	Black cottonwood	Red alder	Paper birch	Other	Total hardwoods	
	Thousand trees													
6	209	14,301	17,371	1,605	6,314	95,261	19,708	154,769	314	3,663	1,360	209	5,546	160,315
8	35	12,104	12,383	1,709	5,267	67,321	14,336	113,155	453	2,337	314	35	3,139	116,295
10	35	10,395	10,185	1,186	4,569	46,567	9,906	82,843	279	906	140	—	1,325	84,169
12	70	8,476	8,860	872	3,732	34,463	8,476	64,949	244	453	70	—	767	65,717
14	—	7,046	6,209	488	3,209	24,417	6,034	47,404	279	314	70	—	663	48,067
16	—	5,860	6,279	419	2,581	18,267	4,395	38,160	279	140	—	—	419	38,579
18	35	4,290	5,162	140	2,163	13,604	3,383	28,777	70	140	35	—	244	29,021
20	—	3,209	3,837	105	2,093	11,267	1,779	22,289	70	—	—	—	70	22,359
22	35	2,267	3,697	—	1,639	10,011	1,605	19,255	—	70	—	—	70	19,324
24	—	1,430	2,372	70	907	5,860	733	11,371	70	70	—	—	140	11,511
26	—	942	2,511	35	1,151	5,616	523	10,778	35	—	—	—	35	10,813
28	—	802	2,023	—	523	4,535	384	8,267	70	—	—	—	70	8,337
30	—	384	1,291	—	419	3,035	488	5,616	—	—	—	—	—	5,616
32	—	523	1,395	—	593	2,442	174	5,128	35	—	—	—	35	5,162
34	—	279	733	—	488	1,639	244	3,383	—	—	—	—	—	3,383
36	—	174	1,151	—	314	1,046	70	2,756	—	—	—	—	—	2,756
38	—	140	628	—	279	1,081	70	2,198	—	—	—	—	—	2,198
40+	—	209	2,791	—	698	1,849	105	5,651	—	—	—	—	—	5,651
Total	419	72,832	88,878	6,627	36,939	348,640	72,414	626,750	2,198	8,092	1,988	244	12,522	639,272

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

[b]Class of 6 = all trees 5.0 to 6.9 inches diameter at breast height.

[c]Includes Pacific silver fir and subalpine fir.

Table 9—Estimated number of seedlings per acre by owner group, stand-size class, and softwood forest type, southeast Alaska, 2000[a]

Owner group and stand-size class	Softwood forest type							
	Western hemlock–Sitka spruce	Western redcedar–hemlock	Sitka spruce	Mountain hemlock	Mixed conifer	Lodgepole pine	Western hemlock	Alaska cedar–hemlock
	Seedlings per acre							
National forest:								
Seedling/sapling	2,989	4,798	3,170	1,499	825	2,174	4,063	—
Poletimber	1,499	—	537	—	2,159	690	1,469	—
Young sawtimber	2,942	3,558	498	800	4,273	—	6,251	—
Old sawtimber	5,102	4,316	1,879	1,247	3,052	2,099	4,803	2,873
Nonstocked	988	—	—	—	1,050	—	—	—
All stand classes	4,304	4,264	1,363	1,240	3,017	1,373	4,774	2,873
State and local:								
Seedling/sapling	3,823	—	3,598	—	—	—	6,188	—
Poletimber	—	—	—	—	—	—	2,811	—
Young sawtimber	829	—	50	750	—	—	3,022	—
Old sawtimber	1,976	18,292	37	375	780	—	3,196	2,174
Nonstocked	—	—	—	—	—	—	—	—
All stand classes	1,695	18,292	882	562	780	—	3,590	2,174
Private:								
Seedling/sapling	1,679	4,498	4,892	—	—	—	4,955	—
Poletimber		—	—	—	—	—	—	—
Young sawtimber	3,149	—	2,999	—	—	—	3,111	—
Old sawtimber	2,509	1,118	375	375	2,455	2,549	2,787	—
Nonstocked	800	—	675	—	525	—	450	—
All stand classes	2,168	1,719	2,928	300	1,812	2,549	3,204	—
All owners:								
Seedling/sapling	2,944	4,648	3,798	1,499	825	2,174	4,520	—
Poletimber	1,499	—	537	—	2,159	690	2,066	—
Young sawtimber	2,455	3,558	629	776	4,273	—	5,029	—
Old sawtimber	4,642	4,198	1,641	1,195	2,994	2,376	4,640	2,839
Nonstocked	910	—	675	—	630	—	388	—
All stand classes	3,842	4,163	1,468	1,171	2,911	1,721	4,515	2,839

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

Table 10—Estimated number of seedlings per acre by species and forest type, southeast Alaska, 2000[a]

Species	Forest type												
	Alaska cedar–hemlock	Lodgepole pine	Mixed conifer	Mountain hemlock	Western hemlock	Western hemlock–Sitka spruce	Western redcedar–hemlock	Sitka spruce	Mixed hardwood	Red alder	Paper birch	Poplar	Poplar–birch
	Seedlings per acre												
Alaska yellow-cedar	785	322	319	43	25	35	133	—	—	—	—	—	—
Black cottonwood	—	—	—	—	—	—	—	—	—	—	—	—	37
Lodgepole pine	65	644	20	—	1	—	4	—	—	—	—	—	—
Maple	—	—	—	—	3	—	—	—	37	—	—	—	—
Mountain hemlock	367	78	368	496	36	48	100	38	—	—	—	—	—
Pacific silver fir	—	—	—	—	—	1	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	150
Red alder	—	—	2	—	4	2	1	—	—	—	—	643	—
Sitka spruce	138	44	171	118	341	540	230	641	—	586	825	43	75
Subalpine fir	—	—	—	—	—	—	—	8	—	—	—	—	—
Western redcedar	105	33	68	2	59	17	569	9	—	13	—	—	—
Western hemlock	1,378	600	1,964	512	4,047	3,200	3,126	772	—	373	825	—	—
All species	2,839	1,721	2,911	1,171	4,515	3,842	4,163	1,468	37	973	1,649	685	262

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

Table 11—Estimated net volume of growing stock on timberland by species and 2-inch diameter class, southeast Alaska, 2000[a]

	Softwoods								Hardwoods					
Diameter class[b]	Fir[c]	Alaska yellow-cedar	Sitka spruce	Lodgepole pine	Western redcedar	Western hemlock	Mountain hemlock	Total softwoods	Black cottonwood	Red alder	Paper birch	Other	Total hardwoods	All species
						Thousand cubic feet								
6	404	29,293	43,068	3,152	12,648	231,245	35,960	355,770	616	7,359	3,003	333	11,311	367,080
8	222	67,258	77,870	9,616	26,341	402,528	68,209	652,044	3,002	13,838	1,365	186	18,391	670,434
10	499	104,996	129,198	12,808	42,065	548,407	91,529	929,503	2,560	10,384	1,371	—	14,314	943,817
12	1,433	143,088	187,035	13,841	57,242	675,781	134,833	1,213,253	3,852	8,739	892	—	13,483	1,226,736
14	—	173,828	195,388	10,640	73,367	690,271	141,960	1,285,453	7,425	8,682	1,475	—	17,582	1,303,035
16	—	202,818	272,804	11,613	78,680	745,999	142,208	1,454,122	10,700	4,280	—	—	14,980	1,469,102
18	1,722	198,165	303,088	4,934	81,363	728,130	147,932	1,465,334	3,313	6,816	1,502	—	11,631	1,476,965
20	—	182,946	291,769	5,362	105,721	793,452	97,005	1,476,255	3,503	—	—	—	3,503	1,479,758
22	3,144	160,602	359,683	—	100,737	886,328	115,270	1,625,765	—	5,616	—	—	5,616	1,631,382
24	—	128,223	271,576	5,320	61,825	638,405	66,118	1,171,467	3,022	7,725	—	—	10,747	1,182,214
26	—	94,807	352,649	3,219	95,891	725,567	54,161	1,326,295	2,024	—	—	—	2,024	1,328,319
28	—	107,571	351,049	—	47,470	693,651	44,829	1,244,571	10,148	—	—	—	10,148	1,254,718
30	—	55,178	246,857	—	43,451	535,140	66,785	947,412	—	—	—	—	—	947,412
32	—	78,121	303,508	—	71,189	503,039	27,456	983,312	6,833	—	—	—	6,833	990,145
34	—	57,466	193,231	—	66,384	378,471	52,741	748,293	—	—	—	—	—	748,293
36	—	34,073	332,719	—	45,056	263,999	16,545	692,392	—	—	—	—	—	692,392
38	—	30,894	223,972	—	45,851	334,998	16,306	652,022	—	—	—	—	—	652,022
40+	—	64,555	1,711,034	—	157,614	712,262	30,731	2,676,196	—	—	—	—	—	2,676,196
Total	7,424	1,913,882	5,846,499	80,505	1,212,898	10,487,673	1,350,576	20,899,457	56,997	73,438	9,609	518	140,562	21,040,019

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

[b]Class of 6 = all trees 5.0 to 6.9 inches diameter at breast height.

[c]Includes Pacific silver fir and subalpine fir.

Table 12—Estimated net volume of sawtimber on timberland by species and 2-inch diameter class, southeast Alaska, 2000[a]

Diameter class[b]	Softwoods								Hardwoods				All species
	Fir[c]	Alaska yellow-cedar	Sitka spruce	Lodgepole pine	Western redcedar	Western hemlock	Mountain hemlock	Total softwoods	Black cottonwood	Red alder	Paper birch	Total hardwoods	
						Thousand board feet, International ¼-inch rule							
10	1,959	372,915	551,712	51,104	136,871	2,250,399	339,208	3,704,168	—	—	—	—	3,704,168
12	6,787	590,180	894,033	61,278	222,412	3,076,836	560,171	5,411,696	14,879	34,528	3,462	52,868	5,464,564
14	—	770,004	992,093	50,501	314,788	3,331,965	629,158	6,088,510	34,554	38,256	6,005	78,814	6,167,325
16	—	945,102	1,449,361	55,117	351,228	3,779,022	670,703	7,250,532	54,219	18,237	—	72,455	7,322,988
18	9,324	964,675	1,674,781	25,270	364,858	3,822,259	722,714	7,583,881	15,004	34,879	8,991	58,875	7,642,756
20	—	908,826	1,647,527	27,909	504,048	4,296,160	476,074	7,860,544	17,929	—	—	17,929	7,878,473
22	16,135	811,104	2,067,973	—	476,802	4,881,300	590,701	8,844,015	—	31,166	—	31,166	8,875,182
24	—	672,083	1,583,021	28,896	286,238	3,529,874	333,511	6,433,623	11,113	39,024	—	50,137	6,483,760
26	—	482,330	2,067,485	17,052	459,852	4,122,672	282,226	7,431,617	6,624	—	—	6,624	7,438,241
28	—	574,559	2,096,114	—	221,679	3,911,577	238,050	7,041,978	49,465	—	—	49,465	7,091,443
30	—	270,377	1,446,311	—	183,186	2,992,027	354,863	5,246,764	—	—	—	—	5,246,764
32	—	386,324	1,789,055	—	320,519	2,822,189	129,334	5,447,422	40,796	—	—	40,796	5,488,217
34	—	315,459	1,169,592	—	294,509	2,170,454	298,787	4,248,801	—	—	—	—	4,248,801
36	—	161,557	1,989,311	—	208,968	1,438,266	86,174	3,884,277	—	—	—	—	3,884,277
38	—	162,546	1,376,508	—	202,769	1,978,206	78,220	3,798,250	—	—	—	—	3,798,250
40+	—	331,219	9,976,630	—	708,788	3,735,030	166,473	14,918,140	—	—	—	—	14,918,140
Total	34,205	8,719,260	32,771,508	317,128	5,257,515	52,138,236	5,956,366	105,194,218	244,582	196,089	18,459	459,130	105,653,348

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

[b]Class of 10 = all trees 9.0 to 10.9 inches diameter at breast height.

