USDA
United States Department of Agriculture

Forest Resources of the United States, 2017

A Technical Document Supporting the Forest Service 2020 RPA Assessment

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Forest Service Gen. Tech. Report WO-97 March 2019

Abstract

Oswalt, Sonja N.; Smith, W. Brad; Miles, Patrick D.; Pugh, Scott A., coords. 2019. Forest Resources of the United States, 2017: a technical document supporting the Forest Service 2020 RPA Assessment. Gen. Tech. Rep. WO-97. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. 223 p. https://doi.org/10.2737/WO-GTR-97.

This publication provides forest resource statistics contributing to the 2020 Resources Planning Act (RPA) Assessment to provide current information on the Nation's forests. Resource tables present estimates of forest area, volume, mortality, growth, removals, and timber-product output in various ways within the context of changes since 1953. Additional analyses look at the resource from an ecological, health, and productivity perspective. Tables are available in .pdf and Excel format online at https://www.fia.fs.fed.us/program-features/rpa/index.php. Users may also query Forest Inventory and Analysis data using the online EVALIDator tool, selecting the radio button labeled "Use RPA definition of forestland" on the second page of the query tool, available online at https://apps.fs.usda.gov/Evalidator/evalidator.jsp.

▲ Maroon Lake, Aspen, CO. Courtesy photo by istockphoto.com/Sean Xu.

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▲ Winter in Colorado. Courtesy photo by istockphoto.com/Ron Thomas.

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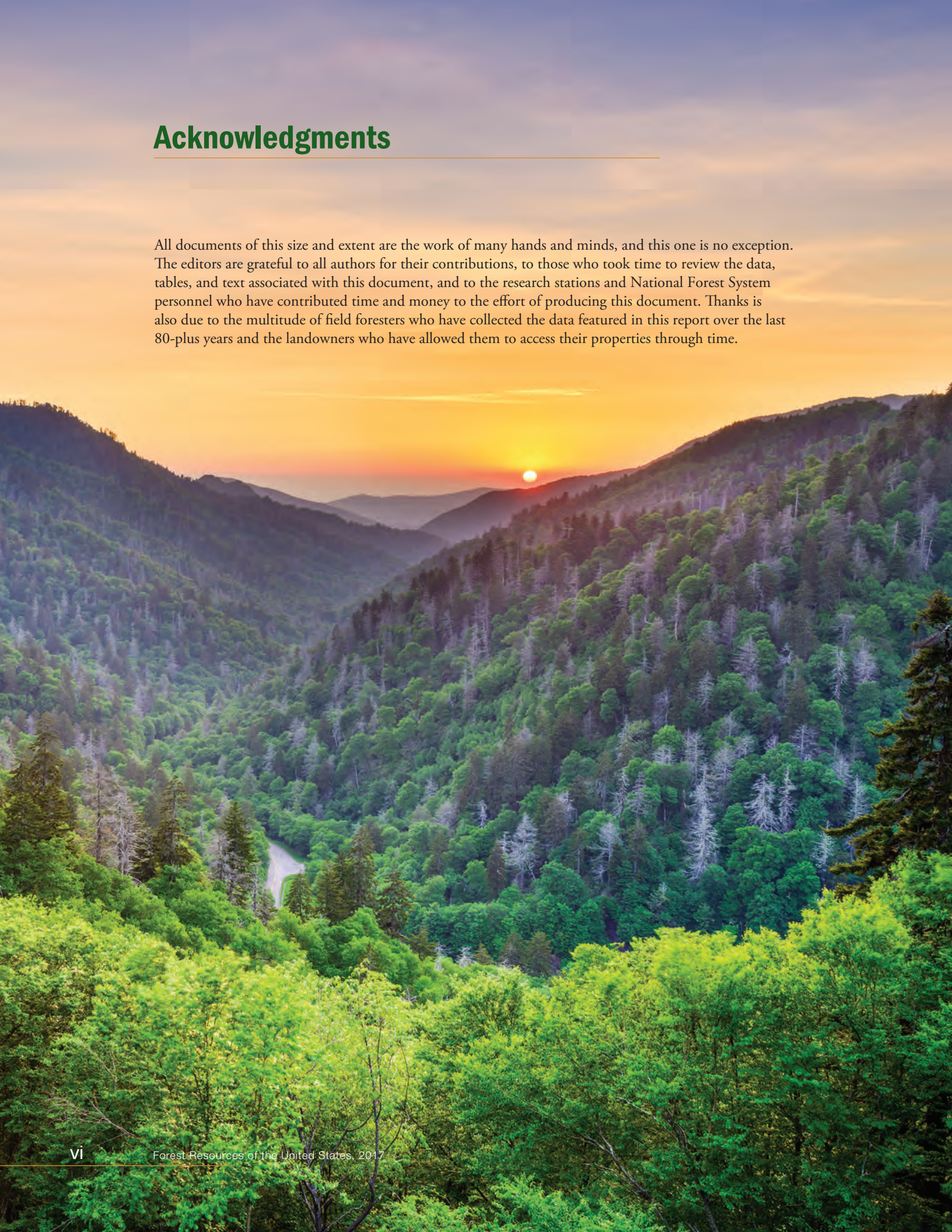
Acknowledgments

All documents of this size and extent are the work of many hands and minds, and this one is no exception. The editors are grateful to all authors for their contributions, to those who took time to review the data, tables, and text associated with this document, and to the research stations and National Forest System personnel who have contributed time and money to the effort of producing this document. Thanks is also due to the multitude of field foresters who have collected the data featured in this report over the last 80-plus years and the landowners who have allowed them to access their properties through time.



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◀ Newfound Gap in the Great Smoky Mountains National Park along the border of North Carolina and Tennessee. Courtesy photo by istockphoto.com/Sean Pavone.

Highlights

- Forest and woodland area in the United States has plateaued at 823 million acres following decades of expansion. Forest land area alone occupies 766 million acres. Together, forest and woodlands comprise over one-third of the U.S. landscape and contain 1 trillion cubic feet of wood volume—enough wood to fill the Great Pyramid of Giza 12 thousand times.
- Although forest and woodland area totals remain stable, changes have occurred at regional and local scales, often in dynamic ways not reflected by summed acreages. For example, the road network in the United States has grown so that any person can now travel will within one mile of over 88 percent of coniferous forest land and 97 percent of deciduous forest land, rendering all but the most remote forests accessible to humans.
- While forest land is becoming more accessible to people and 67 percent of forest land is legally available for harvest activities, tree cutting and removal occurs on less than 2 percent of forest land per year. Contrast that with the nearly 3 percent disturbed annually by natural events like insects, disease, and fire.
- Wildfire, insects, and disease are among the biggest threats to forests and woodlands in the nation. Low harvest rates, aging forests, mortality from insect and disease infestations, and extreme weather events have combined to create conditions that facilitate wildfire.
- The five most damaging insect and disease agents, nationwide, include mountain pine beetle, spruce beetle, fir engraver, western pine beetle, and five-needle pine decline. Since 2012, mountain pine beetle damage increased by 1.1 million acres yearly.
- While average annual mortality rates have increased nationwide over the last decade, mortality rates in the Rocky Mountains have doubled in that same timeframe as continuous drought, pine beetle events, and wildfires continue to plague the region. The heavy mortality rates are reflected in declining softwood volumes in the West.
- Nonnative invasive plants continue to impact native forests and woodlands. Tallow-tree is now the most commonly observed nonnative invasive tree on forest land in the United States, with an estimated volume of 457 million cubic feet. Replacement of native species with nonnative invasive trees can impact regeneration, soil chemistry, and habitat availability, as well as replacing unique landscape features like coastal prairies with monocultures of nonnative forest.
- Disturbances and changing conditions on forested land are reflected in changes in tree species composition and distribution. Red maple, a species that responds positively to disturbances, is now the most numerous tree in the conterminous United States with a population estimate of 25 billion trees.
- Forest industry in the United States comprises 17 percent of global roundwood production, and the Nation has the highest intensity of industrial roundwood consumption per capita. The impact of the 2007 recession on wood product demand is still reflected in inventory data, with a 19 percent decline in Southern timber removals between 2006 and 2016. However, that trend should reverse as housing markets continue to recover.
- Bioenergy is an increasingly important industrial forest product. Wood energy accounts for 20 percent of all renewable energy and 41 percent of all bioenergy in 2016. Most of the wood energy that was used was manufactured by the wood products industry. In fact, the United States accounts for 26 percent total wood pellet production worldwide.
- Wood-processing facilities generated 4 million tons of mill residue in 2016, 99 percent of which was used for either fuel or fiber products like pulp and paper.
- The value of trees outside of forests continues to grow in importance as economic and public health data show that trees in the urban setting can reduce energy use for heating and cooling by $5.4 billion annually while producing 67 million tons of oxygen per year and sequestering 37 million tons of carbon.

- Nonwood forest products remain important to local economies and native peoples. Maple syrup, for example, contributes over $100 million to the economy of producing States, and American ginseng harvest values range from $18 to $36 million.
- Native peoples have sovereignty over more than 2 million acres of land. Over 300 Tribes manage forest land using a Forest Management Plan developed in coordination with the Bureau of Indian Affairs.
- National Forests, administered by the U.S. Forest Service, account for 35 percent of reserved forest land area, nationwide. Tree removals for products, fire management, and land-use changes on national forests are very low and consume only 0.2 percent of standing volume on average, annually.
- Despite the low volume of wood extracted from national forests, average annual net growth (calculated as gross growth minus mortality) declined while average annual mortality nearly doubled from 2006-2016. These patterns reflect aging forests and combinations of wildfire, drought, and insect infestations.

▲ Houseboat headquarters of forest survey crew covering the Grand Lake area, Bayou Sorrel, Iberville Parish, LA. USDA Forest Service photo by R.K. Winters.

▲ A brown bear wanders down Pack Creek on Admiralty Island National Monument within the Tongass National Forest, AK, looking for salmon. USDA Forest Service photo by Paul A. Robbins.

Introduction

The U.S. landscape is a rich tapestry weaving together polar ice caps and tropical rainforest, vibrant cities and quiet prairies, giant sequoias and petite eastern dogwoods. Within this matrix, forests large and small play a key role in providing clean water and air, habitat for wildlife, recreational opportunities, and significant contributions to the Nation's vibrant economy. Simultaneously, the country's forests are impacted by a host of pressures, including invasive species, natural disasters, changing climate, increasing development and population pressures, and competing use interests. Ongoing knowledge of the forest resources available in the United States is key to maintaining the level of services provided by our forests and woodlands, tracking the wood supply available for timber production, and responding to our international agreements related to global climate change and carbon accounting.

The development of the Forest Resources Report has its roots in the mandate set forth in the Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974, P.L. 93-378, 88 Stat. 475, as amended. The RPA requires the Secretary of the U.S. Department of Agriculture to conduct decadal assessments of the Nation's renewable resources. These assessments must include, among other information, "an inventory…of present and potential renewable resources, and an evaluation of opportunities for improving their yield of tangible and intangible services."

This report serves as a supporting document to the RPA Assessment by providing information on the status, condition, and trends in the Nation's forest resources. The data in this report are presented at a range of geographic scales, from State-level estimates to regional and national totals. Data tables are also available as downloadable Excel files for custom analyses by visiting the following website: https://www.fia.fs.fed.us/program-features/rpa/index.php. The regions and sub-regions referenced throughout this report and shown in figure I-1 are the regions used by both the RPA Assessment and the Forest Inventory and Analysis program.

A companion report that readers will find of interest is the National Report on Sustainable Forests—2010.[1] That report focuses on the broadest environmental, social, and economic outcomes related to forest management—jobs, trends in endangered forest species, impact of soil resources, legislative trends, etc. Together, these two reports help the United States establish a quantitative baseline for measuring progress toward resource sustainability.

For the reader interested in small-scale national forest information, he or she is encouraged to search for U.S. national forest plans available from: https://www.fs.fed.us/managing-land/national-forests-grasslands.

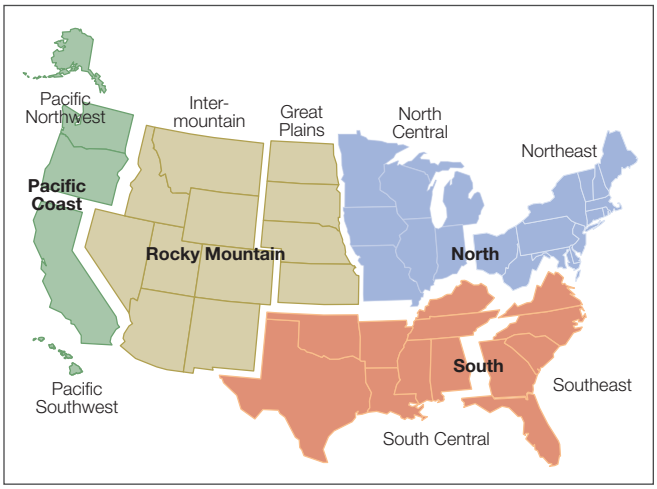


Figure I-1. RPA regions and subregions in the United States.

[1] https://www.fs.fed.us/research/sustain/national-report.php.

▲ Young woman walking on hiking trail in Harpers Ferry, WV. Courtesy photo by istockphoto.com/.

Section 1. Extent of Forest and Woodland Resources

Author: Sonja N. Oswalt

Understanding the extent of forest and woodland resources in the Nation is key to making informed policy and management decisions, whether at the local, State, national, or international scale. Knowledge of available resources also serves to guide public and private investment dollars, whether through reforestation programs, recreation and tourism industries, or harvesting and use operations.

▲ Moss covered tree stump. Courtesy photo by istockphoto.com/ Holly Cromer.

Defining a Forest

Defining forested land in a manner that is ecologically meaningful, nationally and internationally consistent, and measurable in the field is not always easy or straightforward. This report defines forest land in a manner consistent with the Food and Agriculture Organization of the United Nations (FAO) internationally agreed-upon definition:

> *Forest land—Land at least 120 feet (37 meters) wide and at least 1 acre (0.4 hectare) in size with at least 10 percent cover (or equivalent stocking) by live trees including land that formerly had such tree cover and that will be naturally or artificially regenerated. Trees are woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) in diameter at breast height, or 5 inches (12.7 cm) diameter at root collar and a height of 16.4 feet (5 meters) at maturity* in situ.

In contrast, the domestic definition of forest land used by the Forest Inventory and Analysis (FIA) program of the Forest Service does not require trees to meet the *in situ* height requirement. Plots where land is classified as "forest land" by FIA but are not productive enough to meet the FAO definition have been placed into a category termed "woodland" for this report, which is defined as:

> *Woodland (FAO)—Land at least 120 feet (37 meters) wide and at least 1 acre (0.4 hectares) in size with sparse trees capable of achieving 16.4 feet (5 meters) in height with a tree canopy cover of 5 to 10 percent combined with shrubs at least 6 feet (2 meters) in height to achieve an overall cover of greater than 10 percent woody vegetation. Trees are woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) in diameter at breast height, or 16.4 feet (5 meters) at maturity* in situ.

Thus, forest and woodland categories in this report sum to match the FIA domestic forest land value. In addition to forest land and woodland, both programs (FIA and FAO) recognize timberland as a sub-classification of forest land, defined as:

> *Forest land that is producing or capable of producing 20 cubic feet per acre or more per year of wood at culmination of mean annual increment. Timberland excludes reserved forest lands.*

Prior to the 1990s, the United States collected data primarily on timberland. Therefore, in the interest of maintaining continuity with historic data, long-term trends in this report are often given for timberland instead of forest land. Definitions for other terms may be found in Glossary of Terms.

Forest and Timberland Area and Area Trends, Stand Origin

The U.S. Census Bureau reports the total land area of the continental United States and Hawaii (excluding the Caribbean Islands and U.S. territories) as 2.3 billion acres. The Rocky Mountain Region comprises 33 percent of U.S. land area, followed by the Pacific Coast (including Alaska and Hawaii) at 25 percent, the South at 24 percent, and the North at 18 percent.

Forests and woodlands combined occupy 822.5 million acres of the U.S. land base. Of those, 93 percent (765.5 million acres) meet the international definition of forest, with the remaining 7 percent recognized as woodlands. Thus, forests comprise 34 percent of the American landscape, and forests combined with woodlands comprise 36 percent (figure 1-1). Forest area trended upward from 1987 to 2012, but now appears to have reached a plateau (figure 1-2). Some noise around the data between 2012 and 2017 comes primarily from the West and is a product of the data collection process rather than a real change on the landscape.

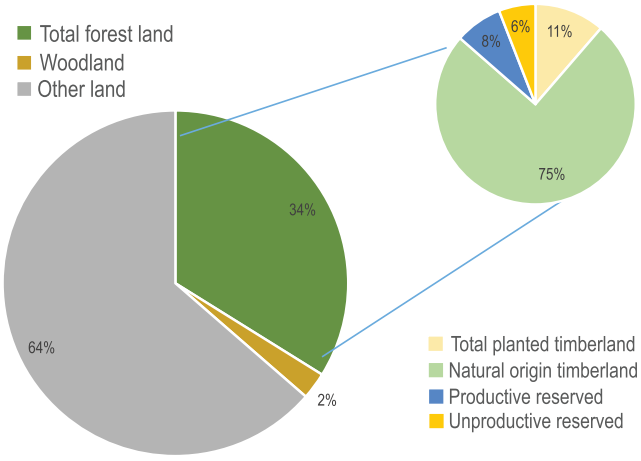


Figure 1-1. Proportion of U.S. land by major land use with a breakout of total forest land by stand origin.

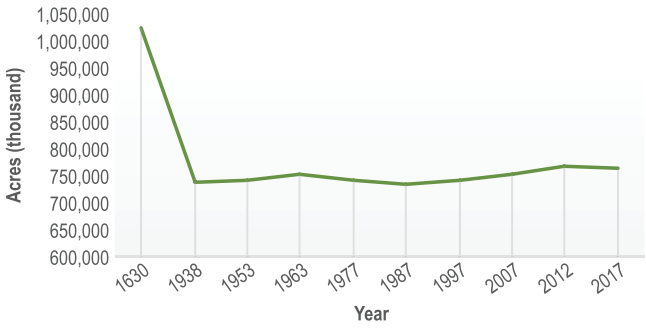


Figure 1-2. Forest land area in the United States, 1630–2017.

Though it occupies more land mass, the Rocky Mountain Region is less forested than any other, at 18 percent (comprising 17 percent total of U.S. forest land), which is unsurprising given its arid climate. It does, however, comprise 51 percent of the Nation's woodland area (see the woodlands section in this chapter). The South (primarily Texas and Oklahoma) comprises an additional 39 percent of woodland area, with the remainder scattered among States in the Pacific Coast. In contrast with the Rocky Mountain Region, the South is 46 percent forested and comprises 32 percent of forest area in the Nation; followed by the North, which is 43 percent forested and comprises 23 percent of forest area in the country; and the Pacific Coast, which is 37 percent forested and comprises 28 percent of the country's forest land. Maine continues to be the most heavily forested State at 89 percent, whereas North Dakota and other States in the Great Plains subregion are the least forested.

Forest land area trends for each region show remarkable stability through time, with the exception of the time period between initial European colonization and the first statistical inventories of the Nation. Since 1997, forest land has increased in all but one region. The largest increase has been in the South, at 6 percent. The Rocky Mountain and North both saw gains of 3 percent of forest land. The Pacific Coast lost forest land (less than 1 percent), although it is important to note that much of that change is an artifact of changes in inventory process in the late 1990s and early 2000s that resulted in a paucity of available trend data during those reporting periods.

Timberland comprises 67 percent of forest land in the United States. The vast majority (87 percent) of timberland is of natural origin. The remainder is planted forest, which may include plantations (e.g., loblolly pine trees grown in rows), augmented planting of natural stands (e.g., planting oak trees under a canopy), or planting for the purposes of restoration.

Southern forests, sometimes referred to as the "wood basket" of the Nation, have the highest planted timberland rates (71 percent of all planted timberland). Alabama, with 33 percent of its timberland planted, Georgia (32 percent), Mississippi (32 percent), Florida (31 percent), and Louisiana (31 percent) all have the highest proportions of planted to total timberland, nationally. The Pacific Coast States of Oregon and Washington have the largest proportion of planted timberland outside the South at 28 and 27 percent of their total timberland areas, respectively.

The primary planted forest-type group on southern timberland is loblolly-shortleaf pine at 71 percent of all of the South's planted forests. Loblolly and shortleaf pine trees are widely important in the pulp and paper industries, as well as for dimensional lumber and plywood (see section 4). The Douglas-fir forest-type group represents the majority (63 percent) of planted trees in the Pacific Coast States. Douglas-fir is used for dimensional lumber and plywood as well as marine structures

(e.g., docks), railroad ties, logs, fencing, pulp, and furniture. Ponderosa pine, at 29 percent, and white-red-jack pine, at 52 percent, comprise the majority of planted trees in the Rocky Mountain and Northern Regions, respectively. Planted forests and their contributions to the U.S. economy receive additional consideration in section 4 of this report.

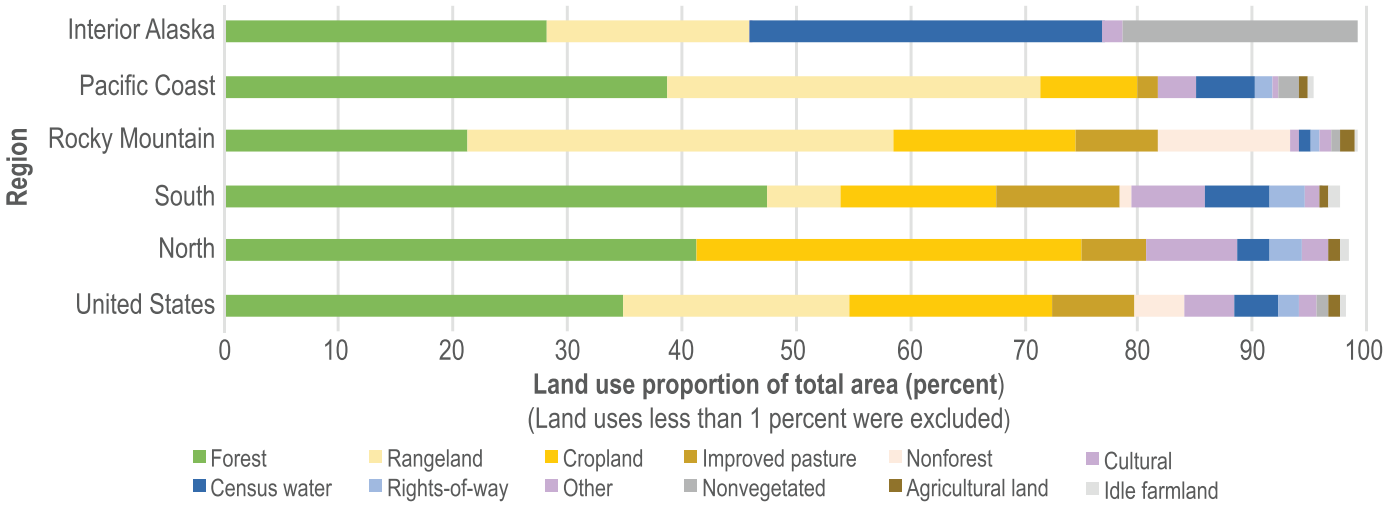
Land Cover and Land Use

Authors: Sara Goeking, Dacia Meneguzzo, Mark Nelson

When considering trends in the extent of forest, woodland, and timberland in the United States, it is useful to distinguish between land uses and the canopy cover of vegetation that may be observed through the lens of satellite imagery. Land cover and land use are related terms that have varying degrees of similarity dependent on the definitions or classification systems used. Land cover describes biophysical characteristics determined by direct observation of the Earth's surface and is needed for the development of physical environmental models. Land use is a socioeconomic interpretation of how people utilize the land and is required for policy and planning purposes (Comber et al. 2008, Comber 2008). Land cover and land use are sometimes one and the same, such as in the case of an undisturbed stand of trees that has both a forest cover and a forest land use. In other cases, land cover and land use may differ substantially. For example, removal of forest canopies due to natural disturbances or silvicultural treatments causes a successional shift from a forest land cover to an herbaceous land cover, but this does not necessarily change the intended forest land use of the site, resulting in no net loss of forest land use. Time is an important factor in defining land cover and land use because removal of the canopy is likely to be temporary. This situation contrasts with one wherein forest is cleared for imminent development, which constitutes a loss of both forest cover and forest use. Thus, both land cover and land use are spatially and temporally dependent, and the terms are not interchangeable.