[c]Includes Pacific silver fir and subalpine fir.

Table 13—Estimated net volume of growing stock on timberland by owner group, forest type, and species, southeast Alaska, 2000[a]

Owner group and forest type	Softwoods								Hardwoods					All species
	Alaska yellow-cedar	Fir[b]	Sitka spruce	Lodgepole pine	Western redcedar	Western hemlock	Mountain hemlock	Total softwoods	Black cottonwood	Red alder	Paper birch	Other	Total hardwoods	
	Thousand cubic feet													
National forest:														
Softwoods—														
Alaska cedar–hemlock	286,798	—	1,977	40,516	36,632	47,201	7,836	420,960	—	—	—	—	—	420,960
Lodgepole pine	777	—	19,295	1,008	2,065	2,756	1,780	27,681	—	—	—	—	—	27,681
Mixed conifer	903,147	—	17,766	290,677	188,466	684,562	65,900	2,150,518	—	5,896	—	—	5,896	2,156,414
Mountain hemlock	6,384	—	—	557,377	111,797	108,324	—	783,881	—	—	—	—	—	783,881
Sitka spruce	—	110	817	43,347	1,699,533	169,955	—	1,913,763	20,583	2,073	—	—	22,656	1,936,419
Western hemlock	310,854	1,722	1,178	128,868	854,007	5,969,926	124,973	7,391,528	—	10,172	—	32	10,204	7,401,732
Western hemlock-Sitka spruce	110,106	612	—	149,796	1,859,131	1,636,340	46,066	3,802,051	—	6,123	—	—	6,123	3,808,174
Western redcedar–hemlock	208,643	—	12,904	50,306	118,086	528,152	880,461	1,798,550	—	2,080	—	—	2,080	1,800,630
Total softwoods	1,826,708	2,444	53,938	1,261,895	4,869,717	9,147,216	1,127,016	18,288,933	20,583	26,343	—	32	46,958	18,335,891
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	935	—	—	—	935	935
Poplar-birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	2,121	—	—	2,121	1,549	—	—	—	1,549	3,670
Red alder	—	—	—	—	32,633	12,915	—	45,548	—	22,988	—	—	22,988	68,536
Total hardwoods	—	—	—	—	34,755	12,915	—	47,670	2,484	22,988	—	—	25,472	73,142
All national forest	1,826,708	2,444	53,938	1,261,895	4,904,471	9,160,131	1,127,016	18,336,603	23,067	49,331	—	—	72,430	18,409,032
Other federal:														
Softwoods—														
Alaska cedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	1,179	0	19,393	31,501	0	52,073	—	—	—	—	—	52,073
Western redcedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total softwoods	—	—	1,179	0	19,393	31,501	0	52,073	—	—	—	—	—	52,073
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
All other federal	—	—	1,179	—	19,393	31,501	—	52,073	—	—	—	—	—	52,073

Table 13—Estimated net volume of growing stock on timberland by owner group, forest type, and species, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Softwoods								Hardwoods					All species
	Alaska yellow-cedar	Fir[b]	Sitka spruce	Lodgepole pine	Western redcedar	Western hemlock	Mountain hemlock	Total softwoods	Black cottonwood	Red alder	Paper birch	Other	Total hardwoods	
	Thousand cubic feet													
State and local:														
Softwoods—														
Alaska cedar–hemlock	9,416	—	—	4,529	1,102	2,241	486	17,774	—	—	—	—	—	17,774
Lodgepole pine	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mixed conifer	16,871	—	26	2,132	231	10,480	—	29,739	—	—	—	—	—	29,739
Mountain hemlock	—	—	—	18,589	7,892	—	—	26,481	—	—	—	—	—	26,481
Sitka spruce	—	—	3,311	1,914	286,068	3,909	—	295,202	2,162	—	429	—	2,591	297,793
Western hemlock	17,974	—	—	1,902	40,558	402,508	18,074	481,016	632	—	—	251	883	481,900
Western hemlock–Sitka spruce	—	3,176	—	2,172	168,416	139,382	—	313,147	1,264	737	967	50	3,017	316,164
Western redcedar–hemlock	507	—	—	1,329	856	3,514	—	6,205	—	—	—	—	—	6,205
Total softwoods	44,767	3,176	3,337	32,566	505,123	562,034	18,559	1,169,563	4,058	737	1,396	301	6,491	1,176,055
Hardwoods—														
Mixed hardwoods	—	1,776	532	—	22,257	2,090	—	26,654	2,744	—	4,651	186	7,581	34,235
Paper birch	—	—	—	—	1,322	1,333	—	2,655	1,551	—	2,279	—	3,830	6,486
Poplar	—	—	—	—	875	—	—	875	22,027	367	—	—	22,394	23,270
Poplar–birch	—	—	—	—	—	—	—	—	1,663	—	953	—	2,616	2,616
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total hardwoods	—	1,776	532	0	24,454	3,423	0	30,184	27,985	367	7,884	186	36,422	66,606
All state and local	44,767	4,952	3,869	32,566	529,578	565,457	18,559	1,199,748	32,043	1,103	9,280	487	42,913	1,242,661
Private:														
Softwoods—														
Alaska cedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lodgepole pine	3,795	—	13,136	388	—	1,453	3,361	22,133	—	—	—	—	—	22,133
Mixed conifer	26,622	—	2,657	9,942	6,705	11,941	6,257	64,123	—	178	—	—	178	64,302
Mountain hemlock	—	—	—	18,136	1,052	—	—	19,188	—	—	—	—	—	19,188
Sitka spruce	—	—	—	—	97,327	18,550	—	115,876	—	—	—	—	—	115,876
Western hemlock	3,148	0	3,669	11,140	35,737	437,959	20,234	511,888	—	7,396	—	—	7,396	519,284
Western hemlock–Sitka spruce	215	—	—	15,650	233,217	209,245	—	458,328	—	9,085	—	—	9,085	467,413
Western redcedar–hemlock	8,626	28	1,665	859	18,037	47,874	37,470	114,560	—	4,186	—	—	4,186	118,746
Total softwoods	42,406	28	21,126	56,115	392,076	727,022	67,322	1,306,096	—	20,845	—	—	20,845	1,326,941
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar-birch	—	—	393	—	810	—	—	1,203	1,888	—	328	—	2,216	3,419
Poplar-spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	171	3,563	—	3,735	—	2,158	—	—	2,158	5,893
Total hardwoods	—	—	393	—	981	3,563	—	4,938	1,888	2,158	328	—	4,374	9,312
All private	42,406	28	21,519	56,115	393,058	730,585	67,322	1,311,034	1,888	23,003	328	—	25,219	1,336,253

Table 13—Estimated net volume of growing stock on timberland by owner group, forest type, and species, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Softwoods								Hardwoods					
	Alaska yellow-cedar	Fir[b]	Sitka spruce	Lodgepole pine	Western redcedar	Western hemlock	Mountain hemlock	Total softwoods	Black cottonwood	Red alder	Paper birch	Other	Total hardwoods	All species
	Thousand cubic feet													
All owners:														
Softwoods—														
Alaska cedar–hemlock	296,214	—	1,977	45,044	37,734	49,442	8,322	438,734	—	—	—	—	—	438,734
Lodgepole pine	4,572	—	32,431	1,396	2,065	4,208	5,141	49,814	—	—	—	—	—	49,814
Mixed conifer	946,640	—	20,448	302,751	195,401	706,983	72,157	2,244,380	—	6,074	—	—	6,074	2,250,454
Mountain hemlock	6,384	—	—	594,101	120,741	108,324	—	829,551	—	—	—	—	0	829,551
Sitka spruce	—	110	4,128	45,261	2,082,928	192,413	—	2,324,841	22,745	2,073	429	—	25,247	2,350,088
Western hemlock	331,977	1,722	4,847	141,910	930,303	6,810,393	163,280	8,384,432	632	17,568	—	282	18,483	8,402,915
Western hemlock–Sitka spruce	110,321	3,788	1,179	167,618	2,280,158	2,016,469	46,066	4,625,598	1,264	15,944	967	50	18,225	4,643,824
Western redcedar–hemlock	217,775	28	14,569	52,494	136,979	579,540	917,931	1,919,315	—	6,265	—	—	6,265	1,925,581
Total softwoods	1,913,882	5,649	79,580	1,350,576	5,786,309	10,467,772	1,212,898	20,816,666	24,641	47,925	1,396	333	74,294	20,890,960
Hardwoods—														
Mixed hardwoods	—	1,776	532	—	22,257	2,090	—	26,654	2,744	—	4,651	186	7,581	34,235
Paper birch	—	—	—	—	1,322	1,333	—	2,655	1,551	—	2,279	—	3,830	6,486
Poplar	—	—	—	—	875	—	—	875	22,962	367	—	—	23,329	24,204
Poplar–birch	—	—	393	—	810	—	—	1,203	3,550	—	1,282	—	4,832	6,035
Poplar–spruce	—	—	—	—	2,121	—	—	2,121	1,549	—	—	—	1,549	3,670
Red alder	—	—	—	—	32,804	16,479	—	49,283	0	25,146	—	—	25,146	74,429
Total hardwoods	—	1,776	925	—	60,190	19,901	—	82,792	32,357	25,513	8,213	186	66,268	149,060
All owners	1,913,882	7,424	80,505	1,350,576	5,846,499	10,487,673	1,212,898	20,899,457	56,997	73,438	9,609	518	140,562	21,040,019

— = no data were collected.

[a]Totals may be off because of rounding. Estimates are subject to sampling error.

[b]Includes Pacific silver fir and subalpine fir.