The Forest Inventory and Analysis (FIA) program measures land cover and land use at multiple spatial and temporal scales. First, the Image-based Change Estimation (ICE) project measures both land use and land cover within FIA plots across relatively short time scales—every 1 to 3 years—using high-resolution aerial imagery. Second, at intermediate time scales, FIA records land cover and land use for all plots at least once per inventory cycle (5 to 10 years). These cyclical observations are repeated on the same frequency as regular FIA plot measurements, and they are accomplished either by field crews or by prefield photo-interpreters. Third, at the broadest scales, tree canopy cover and land cover use are mapped nationwide within the National Land Cover Database, or NLCD, and other satellite-based remote sensing products. Because land cover is a physical/biological condition and land use is an activity-based descriptor, however, land use is more difficult to infer using remote sensing-based classification methods. Results presented here that describe land cover and/or land use are based on FIA field data collection and photo-interpretation efforts, where observations have been recorded at the same frequency as regular FIA plot measurements.

FIA uses several broad land use and land cover categories to describe land area, and O'Connell et al. (2015). Land use categories include forest, rangeland, agriculture (including cropland, pasture, and idle farmland), water, developed land, rights-of-way, and other land (wetlands, undeveloped beaches, barren and nonvegetated lands, mining, recreation, or persistent snow or ice). Figure 1-3 shows the distribution of U.S. land area in each land use class by region and nationwide. The forest land use covers approximately 35 percent of the



Note: Land use classes that comprise less than 1 percent of U.S. land area are omitted from the figure.

Figure 1-3. Percentage of U.S. land area in each land use class, by region and nationwide.

total land area in the United States. On a State-by-State basis, the abundance of forest land, as a percentage of total land area, ranges from a low of 2 percent in North Dakota to a high of 89 percent in Maine (figure 1-4). Even when estimates of forest land use do not change, forest cover may be impacted by cutting or other disturbances to the canopy, such as weather, fire, insects, and disease. We used FIA plot-based assessments to quantify the area of forest land that has experienced this type of canopy disturbance, regardless of whether the disturbance resulted in a change in land cover class from treeland (defined in the following) to another class. Average annual rates of canopy disturbance and cutting ranged from less than 1 percent in Rhode Island to nearly 5 percent in several States throughout the United States (figure 1-5).

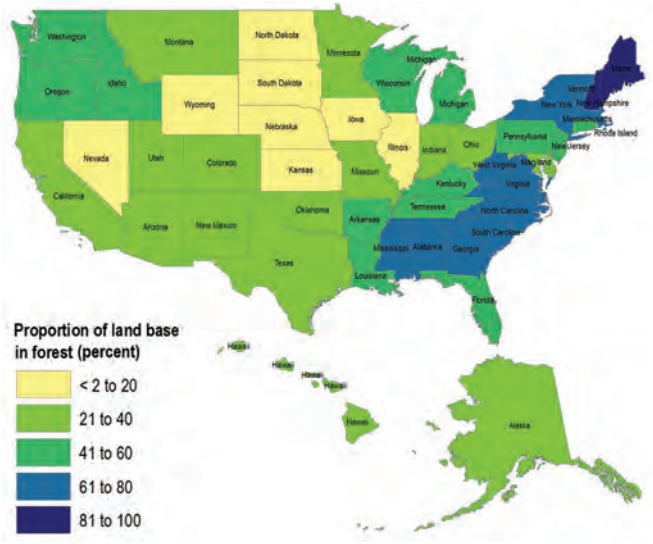


Figure 1-4. Proportion of each State's land area that is forest and woodland use.

Land cover categories used include treeland, shrubland, grassland, vegetation (nonvascular, mixed, agricultural, and developed areas with vegetation), developed areas without vegetation, barren, water, and other land. Areas with a land-cover class of "treeland" may include forests, woodlands, planted areas, mangroves, and reverting fields, where the defining characteristic of "treeland" is the presence of at least 10 percent tree cover. The distribution of land cover in the United States is shown in figure 1-6. Treeland is the dominant land cover class nationwide, followed by agricultural vegetation and other vegetation, mainly shrubland and grassland, respectively. Nonvegetated classes (developed and barren) make up only 3 percent of land area nationwide.

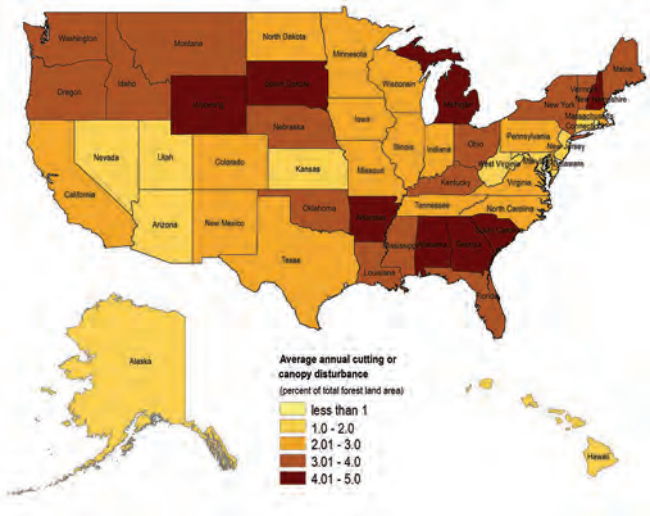
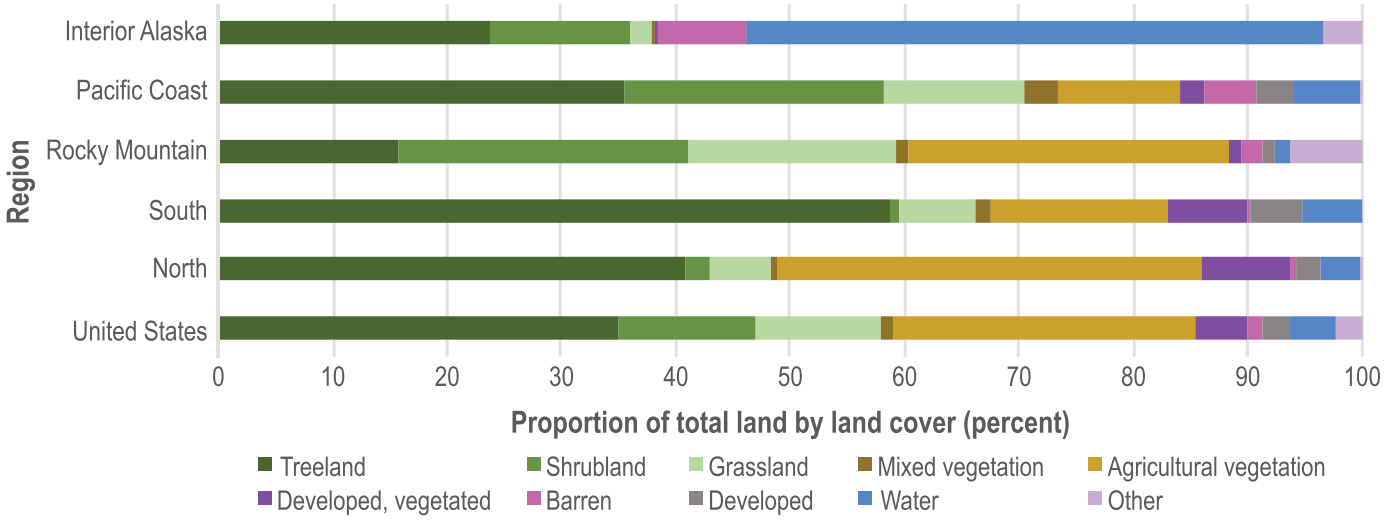


Figure 1-5. Average annual percentage of each State's forest and woodland area that has experienced cutting or other major disturbance.



Note: Nonvascular vegetation comprises less than 1 percent of U.S. land area and is omitted from the figure.

Figure 1-6. Percentage of U.S. land area in each land cover class, by Forest Inventory and Analysis assessment region and nationwide.

Differences between figures 1-3 and 1-6 illustrate the importance of clearly defining land cover versus land use, as well as the fact that forest land use does not always equate to forest cover (i.e., "treeland"). The difference between the smaller amount of "forest" land use in the South (figure 1-3), for example, and the larger amount of the "treeland" land cover category (figure 1-6) is likely due to the presence of tree canopy cover in areas that do not otherwise meet the definition of forest land use (e.g., woodlands).

Changes in land cover and land use often drive change in forested ecosystems such as forest loss or gain. Identifying and quantifying these changes is complicated by several factors, however, such as consistency and correct application of terminology and definitions, time, scale, data sources, and methods. FIA utilizes several approaches to quantify change: field-based interpretation, photo interpretation of high-resolution imagery, and satellite remote sensing-based products. Although each approach addresses 'forest,' each method provides different types of information at various scales so choosing appropriate data sources and clearly defining what is being measured and reported is key.

About 9.6 million acres (1.4 percent) of U.S. forest land are affected by tree cutting and removal each year. On an average annual basis, twice as much forest land area (about 19 million acres; 2.7 percent) is affected by natural disturbances that cause either mortality or damage to trees. These forest disturbances are attributable to insects and disease (34 percent), fire (21 percent), weather (16 percent), and other causes (30 percent), with importance of disturbance agents varying greatly among geographic regions. A large majority of cutting- and disturbance-induced tree canopy changes result in no permanent change in forest land use (Nelson and Reams 2017).

Future assessments will further identify drivers of change in forested ecosystems and better differentiate changes in cover versus use. FIA plot data, combined with precise change estimates from ICE and with spatially continuous remote sensing products, will provide robust assessments of changes in not only forest area but also in nonforest land uses and covers.

Ownership Patterns in the United States

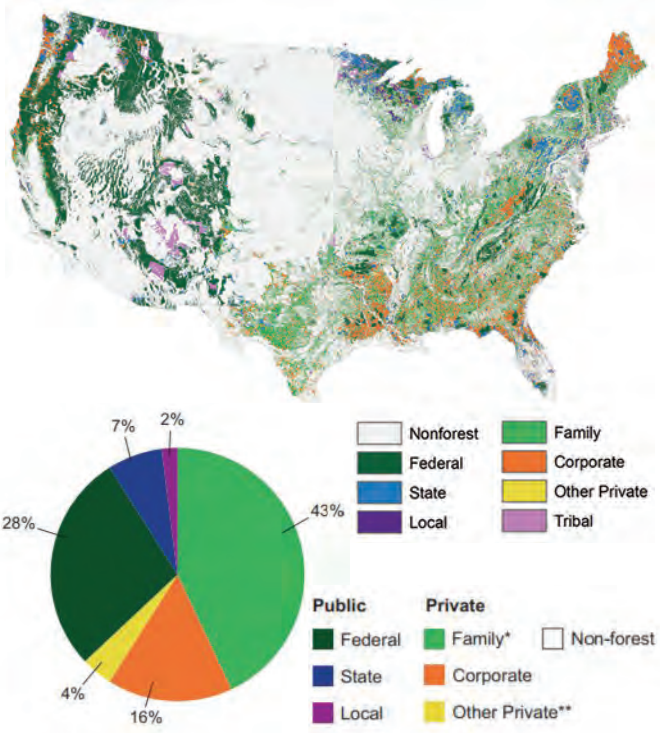
Author: Brett J. Butler

Long-term forest and woodland cover and use lies largely in the hands of those who own the land. It is ultimately the landowners, operating within social, political, financial, and biophysical constraints, who decide if the land will be forested or used for other purposes, and it is the owners who decide if it will be actively managed and, if so, for what. The diversity of forest and woodland owners across the United States is reflected in the diversity of ownership objectives and management practices.

Forest and Woodland Ownership Patterns

Forest and woodland ownership patterns vary substantially across the United States with private ownerships dominating in the East and public ownerships dominating in the West (figure 1-7). These patterns are the result of a combination of land settlement patterns, land allocation policies, and other socioeconomic factors.

Across the United States, 58 percent of forest and woodland is privately owned (figure 1-8). An estimated 10.6 million



* Family includes individuals, families, trusts, estates, and family partnerships.
** Other private includes conservation and natural resource organizations, unincorporated partnerships and associations, and Native American tribal lands.
Source: Hewes et al. (2017)

Figure 1-7. Distribution of forest and woodland by ownership category, United States, 2014.

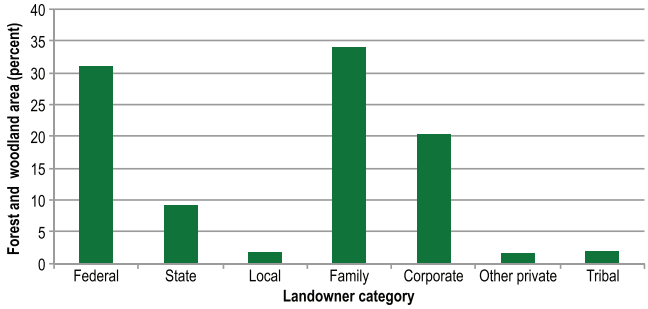


Figure 1-8. Percentage of forest and woodland by ownership category, United States, 2017.

families, individuals, trusts, and estates (Butler et al. 2016) are collectively referred to as family forest and woodland ownerships. This group controls more forest and woodland (38 percent) than any other group. Corporate ownerships control an additional 20 percent of the forest and woodland. The corporate category is dominated by timber investment management organizations, real estate investment trusts, and forest product manufacturing companies, but also includes companies whose forest and woodland ownership is ancillary to their core businesses, such as a manufacturing company with forest land surrounding a production facility. Other private ownerships, owning 2 percent of the forest and woodland, include nongovernmental conservation organizations and unincorporated partnerships, associations, and clubs.

Of the forest and woodland across the United States, 42 percent is publicly owned. The Federal Government controls 31 percent of the U.S. forest land. The Forest Service is the dominant agency in this category, but many other agencies are also, including the Bureau of Land Management, National Park Service, Fish and Wildlife Service, and Department of Defense. State agencies, in particular forest, wildlife, and recreation agencies, control 9 percent of the Nation's forest and woodland and local governments control an additional 2 percent.

The remaining 2 percent of the forest and woodland in the United States is within Native American Tribal reservation boundaries. Some of this acreage is managed directly by Tribal organizations, but many acres are allotted to individuals. Native corporations in Alaska and forest and woodland owned by Tribes and Tribal members outside of reservation boundaries are included in the other corresponding private ownership categories.

Biophysical Resources by Ownership Group

Forest and woodland resources vary substantially between private and public ownership groups. These differences are related to the geographic distribution of and the management practices of these groups. One example of these differences is distribution of forest-type groups (figure 1-9). Across the Northern United States, oak-hickory, maple-beech-birch, and elm-ash-cottonwood forest-type groups are more common on private lands whereas spruce-fir and aspen-birch forest-type groups are more common on public lands. Across the Southern United States, loblolly-shortleaf forest-type groups (with opportunities for larger financial returns) are much more common on private land and oak-gum-cypress is more common on public land. Throughout the Rocky Mountain Region, Douglas-fir and ponderosa pine forest-type groups are more common on private lands and fir-spruce and lodgepole pine forest-type groups are much more common on public lands. Across the Pacific Coast Region, the fir-spruce forest-type group is much more common on private lands and the hemlock-Sitka spruce forest-type group is much more common on public lands.

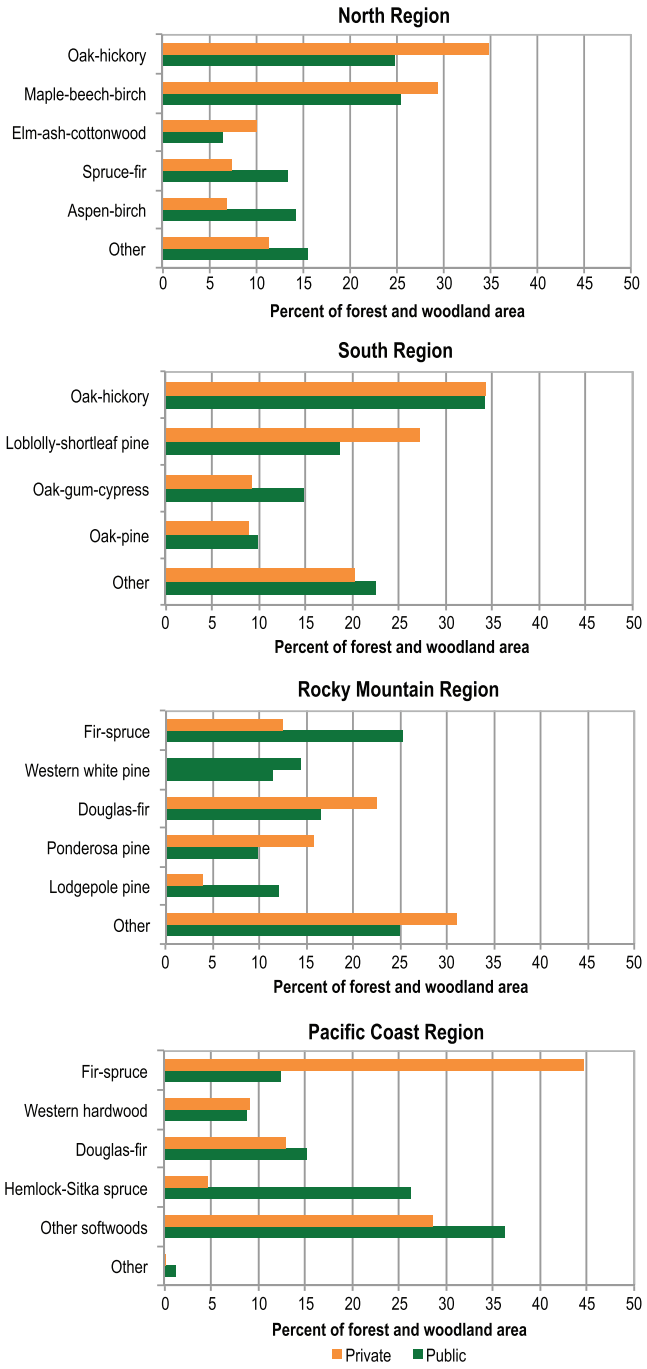


Figure 1-9. Percentage of forest-type groups by ownership group and region, United States, 2017.

Forest Management by Ownership Group

Reasons for owning forest or woodland vary substantially across, and often within, ownership groups, and this is reflected in forest management practices. Multiple policies influence the management of Federal lands (for example, the National Forest Management Act and the National Environmental Policy

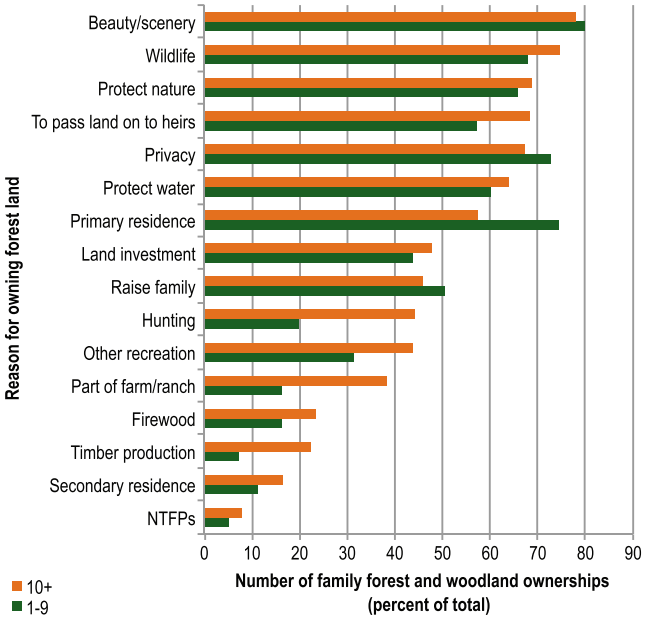
Act) and similar legislation exists in most, if not all, States that govern State-owned lands. These policies and other regulations are the basis for managing public lands for recreation, water, wildlife, and timber—sometimes for one specific goal, but more often for multiple goals.

The objectives of private landowners range from primarily financial to primarily amenities, with many owners desiring a combination of both. For traditional forestry companies and now timber investment management organizations and real estate investment trusts, maximization of profits is important. Portions of their lands are managed intensively, and most manage with an eye toward future forest conditions and align their practices with scientifically based sustainability practices, considering wildlife, water quality, and other factors.

Due to differences in owner characteristics, management practices, and policy implications, family forest and woodland owners are often separated between the 6.6 million who own 1 to 9 acres (Butler and Snyder 2017) and the 4.0 million who own 10 or more acres (Butler et al. 2016). The ownerships with 1 to 9 acres own 7.4 percent of the family forest and woodland, whereas the ownerships with 10 or more acres own the other 92.6 percent of this land. The dominant reasons for owning are related to amenity values for both groups; wildlife, beauty, and legacy are the top three for the 10-or-more acre group and beauty, primary residence, and privacy are the top for the 1- to 9-acre group (figure 1-10). The objectives partially account for the fact that relatively few ownerships have a written forest management plan (12.9 percent for 10 or more acres and 4.4 percent for 1 to 9 acres) or have received forest management advice (19.5 percent for 10 or more acres and 9.7 percent for 1 to 9 acres).

Management objectives are reflected, at least partially, in tree planting and timber harvesting statistics. On public lands, 3 percent of the forest and woodland has been planted. While on private woodlands, 13 percent of the forest land has been planted. Most of this planting has occurred on corporate lands in the Southern United States and, to a lesser extent, private lands in the Pacific Coast, largely for the purposes of intensive production forestry.

Of the timber harvested annually in the United States, 89 percent comes from private lands (figure 1-11). Private lands in the South account for 58 percent of the national timber removals. Private lands in the North account for 15 percent and private lands in the Pacific Coast account for another 14 percent. Apart from a growth to removal ratio of less than 1.0 for softwoods in the Rocky Mountain Region, due largely to insect infestations, all other ratios exceed 1.0 at the species/ownership group level. A growth to removal ratio over 1.0 is a coarse indicator of sustainable management, but many other indicators also need to be considered, and the values may be very different when specific species in specific areas are examined.



Note: Numbers include ownerships that rated an objective as very important or important on a 5-point Likert scale.
Source: Butler et al. (2016); Butler and Snyder (2017).

Figure 1-10. Percentage of total family forest and woodland ownerships by reason for owning forest land, United States, 2013.

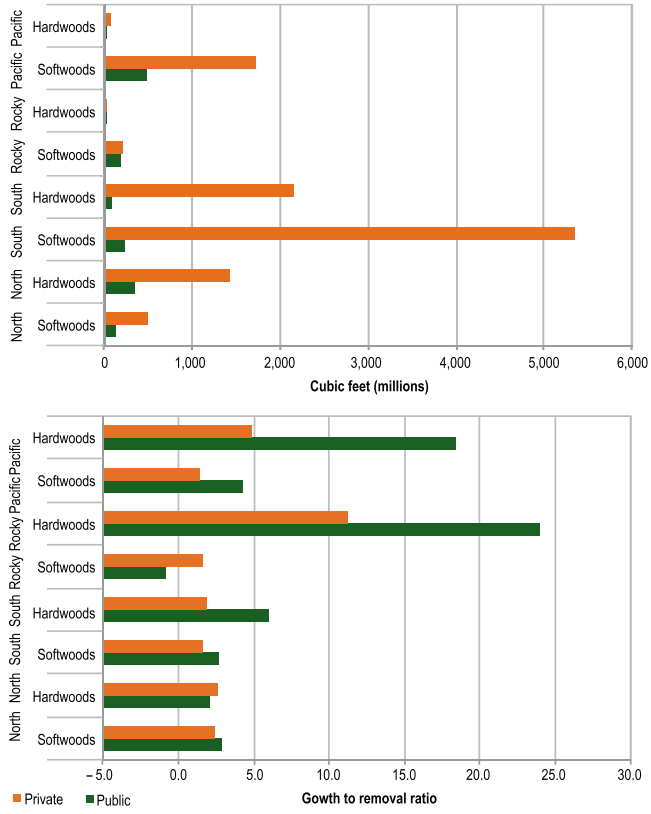


Figure 1-11. Timber removals (top) and growth-to-removal ratios (bottom) by ownership group, species group, and region, United States, 2017.