Table 14—Estimated net volume of growing stock on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a]

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand cubic feet						
National forest:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	87,253	333,708	420,960
Lodgepole pine	—	—	—	—	—	27,681	27,681
Mixed conifer	—	—	—	3,700	580,597	1,572,116	2,156,414
Mountain hemlock	—	—	34,854	15,265	148,679	585,084	783,881
Sitka spruce	189,845	—	723,465	348,030	486,193	188,886	1,936,419
Western hemlock	—	32,018	662,546	2,070,698	2,911,937	1,724,532	7,401,732
Western hemlock–Sitka spruce	—	134,965	446,669	1,249,070	1,192,500	784,970	3,808,174
Western redcedar–hemlock	—	—	—	34,396	560,014	1,206,220	1,800,630
Total softwoods	189,845	166,984	1,867,534	3,721,160	5,967,172	6,423,197	18,335,891
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	935	935
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	3,670	3,670
Red alder	—	—	18,935	35,124	6,816	7,662	68,536
Total hardwoods	—	—	18,935	35,124	6,816	12,267	73,142
All national forest	189,845	166,984	1,886,469	3,756,284	5,973,988	6,435,464	18,409,032
Other federal:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	—	—	52,073	—	52,073
Western redcedar–hemlock	—	—	—	—	—	—	—
Total softwoods	—	—	—	—	52,073	—	52,073
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—
All other federal	—	—	—	—	52,073	—	52,073

Table 14—Estimated net volume of growing stock on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand cubic feet						
State and local:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	17,774	17,774
Lodgepole pine	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	29,739	29,739
Mountain hemlock	—	—	—	—	—	26,481	26,481
Sitka spruce	—	—	160,342	26,476	110,975	—	297,793
Western hemlock	—	—	85,817	183,215	129,474	83,395	481,900
Western hemlock–Sitka spruce	—	—	22,294	66,204	173,128	54,538	316,164
Western redcedar–hemlock	—	—	—	—	—	6,205	6,205
Total softwoods	—	—	268,453	275,894	413,576	218,131	1,176,055
Hardwoods—							
Mixed hardwoods	—	—	20,947	—	13,288	—	34,235
Paper birch	—	—	—	—	6,486	—	6,486
Poplar	—	—	—	17,856	—	5,414	23,270
Poplar–birch	—	—	—	2,616	—	—	2,616
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	20,947	20,472	19,773	5,414	66,606
All state and local	—	—	289,400	296,367	433,350	223,545	1,242,661
Private:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	22,133	22,133
Mixed conifer	—	—	—	—	—	64,302	64,302
Mountain hemlock	—	—	—	—	—	19,188	19,188
Sitka spruce	—	—	83,963	—	31,258	656	115,876
Western hemlock	—	—	22,589	44,838	346,222	105,634	519,284
Western hemlock–Sitka spruce	—	—	162,789	135,919	147,633	21,072	467,413
Western redcedar–hemlock	—	—	—	—	44,847	73,898	118,746
Total softwoods	—	—	269,340	180,758	569,960	306,883	1,326,941
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	3,419	3,419
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	5,893	—	—	—	5,893
Total hardwoods	—	—	5,893	—	—	3,419	9,312
All private	—	—	275,233	180,758	569,960	310,302	1,336,253

Table 14—Estimated net volume of growing stock on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand cubic feet						
All owners:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	87,253	351,481	438,734
Lodgepole pine	—	—	—	—	—	49,814	49,814
Mixed conifer	—	—	—	3,700	580,597	1,666,157	2,250,454
Mountain hemlock	—	—	34,854	15,265	148,679	630,753	829,551
Sitka spruce	189,845	—	967,770	374,506	628,426	189,542	2,350,088
Western hemlock	—	32,018	770,951	2,298,751	3,387,633	1,913,561	8,402,915
Western hemlock–Sitka spruce	—	134,965	631,752	1,451,193	1,565,333	860,579	4,643,824
Western redcedar–hemlock	—	—	—	34,396	604,861	1,286,324	1,925,581
Total softwoods	189,845	166,984	2,405,327	4,177,812	7,002,782	6,948,211	20,890,960
Hardwoods—							
Mixed hardwoods	—	—	20,947	—	13,288	—	34,235
Paper birch	—	—	—	—	6,486	—	6,486
Poplar	—	—	—	17,856	—	6,348	24,204
Poplar–birch	—	—	—	2,616	—	3,419	6,035
Poplar–spruce	—	—	—	—	—	3,670	3,670
Red alder	—	—	24,828	35,124	6,816	7,662	74,429
Total hardwoods	—	—	45,775	55,596	26,589	21,099	149,060
All owners	189,845	166,984	2,451,102	4,233,408	7,029,371	6,969,310	21,040,019

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 15—Estimated net volume of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a]

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand cubic feet			
National forest:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	420,960	—	420,960
Lodgepole pine	—	17,789	—	9,892	—	27,681
Mixed conifer	—	8,959	45,994	2,097,332	4,129	2,156,414
Mountain hemlock	1,942	2,982	29,811	749,146	—	783,881
Sitka spruce	3,295	15,664	695,365	1,222,095	—	1,936,419
Western hemlock	17,898	30,368	722,762	6,629,540	1,164	7,401,732
Western hemlock–Sitka spruce	17,430	10,106	604,080	3,174,793	1,765	3,808,174
Western redcedar–hemlock	684	8,050	65,087	1,726,809	—	1,800,630
Total softwoods	41,250	93,919	2,163,099	16,030,566	7,057	18,335,891
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	935	—	—	935
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	3,670	—	—	3,670
Red alder	567	32,511	—	35,124	334	68,536
Total hardwoods	567	32,511	4,605	35,124	334	73,142
All national forest	41,816	126,430	2,167,704	16,065,690	7,391	18,409,032
Other federal:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	52,073	—	—	52,073
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	—	—	52,073	—	—	52,073
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All other federal	—	—	52,073	—	—	52,073

Table 15—Estimated net volume of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand cubic feet			
State and local:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	17,774	—	17,774
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	9,113	—	20,601	26	29,739
Mountain hemlock	—	—	17,883	8,598	—	26,481
Sitka spruce	1,422	—	225,177	71,193	—	297,793
Western hemlock	7,349	15,531	119,751	339,268	—	481,900
Western hemlock–Sitka spruce	168	—	140,205	175,791	—	316,164
Western redcedar–hemlock	—	—	—	6,205	—	6,205
Total softwoods	8,940	24,643	503,016	639,430	26	1,176,055
Hardwoods—						
Mixed hardwoods	—	13,288	20,947	—	—	34,235
Paper birch	—	6,486	—	—	—	6,486
Poplar	—	—	5,414	17,856	—	23,270
Poplar–birch	—	2,616	—	—	—	2,616
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	22,389	26,361	17,856	—	66,606
All state and local	8,940	47,033	529,377	657,286	26	1,242,661
Private:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	22,133	—	22,133
Mixed conifer	—	—	—	64,302	—	64,302
Mountain hemlock	—	1,495	—	17,693	—	19,188
Sitka spruce	656	—	83,963	31,258	—	115,876
Western hemlock	1,808	—	254,832	262,465	179	519,284
Western hemlock–Sitka spruce	2,014	—	23,506	441,893	—	467,413
Western redcedar–hemlock	577	—	—	118,168	—	118,746
Total softwoods	5,054	1,495	362,301	957,913	179	1,326,941
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	3,419	—	—	—	3,419
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	5,893	—	—	5,893
Total hardwoods	—	3,419	5,893	—	—	9,312
All private	5,054	4,914	368,193	957,913	179	1,336,253

Table 15—Estimated net volume of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand cubic feet			
All owners:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	438,734	—	438,734
Lodgepole pine	—	17,789	—	32,025	—	49,814
Mixed conifer	—	18,072	45,994	2,182,234	4,154	2,250,454
Mountain hemlock	1,942	4,477	47,694	775,437	—	829,551
Sitka spruce	5,373	15,664	1,004,505	1,324,547	—	2,350,088
Western hemlock	27,055	45,899	1,097,345	7,231,273	1,342	8,402,915
Western hemlock–Sitka spruce	19,612	10,106	819,864	3,792,477	1,765	4,643,824
Western redcedar–hemlock	1,262	8,050	65,087	1,851,182	—	1,925,581
Total softwoods	55,244	120,057	3,080,488	17,627,909	7,262	20,890,960
Hardwoods—						
Mixed hardwoods	—	13,288	20,947	—	—	34,235
Paper birch	—	6,486	—	—	—	6,486
Poplar	—	—	6,348	17,856	—	24,204
Poplar–birch	—	6,035	—	—	—	6,035
Poplar–spruce	—	—	3,670	—	—	3,670
Red alder	567	32,511	5,893	35,124	334	74,429
Total hardwoods	567	58,320	36,859	52,980	334	149,060
All owners	55,811	178,377	3,117,347	17,680,889	7,596	21,040,019

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 16—Estimated net volume of sawtimber on timberland by owner group, forest type and species, southeast Alaska, 2000[a]

Owner group and forest type	Softwoods								Hardwoods				All species
	Alaska yellow-cedar	Fir[b]	Lodgepole pine	Mountain hemlock	Sitka spruce	Western hemlock	Western redcedar	All softwoods	Black cottonwood	Red alder	Paper birch	All hardwoods	
	Thousand cubic feet												
National forest:													
Softwoods—													
Alaska cedar–hemlock	1,226	—	6	145	196	148	23	1,744	—	—	—	—	1,744
Lodgepole pine	2	—	62	1	7	1	3	75	—	—	—	—	75
Mixed conifer	4,095	—	82	1,268	996	2,908	265	9,614	—	28	—	28	9,642
Mountain hemlock	21	—	—	2,520	579	522	—	3,642	—	—	—	—	3,642
Sitka spruce	—	—	3	204	9,520	811	—	10,538	87	—	—	87	10,624
Western hemlock	1,539	9	5	584	4,856	30,948	609	38,550	—	37	—	37	38,587
Western hemlock–Sitka spruce	499	2	—	698	10,558	8,032	218	20,007	—	13	—	13	20,020
Western redcedar–hemlock	974	—	53	195	624	2,177	3,805	7,827	—	5	—	5	7,833
Total softwoods	8,355	11	210	5,615	27,335	45,547	4,923	91,997	87	84	—	170	92,167
Hardwoods—													
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	4	—	—	4	4
Poplar–birch	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	8	—	—	8	3	—	—	3	12
Red alder	—	—	—	—	167	55	—	222	—	23	—	23	245
Total hardwoods	—	—	—	—	176	55	—	231	7	23	—	30	260
All national forest	8,355	11	210	5,615	27,511	45,602	4,923	92,228	94	106	—	200	92,428
Other federal:													
Softwoods—													
Alaska cedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—	—	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	2	—	101	104	—	206	—	—	—	—	206
Western redcedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—
Total softwoods	—	—	2	—	101	104	—	206	—	—	—	—	206
Hardwoods—													
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—
All other federal	—	—	2	—	101	104	—	206	—	—	—	—	206