Forest and Woodland Ownership Trends

As with nationwide total forest and woodland trends, forest land trends across broad ownership categories have remained relatively constant (figure 1-12). The largest fluctuations, in Federal land in the Pacific Coast and Rocky Mountain Regions prior to 1987 and 1997 respectively, are the result of definitional and technical issues. The largest real gains are for State-owned lands in the North, South, and Pacific Coast Regions.

Although the net changes among most ownership groups have been small land transfers within ownership categories, particularly the private ownership groups, have been substantial. Within the corporate group, millions of acres that were once owned by vertically integrated (i.e., traditional) forestry companies are now owned by timber investment management organizations and real investment trusts. The impacts of these transfers on forest resources are not yet fully known, but many of the basic management practices, e.g., planting and harvesting, seem comparable among these groups (Zhang et al. 2012; Sun et al. 2015).

Among the millions of family forest and woodland ownerships, the average age of owners is relatively high (63 years), and this portends a large transfer of land. Of the current family forest and woodland, 73 percent was not inherited from a family member. Assuming this trend continues, future land transfers will result in many new landowners outside of the current family ownerships. It is at this point of land transfer that ownership objectives and management practices are most likely to change.

Fragmentation

Author: Kurt Riitters

Changing land ownership patterns directly impacts the connectedness of forest patches across geographic areas. Fragmentation refers generally to the spatial patterns of forests as influenced by land use, disturbance, and other natural and anthropogenic drivers of forest change. Many aspects of fragmentation cannot be determined by using off-plot data alone. Three aspects of fragmentation were assessed for continental U.S. forest land (131,673 plots; ca. 2006) by using ancillary data to evaluate conditions in the area surrounding each plot. The remoteness (or conversely, the accessibility) of forest land was evaluated by the distance from each plot to the nearest road (U.S. Census Bureau 2016). The occurrence of a plot in an anthropogenic interface zone was defined as the presence of at least 10 percent agriculture (agriculture interface zone) or 10 percent developed (developed interface zone) land cover (USGS 2014) in the surrounding 40-acre neighborhood in 2001 and/or 2011. The same land cover data were used to assess forest cover

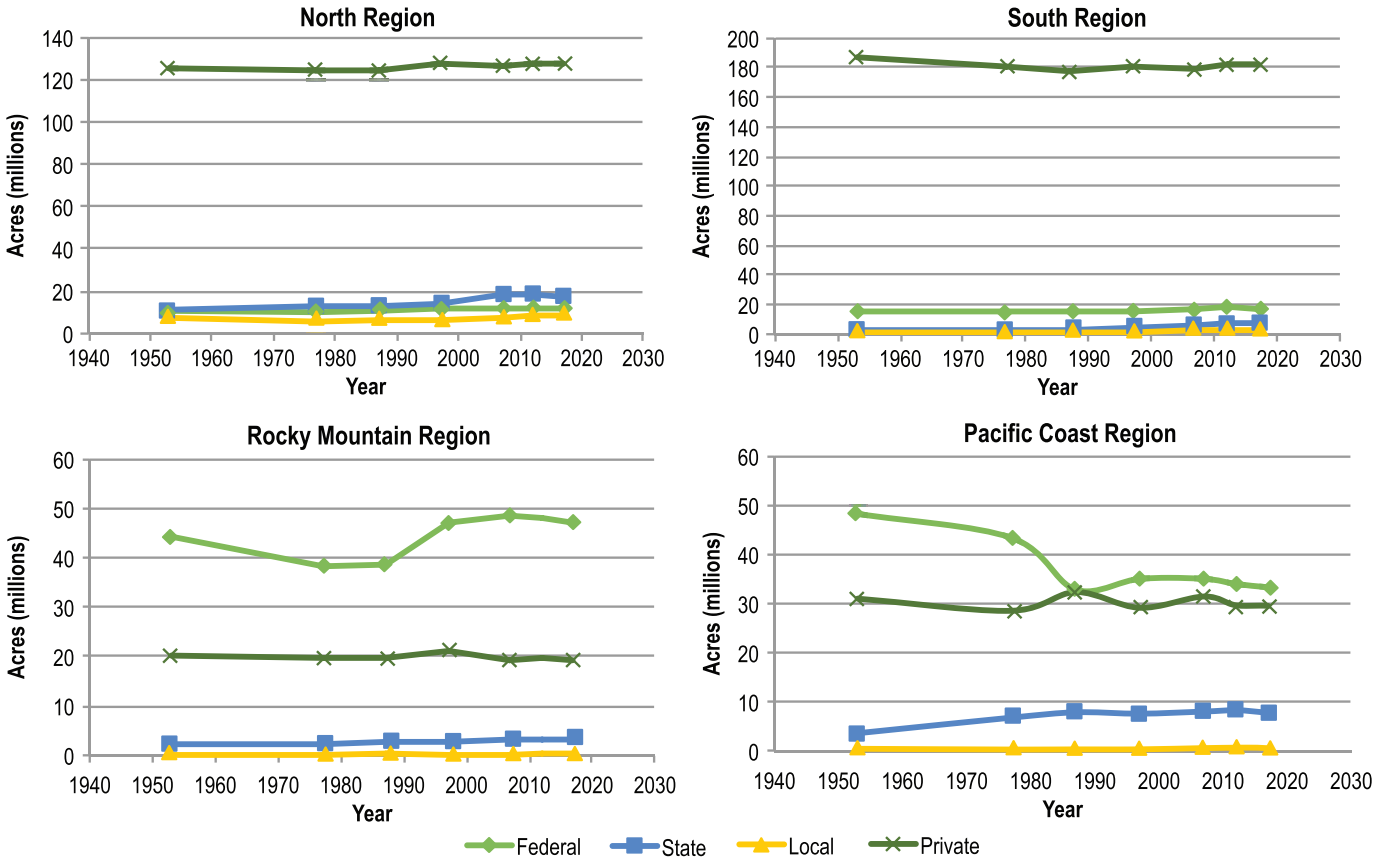


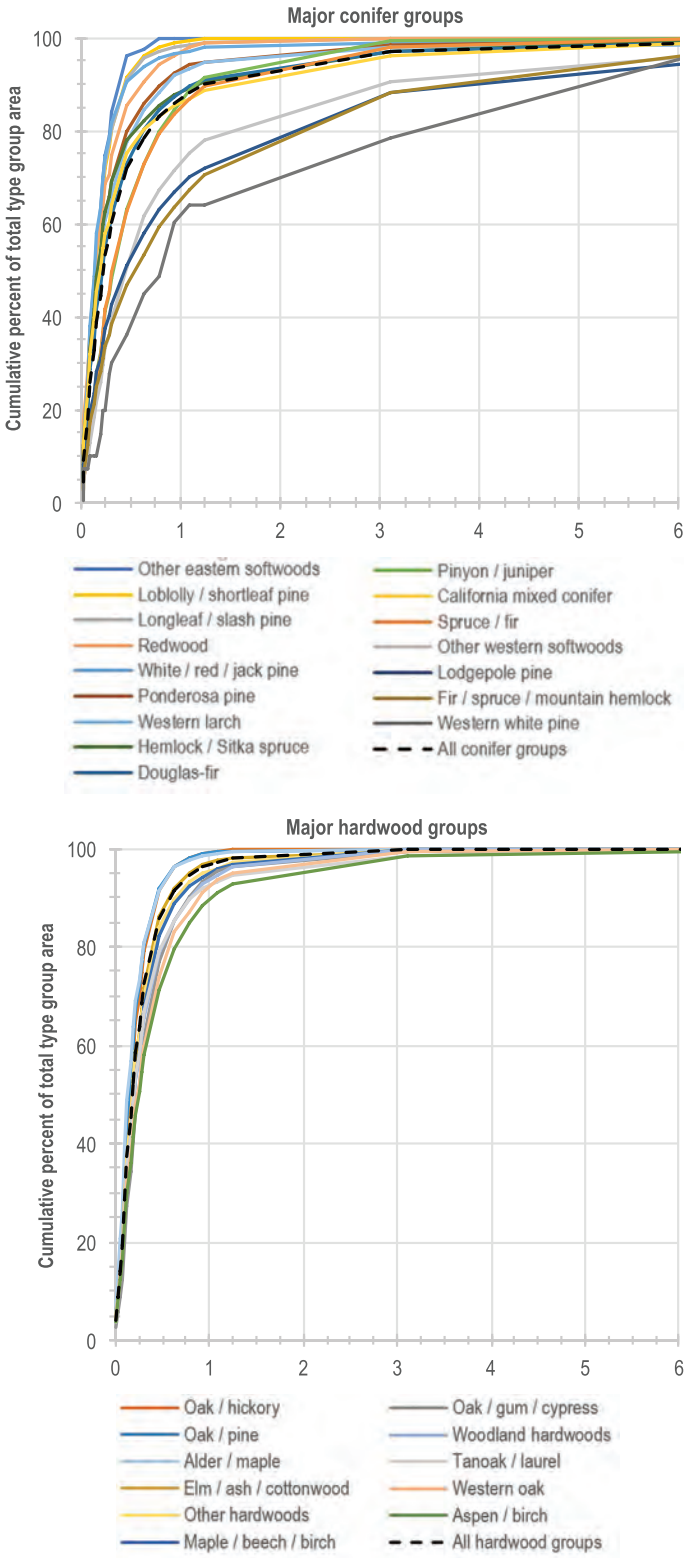
Figure 1-12. Timberland by ownership group, 1953–2017.

fragmentation, measured by the proportion of the surrounding 40-acre neighborhood that had forest cover in 2001 and 2011. FIA statistical estimators were used for forest land area estimation and for stratification by 27 forest type groups.

Remoteness

Apart from major connecting roads, a road network is generally designed to minimize the distance to a road. The road network of the continental United States is so pervasive that one can drive to within 1 mile of over 88 percent of coniferous forest land and 97 percent of hardwood forest land (figure 1-13). Forest type groups that typically occur at high elevation or boreal locations have a higher percentage of total area that is more remote from roads. With the exception of four western forest type groups, very little forest land is more than 5 miles from the nearest road. Aggregate remoteness statistics do not change much over time because most new roads are constructed in areas that are already relatively accessible, and road closures generally occur in areas that are relatively remote.

▼ Beautiful oak tree on a suburban street. Courtesy photo by istockphoto.com/Faina Gurevich.



Notes: The type groups are sorted by decreasing percentage within 1 mile of a road. The dashed lines indicated area-weighted statistics for all forest-type groups.

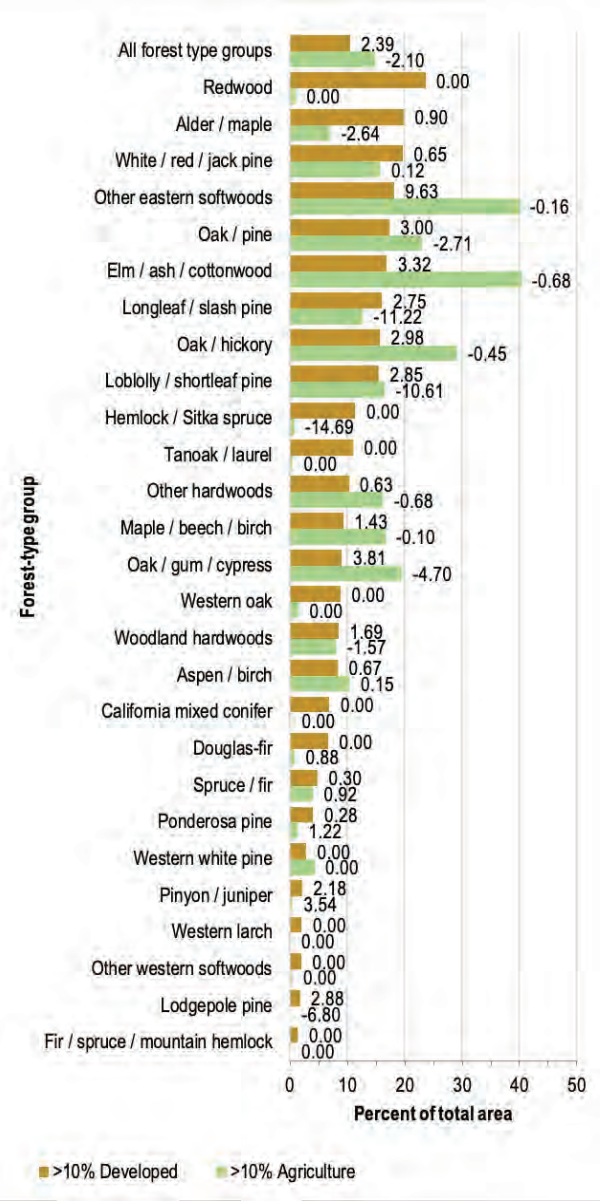
Figure 1-13. Forest remoteness is indicated by the cumulative percent of total forest type group area within the indicated distance of the nearest road.

Anthropogenic Interface Zones

Anthropogenic interface zones shift over time and space according to land use changes in a neighborhood, for example, as population growth drives the urban interface zone outward from a city. From 2001 to 2011, the forest land area in an agriculture interface zone decreased by a net 2.1 percent, whereas forest land area in a developed interface zone increased by 2.4 percent (figure 1-14). In 2011, the share of total forest type group area in a developed zone ranged from 24 percent for the Redwood group to less than 2 percent for 4 other western groups, whereas the group share in an agriculture interface zone ranged from 40 percent for the elm/ash/cottonwood group to less than 2 percent for 10 western groups. From 2001 to 2011, the developed interface zone area increased for 18 of 27 major forest type groups, whereas the agriculture interface zone area increased for 6 forest type groups, decreased for 14 groups, and remained the same for 7 groups. While a higher proportion of the extant forest area appeared in a developed interface zone in 2011, the change since 2001 in the proportion appearing in an agriculture interface zone depended on the specific forest type group.

Forest Cover Fragmentation

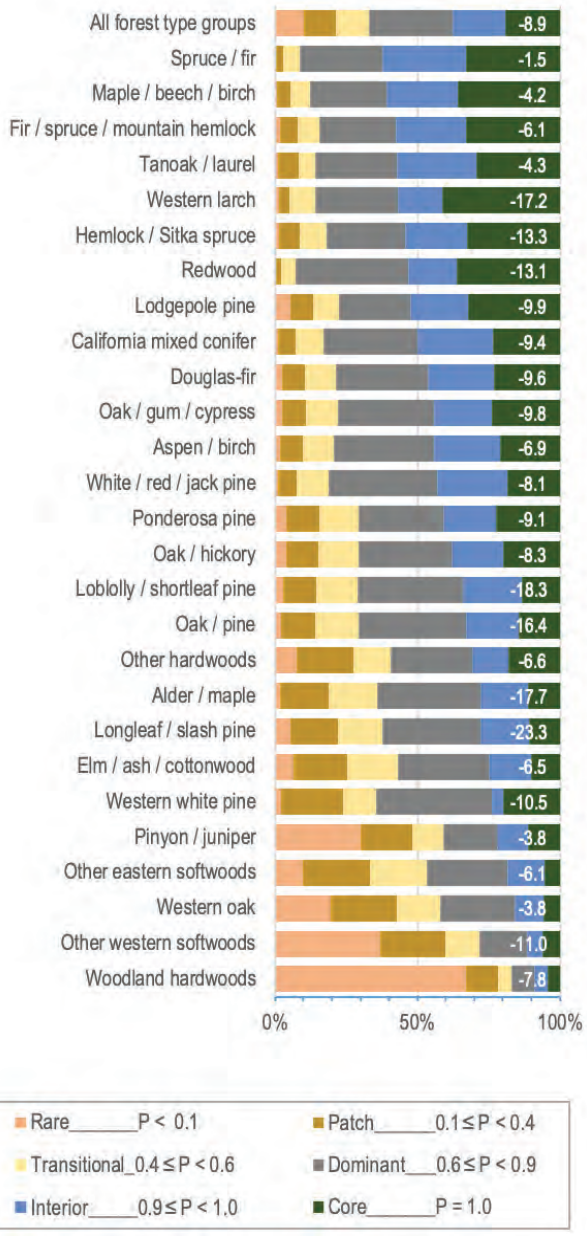
Even if the total forest land area remains the same in a neighborhood, fragmentation can change according to the spatial patterns of forest cover losses and gains in the neighborhood. The area of the interior and core categories, for which the proportion of forest cover in a 40-acre neighborhood is greater than 0.9, comprised 38 percent of all forest land area in 2011, a decrease of 8.9 percent compared to the forest land area meeting that threshold in 2001 (figure 1-15). The rate of loss of interior plus core forest area varied from 23 percent for the longleaf/slash pine forest type group to less than 5 percent for five other groups. Earlier analyses indicated that most of the increased forest cover fragmentation may be temporary because it was caused by forest harvest, principally in the Southeast, or by insect or wildfire disturbances, principally in the West (Riitters and Wickham 2012), and that the rate of fragmentation increased slightly during the latter half of the 10-year assessment period (USDA Forest Service in press).



Notes: The percent change in area from 2001 to 2011 is shown at the end of the bar. Forest type groups are sorted by decreasing percentage for the developed interface zone. Area-weighted statistics for all forest type groups are shown for comparison.

Figure 1-14. Forest in anthropogenic interface zones is indicated by the percentage of total forest type group area that has more than 10 percent agriculture or developed land cover in the surrounding 40-acre neighborhood in 2011.

Bighorn sheep in a field, Gifford Pinchot National Forest, WA. USDA Forest Service photo.



Notes: The percent change of area in the interior plus core categories from 2001 to 2011 is shown at the end of the bar. Forest type groups are sorted by decreasing percentage of interior plus core categories. Area-weighted statistics for all forest type groups are shown for comparison.

Figure 1-15. Fragmentation is indicated by the distribution of total forest type group area among six fragmentation categories. Fragmentation categories are defined by the proportion (P) of the surrounding 40-acre neighborhood that had forest cover in 2011.

Woodlands

Author: Kerry Dooley

Historically the primary interest area for national inventories was timber. Consequently, the national inventory framework and collection protocols were focused on productive timberlands (USDA Forest Service 2005). Over time, information such as estimations of carbon sequestration, wildfire fuel loads, and nontimber forest products and services (e.g., biofuels and wildlife habitat) has become topics of increasing interest. The FIA program—the national inventory used in the United States—broadened the focus of its surveys to include nontimberland forests, including woodlands, better aligning with these changing focus areas.

Woodlands generally occur in less productive growing conditions, such as the arid Southwestern United States. Woodlands provide much, if not all, of the same services provided by forests; that is, they function as important wildlife habitat, improve water quality, serve as carbon sinks (or sources, in the event of wildfires), and provide fuel during wildfire season. The species that comprise woodlands differ in characteristics from most trees. On average, woodland species tend to be slower growing, smaller in stature, and of a form with more forks and branches near the base of the tree. Woodland species often grow as clumps of stems rather than one central stem. Beyond the characteristics of the trees classified as woodland species, specific parameters pertain to classification of the land use category of woodlands, while the Resources Planning Act (RPA) derives calculations of woodland for this report from the FIA data, the FIA and RPA definitions of woodland differ somewhat, as outlined in the following paragraphs.

Forest Inventory and Analysis Definitions and Parameters

FIA defines woodlands strictly along the lines of species composition and associated forest types, and considers woodlands a subset of forest lands. The FIA recognizes nine woodland forest types: three softwood and six hardwood (table 1-1). To qualify

Table 1-1. Forest Inventory and Analysis forest types comprising the woodland forest subset.

Deciduous oak woodland
Evergreen oak woodland
Mesquite woodland
Cercocarpus woodland
Intermountain maple woodland
Miscellaneous woodland hardwoods
Pinyon-juniper woodland
Juniper woodland
Rocky Mountain juniper

as one of these woodland forest types, the majority stocking must comprise 1 or more of the 38 FIA-defined woodland tree species (table 1-2). Although woodlands will typically have less crown cover than traditional forests, they must meet the minimum crown cover threshold (10 percent) to be included in FIA forest and woodland estimations (USDA Forest Service 2014).

Table 1-2. Forest Inventory and Analysis-defined woodland species.

Woodland species common name	Woodland species scientific name
Pinchot juniper	*Juniperus pinchotii*
Redberry juniper	*Juniperus coahuilensis*
Drooping juniper	*Juniperus flaccida*
Utah juniper	*Juniperus osteoperma*
Rocky Mountain juniper	*Juniperus scopulorum*
Oneseed juniper	*Juniperus monosperma*
Ashe juniper	*Juniperus ashei*
California juniper	*Juniperus californica*
Alligator juniper	*Juniperus deppeana*
Common pinyon	*Pinus edulis*
Singleleaf pinyon	*Pinus monophylla*
Border pinyon	*Pinus discolor*
Four-leaf pine	*Pinus quadirfolia*
Mexican pinyon pine	*Pinus cembroides*
Papershell pinyon pine	*Pinus remota*
Arizona pinyon pine	*Pinus monophylla var.fallax*
Acacia spp.	*Acacia spp.*
Sweet acacia	*Acacia farmesiana*
Catclaw acacia	*Acacia greggi*
Rocky Mountain maple	*Acer glabrum*
Bigtooth maple	*Acer grandidentatum*
Texas madrone	*Arbutus xalapensis*
Curlleaf mountain-mahogany	*Cerocarpus ledifolius*
Knockaway	*Ehretia anacua*
Mesquite spp.	*Prosopis spp.*
Honey mesquite	*Prosopis glandulosa*
Velvet mesquite	*Prosopis velutina*
Screwbean mesquite	*Prosopis pubescens*
Arizona white oak	*Quercus arizonica*
Emory oak	*Quercus emoryi*
Gambel oak	*Quercus gambelii*
Mexican blue oak	*Quercus oblongifolia*
Silverleaf oak	*Quercus hypoleucoides*
Gray oak	*Quercus grisea*
Netleaf oak	*Quercus rugosa*
Bluewood	*Condalia hookeri*
New Mexico locust	*Robinia neomexicana*
Desert ironwood	*Olneya tesota*

Woodland species must meet the same diameter requirements as other trees (i.e., 5 inches) to be included in FIA estimations. Form characteristics make taking diameter at the normal location (4.5 feet from the ground) unmanageable, however, and therefore the diameters for these trees are taken at the root collar or ground level (USDA Forest Service 2014).

While notations of woodland species and woodland forest groups are made in publicly available guides, they are not highlighted or separated, making them somewhat difficult to distinguish (O'Connell et al. 2015; USDA Forest Service 2014). Thus, consumers of FIA data seeking information based in narrower or more traditional parameters of forest land may not realize that both woodland trees and forests are being included in these totals. Conversely, database users who do parse out woodlands may exclude all of the woodland forest types, including those exhibiting characteristics similar to standard trees and forests (table 1-3).

Table 1-3. Associated area differences for the Rocky Mountain region (the region with the greatest amount of woodlands), using FIA versus RPA woodland categorization.

Woodland definition used	All forests and woodlands	Woodlands	Nonwoodland forests
	Million acres		
FIA	159.6	67.1	92.5
RPA	159.7	29.0	130.6

FIA = Forest Inventory and Analysis. RPA= Resources Planning Act.