Table 16—Estimated net volume of sawtimber on timberland by owner group, forest type and species, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Softwoods								Hardwoods				All species
	Alaska yellow-cedar	Fir[b]	Lodgepole pine	Mountain hemlock	Sitka spruce	Western hemlock	Western redcedar	All softwoods	Black cottonwood	Red alder	Paper birch	All hardwoods	
	Thousand cubic feet												
State and local:													
Softwoods—													
Alaska cedar–hemlock	30	—	—	18	3	6	2	59	—	—	—	—	59
Lodgepole pine	—	—	—	—	—	—	—	—	—	—	—	—	—
Mixed conifer	80	—	—	6	—	42	—	128	—	—	—	—	128
Mountain hemlock	—	—	—	59	40	—	—	99	—	—	—	—	99
Sitka spruce	—	—	13	7	1,596	16	—	1,632	11	—	—	11	1,643
Western hemlock	94	—	—	6	201	2,014	88	2,403	3	—	—	3	2,406
Western hemlock–Sitka spruce	—	16	—	8	932	665	—	1,622	4	—	4	8	1,630
Western redcedar–hemlock	—	—	—	6	3	13	—	22	—	—	—	—	22
Total softwoods	203	16	13	110	2,776	2,757	90	5,966	17	—	4	22	5,987
Hardwoods—													
Mixed hardwoods	—	7	1	—	120	10	—	138	12	—	13	25	162
Paper birch	—	—	—	—	3	2	—	4	2	—	2	4	8
Poplar	—	—	—	—	1	—	—	1	108	—	—	108	109
Poplar–birch	—	—	—	—	—	—	—	—	7	—	—	7	7
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—	—	—	—	—	—	—
Total hardwoods	—	7	1	—	123	12	—	143	129	—	14	144	286
All state and local	203	23	14	110	2,899	2,769	90	6,108	147	—	18	165	6,274
Private:													
Softwoods—													
Alaska cedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—
Lodgepole pine	7	—	58	—	—	3	7	74	—	—	—	—	74
Mixed conifer	107	—	8	45	33	37	23	253	—	—	—	—	253
Mountain hemlock	—	—	—	68	3	—	—	71	—	—	—	—	71
Sitka spruce	—	—	—	—	537	82	—	619	—	—	—	—	619
Western hemlock	12	—	18	46	197	2,198	94	2,565	—	32	—	32	2,596
Western hemlock–Sitka spruce	—	—	—	69	1,395	1,119	—	2,584	—	44	—	44	2,628
Western redcedar–hemlock	35	—	8	4	96	209	121	472	—	9	—	9	481
Total softwoods	161	—	91	—	2,261	3,649	244	6,637	—	84	—	84	6,722
Hardwoods—													
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—	—	4	—	—	4	4
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	15	—	15	—	6	—	6	20
Total hardwoods	—	—	—	—	—	15	—	15	4	6	—	10	24
All private	161	—	91	—	2,261	3,664	244	6,652	4	90	—	94	6,746

Table 16—Estimated net volume of sawtimber on timberland by owner group, forest type and species, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Softwoods								Hardwoods				All species
	Alaska yellow-cedar	Fir[b]	Lodgepole pine	Mountain hemlock	Sitka spruce	Western hemlock	Western redcedar	All softwoods	Black cottonwood	Red alder	Paper birch	All hardwoods	
	Thousand cubic feet												
All owners:													
Softwoods—													
Alaska cedar–hemlock	1,256	—	6	163	199	154	26	1,804	—	—	—	—	1,804
Lodgepole pine	8	—	119	1	7	4	10	149	—	—	—	—	149
Mixed conifer	4,282	—	91	1,319	1,029	2,987	288	9,995	—	28	—	28	10,023
Mountain hemlock	21	—	—	2,647	622	522	—	3,812	—	—	—	—	3,812
Sitka spruce	—	—	16	211	11,652	909	—	12,788	98	—	—	98	12,886
Western hemlock	1,645	9	23	636	5,254	35,160	791	43,518	3	69	—	71	43,589
Western hemlock–Sitka spruce	499	18	2	776	12,986	9,920	218	24,418	4	57	4	65	24,483
Western redcedar–hemlock	1,008	—	61	204	723	2,400	3,926	8,321	—	14	—	14	8,336
Total softwoods	8,719	27	317	5,956	32,472	52,057	5,258	104,806	104	168	4	276	105,082
Hardwoods—													
Mixed hardwoods	—	7	1	—	120	10	—	138	12	—	13	25	162
Paper birch	—	—	—	—	3	2	—	4	2	—	2	4	8
Poplar	—	—	—	—	1	—	—	1	112	—	—	112	113
Poplar–birch	—	—	—	—	—	—	—	—	11	—	—	11	11
Poplar–spruce	—	—	—	—	8	—	—	8	3	—	—	3	12
Red alder	—	—	—	—	167	70	—	237	—	28	—	28	265
Total hardwoods	—	7	1	—	299	82	—	388	140	28	14	183	571
All owners	8,719	34	317	5,956	32,772	52,138	5,258	105,194	245	196	18	459	105,653

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

[b] Includes Pacific silver fir and subalpine fir.

Table 17—Estimated net volume of sawtimber on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a]

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand board feet, international ¼-inch rule						
National forest:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	452,185	1,292,007	1,744,192
Lodgepole pine	—	—	—	—	—	74,655	74,655
Mixed conifer	—	—	—	15,533	2,796,317	6,830,600	9,642,451
Mountain hemlock	—	—	169,405	76,759	761,129	2,634,916	3,642,209
Sitka spruce	1,127,049	—	4,078,551	1,867,708	2,647,818	903,258	10,624,384
Western hemlock	—	187,694	3,665,008	11,360,745	15,171,611	8,201,985	38,587,042
Western hemlock–Sitka spruce	—	774,350	2,504,409	6,702,928	6,268,797	3,769,066	20,019,551
Western redcedar–hemlock	—	—	—	146,282	2,663,130	5,023,508	7,832,920
Total softwoods	1,127,049	962,044	10,417,372	20,169,956	30,760,987	28,729,997	92,167,405
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	3,760	3,760
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	11,735	11,735
Red alder	—	—	45,518	194,220	2,539	2,398	244,675
Total hardwoods	—	—	45,518	194,220	2,539	17,894	260,170
All national forest	1,127,049	962,044	10,462,890	20,364,176	30,763,526	28,747,890	92,427,575
Other federal:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	—	—	205,916	—	205,916
Western redcedar–hemlock	—	—	—	—	—	—	—
Total softwoods	—	—	—	—	205,916	—	205,916
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—
All other federal	—	—	—	—	205,916	—	205,916

Table 17—Estimated net volume of sawtimber on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand board feet, international ¼-inch rule						
State and local:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	59,487	59,487
Lodgepole pine	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	127,918	127,918
Mountain hemlock	—	—	—	—	—	99,107	99,107
Sitka spruce	—	—	916,890	143,001	583,306	—	1,643,197
Western hemlock	—	—	371,529	1,014,997	661,559	357,992	2,406,076
Western hemlock–Sitka spruce	—	—	135,589	316,388	919,434	258,674	1,630,085
Western redcedar–hemlock	—	—	—	—	—	21,506	21,506
Total softwoods	—	—	1,424,007	1,474,387	2,164,299	924,683	5,987,376
Hardwoods—							
Mixed hardwoods	—	—	111,143	—	51,310	—	162,454
Paper birch	—	—	—	—	7,973	—	7,973
Poplar	—	—	—	91,323	—	17,737	109,060
Poplar–birch	—	—	—	6,922	—	—	6,922
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	111,143	98,244	59,283	17,737	286,408
All state and local	—	—	1,535,150	1,572,631	2,223,582	942,421	6,273,785
Private:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	74,037	74,037
Mixed conifer	—	—	—	—	—	252,952	252,952
Mountain hemlock	—	—	—	—	—	70,896	70,896
Sitka spruce	—	—	447,712	—	170,036	808	618,555
Western hemlock	—	—	128,818	206,672	1,774,624	486,184	2,596,299
Western hemlock–Sitka spruce	—	—	971,830	773,257	780,753	101,688	2,627,528
Western redcedar–hemlock	—	—	—	—	204,298	277,077	481,375
Total softwoods	—	—	1,548,360	979,929	2,929,711	1,263,642	6,721,641
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	3,977	3,977
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	20,454	—	—	—	20,454
Total hardwoods	—	—	20,454	—	—	3,977	24,431
All private	—	—	1,568,814	979,929	2,929,711	1,267,619	6,746,072

Table 17—Estimated net volume of sawtimber on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand board feet, international ¼-inch rule						
All owners:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	452,185	1,351,494	1,803,679
Lodgepole pine	—	—	—	—	—	148,692	148,692
Mixed conifer	—	—	—	15,533	2,796,317	7,211,470	10,023,320
Mountain hemlock	—	—	169,405	76,759	761,129	2,804,919	3,812,212
Sitka spruce	1,127,049	—	5,443,152	2,010,709	3,401,161	904,066	12,886,137
Western hemlock	—	187,694	4,165,355	12,582,414	17,607,793	9,046,161	43,589,417
Western hemlock–Sitka spruce	—	774,350	3,611,828	7,792,573	8,174,899	4,129,428	24,483,079
Western redcedar–hemlock	—	—	—	146,282	2,867,428	5,322,091	8,335,801
Total softwoods	1,127,049	962,044	13,389,739	22,624,272	36,060,912	30,918,322	105,082,338
Hardwoods—							
Mixed hardwoods	—	—	111,143	—	51,310	—	162,454
Paper birch	—	—	—	—	7,973	—	7,973
Poplar	—	—	—	91,323	—	21,498	112,821
Poplar–birch	—	—	—	6,922	—	3,977	10,899
Poplar–spruce	—	—	—	—	—	11,735	11,735
Red alder	—	—	65,972	194,220	2,539	2,398	265,129
Total hardwoods	—	—	177,115	292,464	61,822	39,608	571,010
All owners	1,127,049	962,044	13,566,854	22,916,736	36,122,735	30,957,930	105,653,348

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 18—Estimated net volume of sawtimber on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a]

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
	Thousand board feet, international ¼-inch rule					
National forest:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	1,744,192	—	1,744,192
Lodgepole pine	—	35,010	—	39,645	—	74,655
Mixed conifer	—	23,364	209,516	9,393,263	16,308	9,642,451
Mountain hemlock	5,687	7,271	109,792	3,519,460	—	3,642,209
Sitka spruce	2,925	36,959	3,738,507	6,845,993	—	10,624,384
Western hemlock	44,548	57,956	3,751,575	34,731,056	1,907	38,587,042
Western hemlock–Sitka spruce	44,183	15,208	3,060,761	16,890,228	9,170	20,019,551
Western redcedar–hemlock	—	20,144	238,852	7,573,924	—	7,832,920
Total softwoods	97,343	195,912	11,109,003	80,737,762	27,385	92,167,405
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	3,760	—	—	3,760
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	11,735	—	—	11,735
Red alder	—	50,455	—	194,220	—	244,675
Total hardwoods	—	50,455	15,496	194,220	—	260,170
All national forest	97,343	246,367	11,124,499	80,931,981	27,385	92,427,575
Other federal:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	205,916	—	—	205,916
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	—	—	205,916	—	—	205,916
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All other federal	—	—	205,916	—	—	205,916