Resources Planning Act Definitions and Parameters

The woodland tree species are the same as FIA defines. For RPA, however, lands qualifying as woodland are categorized as a highly related—but completely separate—land cover, rather than a subset of forest lands. RPA considers lands meeting the following criteria to be woodlands: classified as one of the nine FIA-defined woodland forest types; having a site productivity level of less than 20 cubic feet per acre per year; located in one of nine ecological provinces: Colorado Plateau Semidesert Province, Southwest Plateau and Plains Dry Steppe and Shrub Province, Chihuahuan Semidesert Province, American Semidesert and Desert Province, Great Plains-Palouse Dry Steppe Province, Great Plains Steppe Province, Intermountain Semidesert and Desert Province, and Intermountain Semidesert Province (McNab et al., comps. 2007); and having average tree heights less than 16.4042 feet (table 1-3). This definition is used for the amounts and descriptions in the following section.

Area and Location of Woodlands

The United States has a total of 57 million acres of woodlands, about 3 percent of total land area. The woodlands occur in 14 States, 3 of the 4 major RPA assessment regions, and 5 of the 9

subregions (figure 1-16). At 22 million acres, or 39 percent of total woodland acres, Texas accounts for more woodlands than any other State. Part of this is due to the large size of Texas. Taken as a percentage of total land area, Texas has 13 percent of land area in woodlands, followed by Utah (12 percent), Arizona (11 percent), and New Mexico (10 percent). The intermountain subregion contains the majority of woodland acres (figure 1-17), and the Rocky Mountain contains the most by broader region.

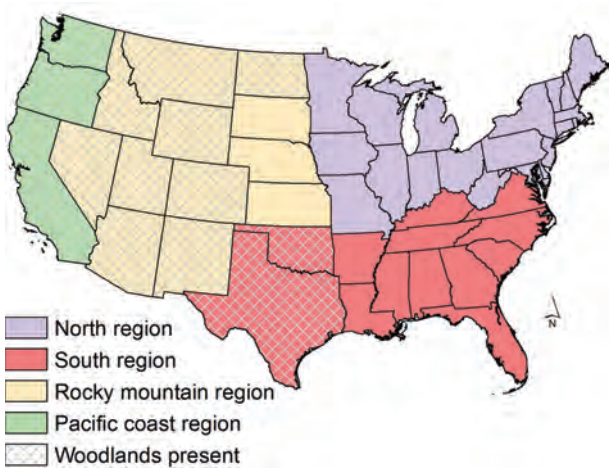


Figure 1-16. Map of conterminous United States showing States and regions with woodlands present (Alaska and Hawaii contained no woodland area).

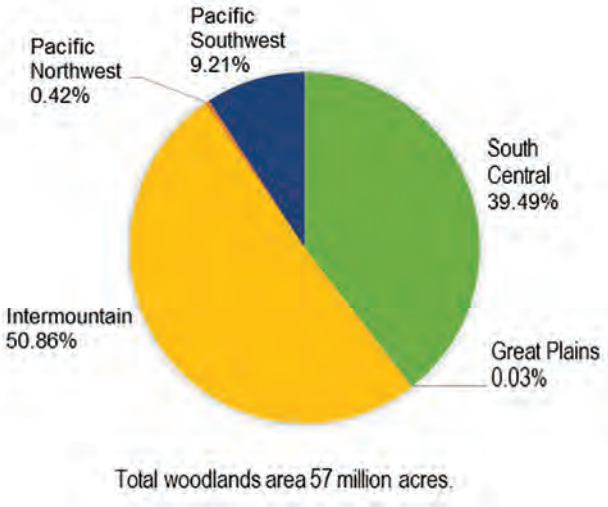


Figure 1-17. Distribution of woodland areas among subregions.

Woodland Distribution According to Human Factors

Woodlands occur across the urban to rural spectrum (as defined by county population). They occur most often in counties whose populations reside in small towns, and least often in counties whose majority populations are in large towns (figure 1-18).

Nearly one-half of woodlands are owned by private noncorporate land owners (figure 1-19). As woodlands inhabit low productivity sites, and comprise tree species uncommon in timber markets, it is no surprise that only 2,000 of the 57 million acres of woodlands are planted. All of the planted acres occur on national forest land.

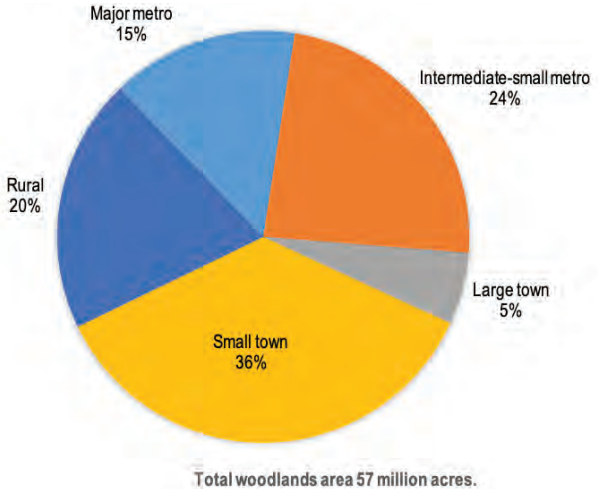


Figure 1-18. Proportion of woodlands located along urban to rural continuum, based on predominant county population.

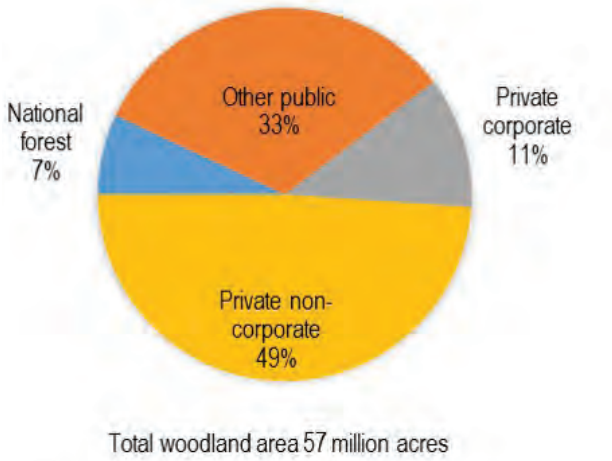


Figure 1-19. Ownership of woodland acres.

▲ The first significant snowfall in 2012 for the Spring Mountains National Recreation Area, Humboldt-Toiyabe National Forest, NV, occurred in December and dusted Cathedral Rock with a frosty layer of white. USDA Forest Service photo by Michael Balen.

Amount of Woodland by Size Class

Almost 27 million of the 57 million acres of woodland, or about 47 percent, are comprised of woody plants averaging greater than 10.0 inches in diameter. Interestingly, stands with predominately sapling-sized stems make up nearly as much of the total area, at 24 million acres, with woody vegetation in the 5.0–9.9 inch class accounting for less than 11 percent of woodland area (figure 1-20).

Figure 1-20. Amount of woodland area by size class. Total woodland area: 57 million acres.

Woodland Species Contribution to Biomass

Aboveground biomass was calculated for all forest and woodlands and broken down by component. One component was woodland species. In total, woodland species greater than 5 inches diameter and occurring on forest and woodlands hold approximately 570.3 million dry short tons of aboveground biomass. This is only about 2 percent of the total aboveground dry biomass in the United States. The proportional contribution is much greater in woodland heavy areas, however. In Nevada, for example, 79 percent of the biomass reported came from woodland species (table 1-4).

Table 1-4. Portion of forest land biomass from woodland species (in States with woodland proportions greater than 2 percent).

State	Percent
Nevada	79
Arizona	40
Utah	37
New Mexico	35
Texas	14
Colorado	12
North Dakota	4

Urban Forests

Authors: David J. Nowak, Eric J. Greenfield, Mark Majewsky, Tonya Lister, John Mills

Like woodlands, urban forests comprise a segment of the treed landscape previously overlooked by national inventories. We now recognize that urban forests are rapidly expanding across the U.S. landscape due to urban expansion and are an example of how the FIA "forest" inventory has grown since 1930. Urban forests are classified as all trees found within urban areas, from individual trees in backyards and along streets, to forest stands found within parks and vacant areas (figure 1-21). Urban forests are substantially different from rural forests due to their close proximity to people. Urban forests often have lower tree densities, but higher species richness than local rural forests due to the human introduction of tree species. As over 80 percent of the U.S. population lives in urban areas, these unique forests have a large impact on the American population.

Urban forests provide numerous benefits to society by enhancing environmental quality and human health and well-being. These benefits include moderating climate, reducing building energy use and atmospheric carbon dioxide (CO_2), improving air and water quality, mitigating rainfall runoff and flooding, lowering noise impacts and providing aesthetic environments, recreational opportunities and more livable cities (Nowak and Dwyer 2007). Urban forests also have various costs, including those associated with tree planting, tree maintenance and removal, and other indirect costs such as allergies from tree pollen, increases in winter building energy use due to tree shade, invasive plants altering local biodiversity, and increased taxes due to increased property values.

As urban forests are all trees within the urban landscape, a key to defining the geography of the urban forest is to define "urban." The definition of urban is primarily based on population density using the U.S. Census Bureau's definition: all territory, population, and housing units located within Urbanized Areas of 50,000 or more people and Urban Clusters of at least 2,500 and less than 50,000 people (U.S. Census Bureau 2017).

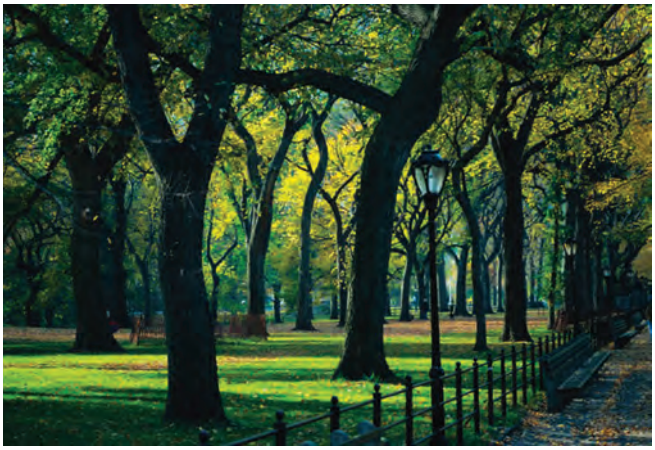


Figure 1-21. Urban forests provide many benefits that improve human health and well-being. USDA Forest Service photo by David J. Nowak.

U.S. urban land increased from 2.6 percent (57.9 million acres) in 2000 to 3.0 percent (68.0 million acres) in 2010 (appendix table 47). States with the greatest amount of urban growth were in the South/Southeast (Florida, Georgia, North Carolina, South Carolina, and Texas). U.S. urban land is projected to grow to 8.6 percent by 2060 (Nowak and Greenfield in press). While urban land is increasing, however, tree cover in existing urban areas has been on the decline (Nowak and Greenfield 2012). Tree cover in U.S. urban areas circa 2014 was 39.4 percent (Nowak and Greenfield in press), with highest percent urban tree cover found in the Southeast and Northeast (appendix table 48). Urban trees and forests provide numerous positive and negative effects and values annually, only a few of which have been quantified nationally: air pollution removal, carbon sequestration, oxygen production, altered building energy use, and consequent change in fuel-based (e.g., power plant) pollutant emissions.

Air Pollution Removal

Trees remove air pollution by the interception of particulate matter on plant surfaces and the absorption of gaseous pollutants through the leaf stomata. Urban forests in the conterminous United States removed 882,000 tons of air pollution in 2010, with human health effects valued at $5.4 billion (Nowak and Greenfield in press).

Carbon Sequestration

Annual gross carbon sequestration by urban forests in the United States is estimated at 37.0 million tons with an estimated value of $4.8 billion (Nowak and Greenfield in press; appendix table 48). This value estimate is higher than the previous estimate of $2.0 billion due to the increased social cost of carbon between 2010 and 2015 (Interagency Working Group 2010, U.S. EPA 2013, Interagency Working Group 2015), increased urban land between 2000 and 2010, and updated tree cover estimates.