Table 18—Estimated net volume of sawtimber on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand board feet, international ¼-inch rule			
State and local:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	59,487	—	59,487
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	25,731	—	102,186	—	127,918
Mountain hemlock	—	—	62,992	36,116	—	99,107
Sitka spruce	—	—	1,224,861	418,337	—	1,643,197
Western hemlock	9,452	23,332	615,509	1,757,783	—	2,406,076
Western hemlock–Sitka spruce	—	—	737,031	893,053	—	1,630,085
Western redcedar–hemlock	—	—	—	21,506	—	21,506
Total softwoods	9,452	49,064	2,640,393	3,288,468	—	5,987,376
Hardwoods—						
Mixed hardwoods	—	51,310	111,143	—	—	162,454
Paper birch	—	7,973	—	—	—	7,973
Poplar	—	—	17,737	91,323	—	109,060
Poplar–birch	—	6,922	—	—	—	6,922
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	66,205	128,881	91,323	—	286,408
All state and local	9,452	115,269	2,769,273	3,379,791	—	6,273,785
Private:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	74,037	—	74,037
Mixed conifer	—	—	—	252,952	—	252,952
Mountain hemlock	—	5,625	—	65,271	—	70,896
Sitka spruce	808	—	447,712	170,036	—	618,555
Western hemlock	2,494	—	1,239,104	1,354,701	—	2,596,299
Western hemlock–Sitka spruce	2,638	—	99,712	2,525,179	—	2,627,528
Western redcedar–hemlock	570	—	—	480,805	—	481,375
Total softwoods	6,509	5,625	1,786,527	4,922,980	—	6,721,641
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	3,977	—	—	—	3,977
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	20,454	—	—	20,454
Total hardwoods	—	3,977	20,454	—	—	24,431
All private	6,509	9,602	1,806,981	4,922,980	—	6,746,072

Table 18—Estimated net volume of sawtimber on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand board feet, international ¼-inch rule			
All owners:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	1,803,679	—	1,803,679
Lodgepole pine	—	35,010	—	113,682	—	148,692
Mixed conifer	—	49,095	209,516	9,748,402	16,308	10,023,320
Mountain hemlock	5,687	12,896	172,783	3,620,847	—	3,812,212
Sitka spruce	3,733	36,959	5,411,080	7,434,365	—	12,886,137
Western hemlock	56,493	81,289	5,606,188	37,843,539	1,907	43,589,417
Western hemlock–Sitka spruce	46,821	15,208	4,103,420	20,308,460	9,170	24,483,079
Western redcedar–hemlock	570	20,144	238,852	8,076,235	—	8,335,801
Total softwoods	113,303	250,601	15,741,839	88,949,209	27,385	105,082,338
Hardwoods—						
Mixed hardwoods	—	51,310	111,143	—	—	162,454
Paper birch	—	7,973	—	—	—	7,973
Poplar	—	—	21,498	91,323	—	112,821
Poplar–birch	—	10,899	—	—	—	10,899
Poplar–spruce	—	—	11,735	—	—	11,735
Red alder	—	50,455	20,454	194,220	—	265,129
Total hardwoods	—	120,637	164,830	285,543	—	571,010
All owners	113,303	371,238	15,906,669	89,234,752	27,385	105,653,348

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 19—Estimated volume per acre on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a]

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Cubic feet			
National forest:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	3,709	—	3,709
Lodgepole pine	—	1,228	—	1,300	—	992
Mixed conifer	—	1,304	7,935	4,375	452	4,254
Mountain hemlock	335	2,058	4,784	4,219	—	4,103
Sitka spruce	163	1,148	7,533	11,160	—	8,216
Western hemlock	151	2,454	8,396	6,353	123	5,828
Western hemlock–Sitka spruce	197	1,744	6,120	7,219	68	5,780
Western redcedar–hemlock	118	1,389	4,233	4,886	—	4,716
Total softwoods	165	1,554	7,104	5,885	153	5,416
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	645	—	—	645
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	633	—	—	633
Red alder	196	1,640	—	6,060	231	2,287
Total hardwoods	196	1,640	636	6,060	231	1,966
All national forest	177	1,415	6,403	5,595	164	5,113
Other federal:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	8,984	—	—	8,984
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	—	—	8,984	—	—	8,984
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All other federal	—	—	8,984	—	—	8,984

Table 19—Estimated volume per acre on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Cubic feet			
State and local:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	3,066	—	3,066
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	1,572	—	14,217	40	3,773
Mountain hemlock	—	—	3,085	1,483	—	2,284
Sitka spruce	123	—	8,725	6,141	—	6,078
Western hemlock	461	1,340	16,616	11,000	—	9,914
Western hemlock–Sitka spruce	29	—	5,692	5,514	—	5,074
Western redcedar–hemlock	—	—	—	2,141	—	2,141
Total softwoods	268	1,417	6,796	5,586	40	4,903
Hardwoods—						
Mixed hardwoods	—	2,292	3,614	—	—	2,953
Paper birch	—	1,119	—	—	—	1,119
Poplar	—	—	1,868	3,081	—	2,676
Poplar–birch	—	451	—	—	—	451
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	1,288	3,032	3,081	—	2,089
All state and local	268	1,352	6,400	5,465	40	4,573
Private:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	1,909	—	1,909
Mixed conifer	—	—	—	8,113	—	3,217
Mountain hemlock	—	1,228	—	3,539	—	3,087
Sitka spruce	57	—	14,486	7,733	—	8,783
Western hemlock	207	—	21,971	13,768	5	9,783
Western hemlock–Sitka spruce	278	—	5,681	16,829	—	9,604
Western redcedar–hemlock	100	—	—	8,632	—	7,633
Total softwoods	57	1,228	6,789	5,501	3	3,426
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	590	—	—	—	590
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	2,075	—	—	2,075
Total hardwoods	—	590	2,075	—	—	1,078
All private	57	701	6,551	5,501	3	3,374

Table 19—Estimated volume per acre on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Cubic feet			
All owners:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	3,678	—	3,678
Lodgepole pine	—	1,228	—	1,668	—	1,262
Mixed conifer	—	1,427	7,935	4,340	195	4,104
Mountain hemlock	335	1,679	3,966	4,117	—	3,972
Sitka spruce	124	1,148	7,745	10,438	—	7,326
Western hemlock	136	1,915	7,984	6,300	31	5,416
Western hemlock–Sitka spruce	193	1,744	5,970	7,213	41	5,708
Western redcedar–hemlock	109	1,389	4,233	4,838	—	4,619
Total softwoods	148	1,519	7,038	5,851	62	5,198
Hardwoods—						
Mixed hardwoods	—	2,292	3,614	—	—	2,953
Paper birch	—	1,119	—	—	—	1,119
Poplar	—	—	1,460	3,081	—	2,386
Poplar–birch	—	521	—	—	—	521
Poplar–spruce	—	—	633	—	—	633
Red alder	196	1,640	2,075	6,060	231	2,269
Total hardwoods	196	1,356	1,963	4,570	231	1,918
All owners	149	1,462	6,829	5,846	65	5,136

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 20—Estimated average gross annual growth of growing stock on timberland by owner group, forest type, and species, southeast Alaska, 2000[a]

Owner group and forest type	Softwoods								Hardwoods					
	Alaska yellow-cedar	Fir[b]	Lodgepole pine	Mountain hemlock	Sitka spruce	Western hemlock	Western redcedar	All softwoods	Black cottonwood	Red alder	Paper birch	Other	All hardwoods	All species
	Thousand cubic feet													
National forest:														
Softwoods—														
Alaska cedar–hemlock	1,843	—	24	554	353	1,069	138	3,981	—	—	—	—	—	3,981
Lodgepole pine	10	—	198	25	45	176	38	491	—	—	—	—	—	491
Mixed conifer	5,003	—	90	2,371	2,097	9,239	778	19,580	—	135	—	—	135	19,715
Mountain hemlock	57	—	—	3,818	1,564	1,371	—	6,811	—	—	—	—	—	6,811
Sitka spruce	—	3	4	322	12,606	1,903	—	14,837	195	167	—	—	363	15,200
Western hemlock	1,031	8	10	884	6,270	42,723	849	51,775	—	253	—	—	253	52,059
Western hemlock–Sitka spruce	517	34	—	971	11,862	15,512	321	29,217	—	300	—	—	300	29,517
Western redcedar–hemlock	1,077	—	68	524	1,193	7,647	7,264	17,772	—	157	—	—	157	17,929
Total softwoods	9,538	44	395	9,469	35,991	79,638	9,388	144,463	195	1,013	—	—	1,209	145,703
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	17	—	—	—	17	17
Poplar–birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	89	—	—	89	91	—	—	—	91	180
Red alder	—	—	—	—	629	227	—	857	—	1,278	—	—	1,278	2,135
Total hardwoods	—	—	—	—	718	227	—	945	109	1,278	—	—	1,386	2,332
All national forest	9,538	44	395	9,469	36,709	79,866	9,388	145,409	304	2,291	—	—	2,595	148,035
Other federal:														
Softwoods—														
Alaska cedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	8	—	194	581	—	784	—	—	—	—	—	784
Western redcedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total softwoods	—	—	8	—	194	581	—	784	—	—	—	—	—	784
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 20—Estimated average gross annual growth of growing stock on timberland by owner group, forest type, and species, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Softwoods								Hardwoods					
	Alaska yellow-cedar	Fir[b]	Lodgepole pine	Mountain hemlock	Sitka spruce	Western hemlock	Western redcedar	All softwoods	Black cottonwood	Red alder	Paper birch	Other	All hardwoods	All species
	Thousand cubic feet													
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
All other federal	—	—	8	—	194	581	—	784	—	—	—	—	—	784
State and local:														
Softwoods—														
Alaska cedar–hemlock	92	—	—	54	28	53	8	235	—	—	—	—	—	235
Lodgepole pine	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mixed conifer	66	—	1	29	14	195	—	305	—	—	—	—	—	305
Mountain hemlock	—	—	—	247	130	—	—	377	—	—	—	—	—	377
Sitka spruce	—	—	14	15	3,426	85	—	3,541	16	—	51	—	67	3,607
Western hemlock	74	—	—	17	537	3,715	160	4,502	5	—	—	—	5	4,598
Western hemlock–Sitka spruce	—	14	—	26	1,953	1,361	—	3,354	26	46	10	—	82	3,445
Western redcedar–hemlock	7	—	—	13	26	67	—	114	—	—	—	—	—	114
Total softwoods	239	14	15	401	6,115	5,477	168	12,428	47	46	61	—	154	12,681
Hardwoods—														
Mixed hardwoods	—	14	17	—	512	32	—	576	96	—	171	—	267	851
Paper birch	—	—	—	—	50	40	—	90	48	—	94	—	142	231
Poplar	—	—	—	—	95	—	—	95	114	157	—	—	272	367
Poplar–birch	—	—	—	—	—	—	—	—	94	—	120	—	214	214
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total hardwoods	—	14	17	—	658	72	—	761	353	157	385	—	895	1,664
All state and local	239	28	32	401	6,772	5,549	168	13,189	400	203	446	—	1,049	14,345
Private:														
Softwoods—														
Alaska cedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lodgepole pine	63	—	114	8	—	44	88	316	—	—	—	—	—	316
Mixed conifer	285	—	28	76	91	254	88	822	—	16	—	—	16	838
Mountain hemlock	—	—	—	71	43	—	—	114	—	—	—	—	—	114
Sitka spruce	—	—	—	—	1,008	201	—	1,210	—	—	—	—	—	1,210
Western hemlock	27	—	20	69	354	2,737	265	3,472	—	146	—	—	146	3,618
Western hemlock–Sitka spruce	4	—	—	140	1,230	1,490	—	2,863	—	94	—	—	94	2,957
Western redcedar–hemlock	66	1	12	7	238	729	421	1,474	—	100	—	—	100	1,574
Total softwoods	444	1	174	371	2,964	5,455	861	10,270	—	356	—	—	356	10,626

Table 20—Estimated average gross annual growth of growing stock on timberland by owner group, forest type, and species, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Softwoods								Hardwoods					
	Alaska yellow-cedar	Fir[b]	Lodgepole pine	Mountain hemlock	Sitka spruce	Western hemlock	Western redcedar	All softwoods	Black cottonwood	Red alder	Paper birch	Other	All hardwoods	All species
	Thousand cubic feet													
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–birch	—	—	6	—	108	—	—	113	47	—	19	—	66	179
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	8	50	—	58	—	73	—	—	73	132
Total hardwoods	—	—	6	—	116	50	—	172	47	73	19	—	139	311
All private	444	1	179	371	3,080	5,505	861	10,442	47	429	19	—	495	10,937
All owners:														
Softwoods—														
Alaska cedar–hemlock	1,935	—	24	608	381	1,122	146	4,215	—	—	—	—	—	4,215
Lodgepole pine	72	—	312	32	45	220	125	808	—	—	—	—	—	808
Mixed conifer	5,355	—	120	2,476	2,202	9,687	866	20,707	—	151	—	—	151	20,858
Mountain hemlock	57	—	—	4,136	1,737	1,371	—	7,302	—	—	—	—	—	7,302
Sitka spruce	—	3	18	337	17,040	2,189	—	19,587	211	167	51	—	429	20,016
Western hemlock	1,131	8	30	970	7,162	49,174	1,273	59,749	5	400	—	—	405	60,275
Western hemlock–Sitka spruce	520	48	8	1,137	15,240	18,944	321	36,218	26	439	10	—	475	36,702
Western redcedar–hemlock	1,150	1	79	544	1,457	8,444	7,685	19,360	—	257	—	—	257	19,617
Total softwoods	10,221	60	592	10,240	45,264	91,151	10,416	167,946	243	1,415	61	—	1,718	169,794
Hardwoods—														
Mixed hardwoods	—	14	17	—	512	32	—	576	96	—	171	—	267	851
Paper birch	—	—	—	—	50	40	—	90	48	—	94	—	142	231
Poplar	—	—	—	—	95	—	—	95	132	157	—	—	289	384
Poplar–birch	—	—	6	—	108	—	—	113	141	—	139	—	280	394
Poplar–spruce	—	—	—	—	89	—	—	89	91	—	—	—	91	180
Red alder	—	—	—	—	638	277	—	915	—	1,351	—	—	1,351	2,266
Total hardwoods	—	14	23	—	1,492	349	—	1,878	509	1,509	404	—	2,421	4,307
All owners	10,221	74	615	10,240	46,756	91,501	10,416	169,823	751	2,923	465	—	4,139	174,101

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

[b] Includes Pacific silver fir and subalpine fir.

Table 21—Estimated average gross annual growth of growing stock on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a]

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand cubic feet						
National forest:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	457	3,524	3,981
Lodgepole pine	—	—	—	—	—	491	491
Mixed conifer	—	—	—	40	4,419	15,256	19,715
Mountain hemlock	—	—	178	95	754	5,784	6,811
Sitka spruce	813	—	4,775	3,350	4,219	2,043	15,200
Western hemlock	—	165	3,770	10,235	21,199	16,691	52,059
Western hemlock–Sitka spruce	—	752	2,964	8,280	9,307	8,213	29,517
Western redcedar–hemlock	—	—	—	218	4,272	13,439	17,929
Total softwoods	813	917	11,687	22,218	44,628	65,441	145,703
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	17	17
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	180	180
Red alder	—	—	950	265	323	596	2,135
Total hardwoods	—	—	950	265	323	793	2,332
All national forest	813	917	12,637	22,483	44,951	66,234	148,035
Other federal:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	—	—	784	—	784
Western redcedar–hemlock	—	—	—	—	—	—	—
Total softwoods	—	—	—	—	784	—	784
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—
All other federal	—	—	—	—	784	—	784

Table 21—Estimated average gross annual growth of growing stock on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand cubic feet						
State and local:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	235	235
Lodgepole pine	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	305	305
Mountain hemlock	—	—	—	—	—	377	377
Sitka spruce	—	—	1,443	514	1,650	—	3,607
Western hemlock	—	—	1,161	937	1,375	1,125	4,598
Western hemlock–Sitka spruce	—	—	131	634	2,010	670	3,445
Western redcedar–hemlock	—	—	—	—	—	114	114
Total softwoods	—	—	2,735	2,085	5,035	2,827	12,681
Hardwoods—							
Mixed hardwoods	—	—	471	—	380	—	851
Paper birch	—	—	—	—	231	—	231
Poplar	—	—	—	124	—	243	367
Poplar–birch	—	—	—	214	—	—	214
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	471	338	611	243	1,664
All state and local	—	—	3,206	2,423	5,646	3,070	14,345
Private:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	316	316
Mixed conifer	—	—	—	—	—	838	838
Mountain hemlock	—	—	—	—	—	114	114
Sitka spruce	—	—	750	—	378	82	1,210
Western hemlock	—	—	126	162	2,362	968	3,618
Western hemlock–Sitka spruce	—	—	722	730	1,282	222	2,957
Western redcedar–hemlock	—	—	—	—	429	1,145	1,574
Total softwoods	—	—	1,598	893	4,451	3,685	10,626
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	179	179
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	132	—	—	—	132
Total hardwoods	—	—	132	—	—	179	311
All private	—	—	1,730	893	4,451	3,864	10,937

Table 21—Estimated average gross annual growth of growing stock on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand cubic feet						
All owners:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	457	3,758	4,215
Lodgepole pine	—	—	—	—	—	808	808
Mixed conifer	—	—	—	40	4,419	16,399	20,858
Mountain hemlock	—	—	178	95	754	6,275	7,302
Sitka spruce	813	—	6,968	3,864	6,247	2,125	20,016
Western hemlock	—	165	5,057	11,335	24,935	18,783	60,275
Western hemlock–Sitka spruce	—	752	3,817	9,644	13,383	9,106	36,702
Western redcedar–hemlock	—	—	—	218	4,701	14,698	19,617
Total softwoods	813	917	16,020	25,195	54,897	71,952	169,794
Hardwoods—							
Mixed hardwoods	—	—	471	—	380	—	851
Paper birch	—	—	—	—	231	—	231
Poplar	—	—	—	124	—	261	384
Poplar–birch	—	—	—	214	—	179	394
Poplar–spruce	—	—	—	—	—	180	180
Red alder	—	—	1,082	265	323	596	2,266
Total hardwoods	—	—	1,553	603	934	1,216	4,307
All owners	813	917	17,573	25,798	55,831	73,168	174,101

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 22—Estimated average gross annual growth of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a]

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand cubic feet			
National forest:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	3,981	—	3,981
Lodgepole pine	—	370	—	122	—	491
Mixed conifer	—	289	282	19,097	47	19,715
Mountain hemlock	36	44	342	6,390	—	6,811
Sitka spruce	182	729	7,287	7,002	—	15,200
Western hemlock	705	868	4,693	45,760	35	52,059
Western hemlock–Sitka spruce	608	326	6,480	22,043	60	29,517
Western redcedar–hemlock	43	202	756	16,929	—	17,929
Total softwoods	1,573	2,826	19,839	121,323	142	145,703
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	17	—	—	17
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	180	—	—	180
Red alder	93	1,758	—	265	19	2,135
Total hardwoods	93	1,758	197	265	19	2,332
All national forest	1,665	4,584	20,036	121,589	161	148,035
Other federal:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	784	—	—	784
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	—	—	784	—	—	784
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All other federal	—	—	784	—	—	784

Table 22—Estimated average gross annual growth of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand cubic feet			
State and local:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	235	—	235
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	183	—	121	1	305
Mountain hemlock	—	—	250	127	—	377
Sitka spruce	164	—	2,831	612	—	3,607
Western hemlock	392	629	870	2,708	—	4,598
Western hemlock–Sitka spruce	23	—	1,950	1,472	—	3,445
Western redcedar–hemlock	—	—	—	114	—	114
Total softwoods	579	811	5,901	5,388	1	12,681
Hardwoods—						
Mixed hardwoods	—	380	471	—	—	851
Paper birch	—	231	—	—	—	231
Poplar	—	—	243	124	—	367
Poplar–birch	—	214	—	—	—	214
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	825	715	124	—	1,664
All state and local	579	1,637	6,616	5,512	1	14,345
Private:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	316	—	316
Mixed conifer	—	—	—	838	—	838
Mountain hemlock	—	14	—	100	—	114
Sitka spruce	82	—	750	378	—	1,210
Western hemlock	57	—	1,758	1,793	11	3,618
Western hemlock–Sitka spruce	91	—	444	2,422	—	2,957
Western redcedar–hemlock	27	—	—	1,547	—	1,574
Total softwoods	256	14	2,951	7,394	11	10,626
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	179	—	—	—	179
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	132	—	—	132
Total hardwoods	—	179	132	—	—	311
All private	256	193	3,083	7,394	11	10,937

Table 22—Estimated average gross annual growth of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand cubic feet			
All owners:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	4,215	—	4,215
Lodgepole pine	—	370	—	438	—	808
Mixed conifer	—	471	282	20,056	49	20,858
Mountain hemlock	36	58	592	6,617	—	7,302
Sitka spruce	427	729	10,868	7,992	—	20,016
Western hemlock	1,153	1,497	7,320	50,260	46	60,275
Western hemlock–Sitka spruce	721	326	9,658	25,937	60	36,702
Western redcedar–hemlock	70	202	756	18,590	—	19,617
Total softwoods	2,407	3,652	29,475	134,106	155	169,794
Hardwoods—						
Mixed hardwoods	—	380	471	—	—	851
Paper birch	—	231	—	—	—	231
Poplar	—	—	261	124	—	384
Poplar–birch	—	394	—	—	—	394
Poplar–spruce	—	—	180	—	—	180
Red alder	93	1,758	132	265	19	2,266
Total hardwoods	93	2,762	1,044	389	19	4,307
All owners	2,500	6,414	30,518	134,495	173	174,101

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 23—Estimated average gross annual growth per acre of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a]

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Cubic feet			
National forest:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	35	—	35
Lodgepole pine	—	26	—	16	—	18
Mixed conifer	—	42	49	40	5	39
Mountain hemlock	6	30	55	36	—	36
Sitka spruce	9	53	79	64	—	64
Western hemlock	6	70	55	44	4	41
Western hemlock–Sitka spruce	7	56	66	50	2	45
Western redcedar–hemlock	7	35	49	48	—	47
Total softwoods	6	47	65	45	3	43
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	12	—	—	12
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	31	—	—	31
Red alder	32	89	—	46	13	71
Total hardwoods	32	89	27	46	13	63
All national forest	7	55	68	45	3	45
Other federal:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	135	—	—	135
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	—	—	135	—	—	135
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All other federal	—	—	135	—	—	135

Table 23—Estimated average gross annual growth per acre of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Cubic feet			
State and local:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	40	—	40
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	32	—	84	2	39
Mountain hemlock	—	—	43	22	—	33
Sitka spruce	14	—	110	53	—	74
Western hemlock	25	54	123	104	—	103
Western hemlock–Sitka spruce	4	—	79	46	—	55
Western redcedar–hemlock	—	—	—	39	—	39
Total softwoods	17	47	80	47	2	53
Hardwoods—						
Mixed hardwoods	—	66	81	—	—	73
Paper birch	—	40	—	—	—	40
Poplar	—	—	84	21	—	42
Poplar–birch	—	37	—	—	—	37
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	47	82	21	—	52
All state and local	17	47	80	46	2	53
Private:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	27	—	27
Mixed conifer	—	—	—	89	—	39
Mountain hemlock	—	12	—	20	—	18
Sitka spruce	7	—	129	116	—	90
Western hemlock	7	—	177	100	—	80
Western hemlock–Sitka spruce	13	—	104	138	—	75
Western redcedar–hemlock	5	—	—	119	—	107
Total softwoods	3	12	55	42	—	27
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	31	—	—	—	31
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	46	—	—	46
Total hardwoods	—	31	46	—	—	36
All private	3	28	55	42	—	28

Table 23—Estimated average gross annual growth per acre of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Cubic feet			
All owners:						
Softwoods —						
Alaska cedar-hemlock	—	—	—	35	—	35
Lodgepole pine	—	26	—	23	—	20
Mixed conifer	—	37	49	40	2	38
Mountain hemlock	6	22	49	35	—	35
Sitka spruce	10	53	84	63	—	62
Western hemlock	6	62	53	44	1	39
Western hemlock-Sitka spruce	7	56	70	49	1	45
Western redcedar-hemlock	6	35	49	49	—	47
Total softwoods	6	46	67	45	1	42
Hardwoods —						
Mixed hardwoods	—	66	81	—	—	73
Paper birch	—	40	—	—	—	40
Poplar	—	—	60	21	—	38
Poplar-birch	—	34	—	—	—	34
Poplar-spruce	—	—	31	—	—	31
Red alder	32	89	46	46	13	69
Total hardwoods	32	64	56	34	13	55
All owners	7	53	67	44	1	43

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 24—Estimated average annual mortality of growing stock on timberland by owner group, forest type, and species, southeast Alaska, 2000[a]

Owner group and forest type	Softwoods								Hardwoods					
	Alaska yellow-cedar	Fir[b]	Lodgepole pine	Mountain hemlock	Sitka spruce	Western hemlock	Western redcedar	All softwoods	Black cottonwood	Red alder	Paper birch	Other	All hardwoods	All species
	Thousand cubic feet													
National forest:														
Softwoods—														
Alaska cedar–hemlock	883	—	—	429	404	934	—	2,650	—	—	—	—	—	2,650
Lodgepole pine	—	—	99	19	13	17	—	148	—	—	—	—	—	148
Mixed conifer	6,018	—	236	968	8,817	6,420	64	22,523	—	—	—	—	—	22,523
Mountain hemlock	—	—	—	2,013	40	330	—	2,383	—	—	—	—	—	2,383
Sitka spruce	—	—	13	26	4,770	514	—	5,322	617	9	—	—	627	5,949
Western hemlock	1,360	—	—	144	7,182	25,931	4,407	39,024	—	—	—	—	—	39,024
Western hemlock–Sitka spruce	406	—	—	71	4,477	9,009	—	13,963	—	324	—	—	324	14,288
Western redcedar–hemlock	1,986	—	413	255	2,146	4,727	6,723	16,249	—	37	—	—	37	16,286
Total softwoods	10,653	—	761	3,925	27,849	47,881	11,193	102,263	617	371	—	—	988	103,251
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
All national forest	10,653	—	761	3,925	27,849	47,881	11,193	102,263	617	371	—	—	988	103,251
Other federal:														
Softwoods—														
Alaska cedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	—	—	414	44	—	458	—	—	69	—	69	527
Western redcedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total softwoods	—	—	—	—	414	44	—	458	—	—	69	—	69	527
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 24—Estimated average annual mortality of growing stock on timberland by owner group, forest type, and species, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Softwoods								Hardwoods					
	Alaska yellow-cedar	Fir[b]	Lodgepole pine	Mountain hemlock	Sitka spruce	Western hemlock	Western redcedar	All softwoods	Black cottonwood	Red alder	Paper birch	Other	All hardwoods	All species
	Thousand cubic feet													
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
All other federal	—	—	—	—	414	44	—	458	—	—	69	—	69	527
State and local:														
Softwoods—														
Alaska cedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sitka spruce	—	—	291	—	394	—	—	684	—	—	—	—	—	684
Western hemlock	—	—	—	—	690	656	—	1,347	—	—	—	—	—	1,347
Western hemlock–Sitka spruce	—	—	—	—	—	1,548	—	1,548	—	—	8	—	8	1,557
Western redcedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total softwoods	—	—	291	—	1,084	2,204	—	3,579	—	—	8	—	8	3,587
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	49	—	49	49
Paper birch	—	—	—	—	198	—	—	198	—	—	—	—	—	198
Poplar	—	—	—	—	—	—	—	—	307	—	—	—	307	307
Poplar–birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	198	—	—	198	307	—	49	—	357	555
All state and local	—	—	291	—	1,283	2,204	—	3,778	307	—	57	—	365	4,142
Private:														
Softwoods—														
Alaska cedar–hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lodgepole pine	166	—	—	—	—	—	50	216	—	—	—	—	—	216
Mixed conifer	235	—	—	304	779	212	—	1,530	—	—	—	—	—	1,530
Mountain hemlock	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sitka spruce	—	—	—	—	74	—	—	74	—	—	—	—	—	74
Western hemlock	—	—	227	612	1,045	3,284	—	5,168	—	—	—	—	—	5,168
Western hemlock–Sitka spruce	—	—	—	277	2,222	703	—	3,202	—	—	—	—	—	3,202
Western redcedar–hemlock	29	—	—	—	—	57	—	86	—	—	—	—	—	86
Total softwoods	430	—	227	1,192	4,120	4,257	50	10,276	—	—	—	—	—	10,276

Table 24—Estimated average annual mortality of growing stock on timberland by owner group, forest type, and species, southeast Alaska, 2000[a] (continued)

Owner group and forest type	Softwoods								Hardwoods					
	Alaska yellow-cedar	Fir[b]	Lodgepole pine	Mountain hemlock	Sitka spruce	Western hemlock	Western redcedar	All softwoods	Black cottonwood	Red alder	Paper birch	Other	All hardwoods	All species
	Thousand cubic feet													
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	132	—	132	—	—	—	—	—	132
Total hardwoods	—	—	—	—	—	132	—	132	—	—	—	—	—	132
All private	430	—	227	1,192	4,120	4,389	50	10,408	—	—	—	—	—	10,408
All owners:														
Softwoods—														
Alaska cedar–hemlock	883	—	—	429	404	934	—	2,650	—	—	—	—	—	2,650
Lodgepole pine	166	—	99	19	13	17	50	364	—	—	—	—	—	364
Mixed conifer	6,253	—	236	1,271	9,597	6,632	64	24,053	—	—	—	—	—	24,053
Mountain hemlock	—	—	—	2,013	40	330	—	2,383	—	—	—	—	—	2,383
Sitka spruce	—	—	304	26	5,237	514	—	6,080	617	9	—	—	627	6,707
Western hemlock	1,360	—	227	756	8,918	29,871	4,407	45,539	—	—	—	—	—	45,539
Western hemlock–Sitka spruce	406	—	—	348	7,113	11,304	—	19,171	—	324	77	—	402	19,573
Western redcedar–hemlock	2,015	—	413	255	2,146	4,784	6,723	16,335	—	37	—	—	37	16,372
Total softwoods	11,083	—	1,279	5,117	33,467	54,386	11,244	116,576	617	371	77	—	1,066	117,641
Hardwoods—														
Mixed hardwoods	—	—	—	—	—	—	—	—	—	—	49	—	49	49
Paper birch	—	—	—	—	198	—	—	198	—	—	—	—	—	198
Poplar	—	—	—	—	—	—	—	—	307	—	—	—	307	307
Poplar–birch	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	132	—	132	—	—	—	—	—	132
Total hardwoods	—	—	—	—	198	132	—	331	307	—	49	—	357	687
All owners	11,083	—	1,279	5,117	33,666	54,519	11,244	116,907	925	371	127	—	1,422	118,329

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

[b] Includes Pacific silver fir and subalpine fir.

Table 25—Estimated average annual mortality of growing stock on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a]

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand cubic feet						
National forest:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	24	2,627	2,650
Lodgepole pine	—	—	—	—	—	148	148
Mixed conifer	—	—	—	134	9,338	13,051	22,523
Mountain hemlock	—	—	—	—	93	2,290	2,383
Sitka spruce	881	—	189	1,217	3,490	171	5,949
Western hemlock	—	—	3,644	15,880	9,139	10,362	39,024
Western hemlock–Sitka spruce	—	—	1,467	5,284	3,447	4,090	14,288
Western redcedar–hemlock	—	—	—	—	6,625	9,661	16,286
Total softwoods	881	—	5,300	22,515	32,155	42,400	103,251
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—
All national forest	881	—	5,300	22,515	32,155	42,400	103,251
Other federal:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	—	—	527	—	527
Western redcedar–hemlock	—	—	—	—	—	—	—
Total softwoods	—	—	—	—	527	—	527
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—	—
All other federal	—	—	—	—	527	—	527

Table 25—Estimated average annual mortality of growing stock on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand cubic feet						
State and local:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—	—
Sitka spruce	—	—	502	11	172	—	684
Western hemlock	—	—	200	134	725	287	1,347
Western hemlock–Sitka spruce	—	—	—	—	1,557	—	1,557
Western redcedar–hemlock	—	—	—	—	—	—	—
Total softwoods	—	—	702	145	2,454	287	3,587
Hardwoods—							
Mixed hardwoods	—	—	—	—	49	—	49
Paper birch	—	—	—	—	198	—	198
Poplar	—	—	—	307	—	—	307
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	—	—	—	—	—
Total hardwoods	—	—	—	307	248	—	555
All state and local	—	—	702	453	2,701	287	4,142
Private:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	216	216
Mixed conifer	—	—	—	—	—	1,530	1,530
Mountain hemlock	—	—	—	—	—	—	—
Sitka spruce	—	—	24	—	50	—	74
Western hemlock	—	—	—	—	3,237	1,931	5,168
Western hemlock–Sitka spruce	—	—	2,021	431	469	279	3,202
Western redcedar–hemlock	—	—	—	—	—	86	86
Total softwoods	—	—	2,045	431	3,756	4,043	10,276
Hardwoods—							
Mixed hardwoods	—	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—	—
Poplar	—	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	132	—	—	—	132
Total hardwoods	—	—	132	—	—	—	132
All private	—	—	2,178	431	3,756	4,043	10,408

Table 25—Estimated average annual mortality of growing stock on timberland by owner group, forest type, and site class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Site class (cubic feet)						
	225+	165–224	120–164	85–119	50–84	20–49	All classes
	Thousand cubic feet						
All owners:							
Softwoods—							
Alaska cedar–hemlock	—	—	—	—	24	2,627	2,650
Lodgepole pine	—	—	—	—	—	364	364
Mixed conifer	—	—	—	134	9,338	14,581	24,053
Mountain hemlock	—	—	—	—	93	2,290	2,383
Sitka spruce	881	—	715	1,228	3,711	171	6,707
Western hemlock	—	—	3,843	16,014	13,101	12,580	45,539
Western hemlock–Sitka spruce	—	—	3,488	5,715	6,000	4,369	19,573
Western redcedar–hemlock	—	—	—	—	6,625	9,747	16,372
Total softwoods	881	—	8,047	23,092	38,892	46,730	117,641
Hardwoods—							
Mixed hardwoods	—	—	—	—	49	—	49
Paper birch	—	—	—	—	198	—	198
Poplar	—	—	—	307	—	—	307
Poplar–birch	—	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—	—
Red alder	—	—	132	—	—	—	132
Total hardwoods	—	—	132	307	248	—	687
All owners	881	—	8,179	23,399	39,139	46,730	118,329

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 26—Estimated average annual mortality of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a]

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand cubic feet			
National forest:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	2,650	—	2,650
Lodgepole pine	—	148	—	—	—	148
Mixed conifer	—	102	82	22,204	134	22,523
Mountain hemlock	—	—	19	2,364	—	2,383
Sitka spruce	—	165	2,673	3,111	—	5,949
Western hemlock	1,481	58	1,367	36,074	44	39,024
Western hemlock–Sitka spruce	37	185	2,626	11,439	—	14,288
Western redcedar–hemlock	83	—	639	15,564	—	16,286
Total softwoods	1,601	657	7,407	93,407	178	103,251
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All national forest	1,601	657	7,407	93,407	178	103,251
Other federal:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	527	—	—	527
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	—	—	527	—	—	527
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All other federal	—	—	527	—	—	527

Table 26—Estimated average annual mortality of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand cubic feet			
State and local:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	556	128	—	684
Western hemlock	33	—	200	1,113	—	1,347
Western hemlock–Sitka spruce	—	—	23	1,534	—	1,557
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	33	—	779	2,775	—	3,587
Hardwoods—						
Mixed hardwoods	—	49	—	—	—	49
Paper birch	—	198	—	—	—	198
Poplar	—	—	—	307	—	307
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	248	—	307	—	555
All state and local	33	248	779	3,082	—	4,142
Private:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	216	—	216
Mixed conifer	—	—	—	1,530	—	1,530
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	24	50	—	74
Western hemlock	255	—	2,684	674	1,555	5,168
Western hemlock–Sitka spruce	89	—	76	3,037	—	3,202
Western redcedar–hemlock	—	—	—	86	—	86
Total softwoods	344	—	2,784	5,593	1,555	10,276
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	132	—	—	132
Total hardwoods	—	—	132	—	—	132
All private	344	—	2,917	5,593	1,555	10,408

Table 26—Estimated average annual mortality of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Thousand cubic feet			
All owners:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	2,650	—	2,650
Lodgepole pine	—	148	—	216	—	364
Mixed conifer	—	102	82	23,735	134	24,053
Mountain hemlock	—	—	19	2,364	—	2,383
Sitka spruce	—	165	3,253	3,289	—	6,707
Western hemlock	1,769	58	4,251	37,862	1,599	45,539
Western hemlock–Sitka spruce	126	185	3,252	16,010	—	19,573
Western redcedar–hemlock	83	—	639	15,650	—	16,372
Total softwoods	1,978	657	11,497	101,776	1,733	117,641
Hardwoods—						
Mixed hardwoods	—	49	—	—	—	49
Paper birch	—	198	—	—	—	198
Poplar	—	—	—	307	—	307
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	132	—	—	132
Total hardwoods	—	248	132	307	—	687
All owners	1,978	905	11,629	102,083	1,733	118,329

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 27—Estimated average annual mortality per acre of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a]

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Cubic feet			
National forest:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	23	—	23
Lodgepole pine	—	10	—	—	—	5
Mixed conifer	—	15	14	46	15	44
Mountain hemlock	—	—	3	13	—	12
Sitka spruce	—	12	29	28	—	25
Western hemlock	12	5	16	35	5	31
Western hemlock–Sitka spruce	—	32	27	26	—	22
Western redcedar–hemlock	14	—	42	44	—	43
Total softwoods	6	11	24	34	4	30
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All national forest	1	9	27	34	4	30
Other federal:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	—	—	—	—
Western hemlock	—	—	—	—	—	—
Western hemlock–Sitka spruce	—	—	91	—	—	91
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	—	—	91	—	—	91
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	—	—	—	—	—
All other federal	—	—	91	—	—	91

Table 27—Estimated average annual mortality per acre of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Cubic feet			
State and local:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	—	—	—
Mixed conifer	—	—	—	—	—	—
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	22	11	—	14
Western hemlock	2	—	13	32	—	21
Western hemlock–Sitka spruce	—	—	1	48	—	25
Western redcedar–hemlock	—	—	—	—	—	—
Total softwoods	1	—	11	24	—	15
Hardwoods—						
Mixed hardwoods	—	8	—	—	—	4
Paper birch	—	34	—	—	—	34
Poplar	—	—	—	53	—	35
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	—	—	—	—
Total hardwoods	—	14	—	53	—	17
All state and local	1	7	9	26	—	15
Private:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	—	—	—
Lodgepole pine	—	—	—	19	—	19
Mixed conifer	—	—	—	156	—	71
Mountain hemlock	—	—	—	—	—	—
Sitka spruce	—	—	4	11	—	6
Western hemlock	28	—	142	324	46	70
Western hemlock–Sitka spruce	12	—	17	59	—	40
Western redcedar–hemlock	—	—	—	11	—	11
Total softwoods	4	—	52	32	22	27
Hardwoods—						
Mixed hardwoods	—	—	—	—	—	—
Paper birch	—	—	—	—	—	—
Poplar	—	—	—	—	—	—
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	47	—	—	47
Total hardwoods	—	—	47	—	—	15
All private	4	—	52	32	22	26

Table 27—Estimated average annual mortality per acre of growing stock on timberland by owner group, forest type, and stand-size class, southeast Alaska, 2000 [a] (continued)

Owner group and forest type	Seedling/ sapling	Poletimber	Young sawtimber	Old sawtimber	Nonstocked	All classes
			Cubic feet			
All owners:						
Softwoods—						
Alaska cedar–hemlock	—	—	—	22	—	22
Lodgepole pine	—	10	—	11	—	9
Mixed conifer	—	8	14	47	6	44
Mountain hemlock	—	—	2	13	—	11
Sitka spruce	—	12	25	26	—	21
Western hemlock	9	2	31	33	37	29
Western hemlock–Sitka spruce	1	32	24	30	—	24
Western redcedar–hemlock	7	—	42	41	—	39
Total softwoods	5	8	26	34	15	29
Hardwoods—						
Mixed hardwoods	—	8	—	—	—	4
Paper birch	—	34	—	—	—	34
Poplar	—	—	—	53	—	30
Poplar–birch	—	—	—	—	—	—
Poplar–spruce	—	—	—	—	—	—
Red alder	—	—	47	—	—	4
Total hardwoods	—	6	7	27	—	9
All owners	5	7	25	34	15	29

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 28—Estimated average annual mortality of growing stock on timberland by species and primary damage, southeast Alaska, 2000 [a]

Primary damage	Alaska yellow-cedar	Sitka spruce	Lodgepole pine	Western redcedar	Western hemlock	Mountain hemlock	Red alder	Paper birch	Cottonwood	All species
					Thousand cubic feet					
Alaska yellow-cedar decline	3,827	—	—	—	—	—	—	—	—	3,827
Animal damage	7	216	—	—	477	16	—	—	—	716
Foliage disease	—	—	—	338	—	—	—	—	—	338
Human activity	120	242	—	—	2,159	669	9	—	—	3,199
Insects	—	3,119	—	32	223	—	—	—	—	3,374
Mistletoe	—	—	—	—	701	—	—	—	—	701
Physical defect	38	765	—	30	185	13	—	—	—	1,030
Rot and decay	—	81	102	9	985	—	—	—	—	1,177
Wind	742	2,979	—	943	12,179	937	—	49	307	18,136
Unknown	6,349	26,262	1,177	9,891	37,610	3,483	361	77	617	85,830
All damages	11,083	33,666	1,279	11,244	54,519	5,117	371	127	925	118,329

— = no data were collected.

[a] Totals may be off because of rounding. Estimates are subject to sampling error.

Table 29—Standard errors of selected inventory estimates, southeast Alaska, 2000

Attribute	Estimate		Standard error
			Percent
All forest land	10,994,800	acres	1.6
Other forest land	6,898,400	acres	2.4
Timberland	4,096,400	acres	3.3
Nonforest land	11,873,800	acres	1.5
Net volume	21,040,000	million cubic feet	4.6
Gross growth	174,100	million cubic feet	3.8
Mortality	118,300	million cubic feet	10.6

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