Oxygen Production

Urban forests in the conterminous United States are estimated to produce about 67 million tons of oxygen annually, enough oxygen to offset the annual oxygen consumption of about two-thirds of the U.S. population. Although oxygen production is often cited as a significant benefit of trees, this benefit is relatively insignificant and of negligible value due to the large oxygen content of the atmosphere (Nowak et al. 2007).

▲ Rio Grande Valley, TX, in autumn. Courtesy photo by istockphoto.com/Denice Breaux.

Building Energy Use and Avoided Emissions

Urban trees and forests alter building energy use and associated emissions from power plants by shading buildings, cooling air temperatures, and altering wind speeds around buildings. Urban forests in the conterminous United States annually reduce residential building energy use to heat and cool buildings by $5.4 billion per year and avoid the power-generation emission of thousands of tons of pollutants (CO_2, nitrogen oxides, sulfur dioxide, methane, carbon monoxide, particulate matter less than 2.5 and 10 microns, and volatile organic compounds [VOC]) valued at $2.7 billion per year (Nowak and Greenfield in press).

The total value of these four services is $18.3 billion annually. This value is conservative, as many benefits are not monetized (e.g., effects of urban forests on air temperatures, water quality and flooding, wildlife, aesthetics and social well-being). These estimates also do not include various direct (e.g., tree planting, maintenance, removals) and indirect (e.g., pollen, VOC emission impacts on ozone formation) costs associated with urban forests. Further research is needed to adequately quantify these and other benefits and costs associated with urban forests.

Urban forest benefits and costs will change through time as the urban forest and human population changes. Numerous forces for change (i.e., development, climate change, insects and diseases, invasive plants, wildfires) will continue to alter urban forests in the coming years (Nowak et al. 2010). These forces can both decrease (e.g., via increased tree stress and mortality) and increase (e.g., via enhanced tree planting and/or natural regeneration) tree cover. In U.S. cities, about one in three trees are planted. Land uses with the highest proportion of trees planted are residential (74.8 percent of trees on residential land are planted) and commercial/industrial lands. The percentage of planted trees is greater in cities developed in grassland areas as compared to cities developed in forests. The proportion of planted trees also increases with increasing population density and increasing impervious cover in cities (Nowak 2012).

Our knowledge of urban forests is expanding as more field data are collected on trees in urban areas, but the data nationally are still limited. To overcome this limitation, urban forest data are being collected by local constituents and analyzed using i-Tree software. In addition, the FIA program has started to implement, in partnership with cities, a long-term urban forest monitoring program. This program measures urban forest data annually to assess urban forest structure, benefits and values, and changes in structure, services, and values through time. The first city to have a completed baseline inventory was Austin, TX (Nowak et al. 2016), but numerous other cities are being monitored, and new cities will be added to the monitoring program in the next few years (Figure 1-22; USDA Forest Service 2017). Monitoring the magnitude and characteristics

Figure 1-22. Current and proposed cities to be monitored under the urban Forest Inventory and Analysis program.

of these natural and human-caused tree gains and losses is important for creating and managing sustainable and healthy urban forests. Maintaining vibrant urban forests can help ensure that the benefits these trees offer (e.g., improvements in urban environmental quality, human health, and well-being) will be enjoyed by current and future generations.

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Section 2: Forest Resources of Interior Alaska and U.S.-Affiliated Jurisdictions of the Insular Caribbean and Pacific

Alaskan Interior

Authors: Hans-Erik Andersen, Robert Pattison, Andy Gray, Beth Schulz, Sarah Jovan, Robert Smith, Kristin Manies, and Tom Thompson

Forest land in Alaska covers an estimated 129 million acres, only 13 million of which is timberland. Alaska's forests comprise 60 percent of all Pacific Coast forest land and 17 percent of the Nation's forest land (excluding the affiliated islands and territories). The majority of Alaska's forests are publicly owned (72 percent), much of which is federally owned or managed. In fact, the largest national forests (Tongass National Forest and Chugach National Forest) in the entire Nation lie within coastal Alaska.

Because of difficulties reaching remote interior Alaska, the majority of forest resource inventories in Alaskan forests have occurred along the coastal region that ranges from the Kodiak Island to the Canadian border at Ketchikan. The 15 million acres of forest land along Alaska's coastline store over 1 billion tons of biomass. Western hemlock comprises the largest volume on public land at 20 billion cubic feet, followed by Sitka spruce at 17 billion cubic feet. On private land, Sitka spruce volume is larger at 1.9 billion cubic feet, compared with 1.1 billion cubic feet of western hemlock. Mountain hemlock and yellow-cedar are other dominant species on both public and private land on the Alaskan coast.

The boreal forests of interior Alaska cover approximately 110 million acres—or one-fifth of U.S. forest land—yet these forests are among the most poorly understood in the country due in part to the lack of a comprehensive inventory over this region. To address this concern, the Forest Service, Forest Inventory and Analysis program and scientists from the National Aeronautics and Space Administration (NASA)-Goddard Space Flight Center carried out a joint test ("pilot") project in 2014 to test a new sampling design and modified field measurement protocols for interior Alaska. The pilot project focused on the forests of the Tanana Valley State Forest (1.82 million acres) and the Tetlin National Wildlife Refuge (0.73 million acres) in the Tanana River Basin of interior Alaska (figure 2-1; Pattison et al., 2018).

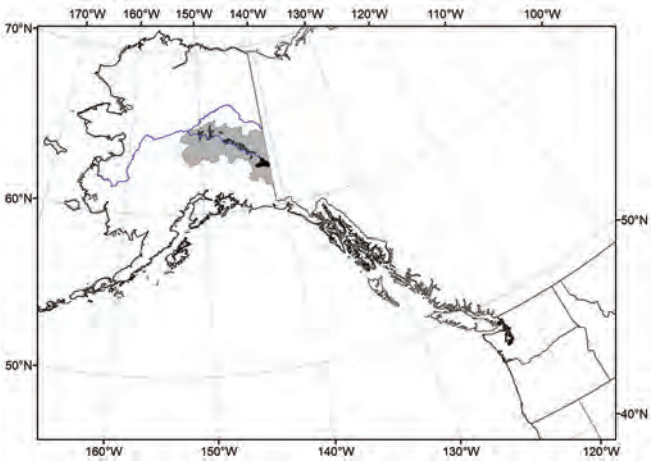


Figure 2-1. Map of the Tanana River Basin (in gray) and inventoried lands (in black) within the State of Alaska. The Yukon and Tanana Rivers are shown in blue.

▲ Kootznoowoo Wilderness, Admiralty Island, Tongass National Forest, AK. USDA Forest Service photo by Don MacDougal.

Inventory Design

The sampling design for the Tanana pilot project (figure 2-2) consists of a spatially balanced, hexagonal grid of 98 field plots established at one-fourth the sampling intensity (1 plot per 24,000 acres) of the standard FIA sample (1 plot per 6,000 acres). This field sample was augmented with high-resolution airborne remote sensing data collected in parallel strip samples (5.8 miles apart, 800 feet in width) over the plots using NASA's Goddard-Lidar/Hyperspectral/Thermal (G-LiHT) imaging system (figure 2-3).

Several additions and modifications to the standard FIA field protocol were developed and tested in this pilot project to enable better characterization of boreal forest conditions, including (1) additional microplot to increase the sample of small-diameter trees, (2) ground cover sampling to assess carbon storage and ecological function of nonvascular vegetation (lichens, mosses; Smith et al. 2015), (3) soil sample to quantify belowground carbon, where much of the total ecosystem carbon is stored in these forests, and (4) tree core sampling to assess trends in forest productivity. This inventory design enables quantifying carbon storage across all pools (figure 2-4), by forest type (live/dead trees, down woody matter, ground layers, soil).

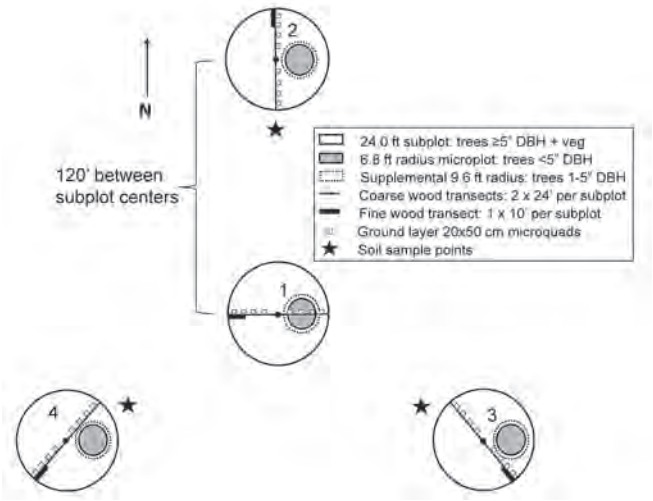


Figure 2-2. Design of the FIA field plot used in the Tanana pilot study, showing the layout and location of the different measurements within the plot footprint.

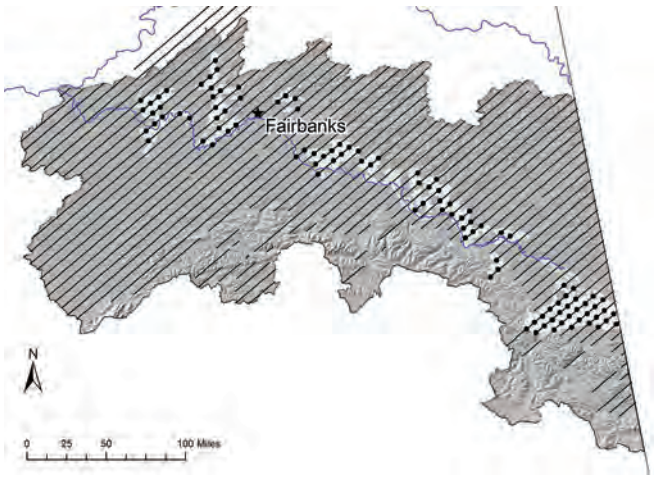


Figure 2-3. Pilot inventory plot design, showing the Tanana Basin unit, the G-LiHT sample strips, the Tetlin National Wildlife Refuge (light-colored polygon at lower right), the Tanana Valley State Forest (remaining polygons), and the approximate location of the plot grid within those areas.

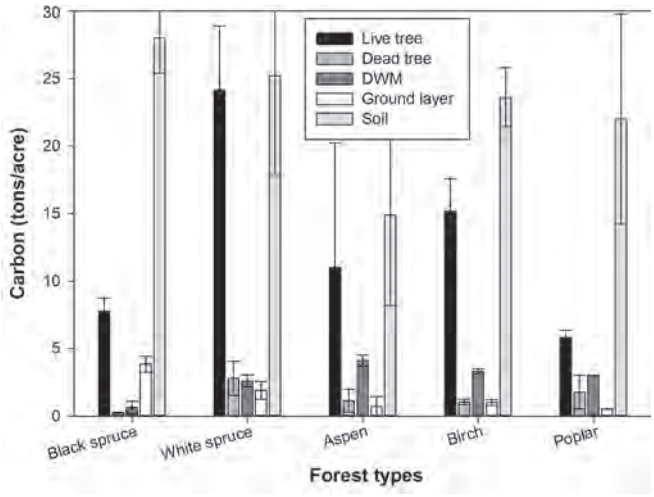


Figure 2-4. Amount of carbon in various pools by forest type (error bars indicate standard error of estimate).

Airborne Remote Sensing

The relatively sparse FIA field plot sample was augmented with sampled airborne remotely sensed data acquired with the G-LiHT system to increase the precision of inventory parameter estimates (Cook et al. 2013). G-LiHT is a portable, airborne imaging system, developed at NASA-Goddard Space Flight Center, that simultaneously maps the composition, structure, and function of terrestrial ecosystems using lidar scanning, imaging spectroscopy, thermal imaging, and ultra-high resolution stereo imaging (figure 2-5). G-LiHT provides

Figure 2-5. Example of G-LiHT lidar point cloud colored by hyperspectral image (normal color), Tanana Valley, interior Alaska.

high-resolution data that are well suited for studying tree-level ecosystem dynamics, including assessment of forest health and productivity of forest stands and individual trees. In addition, G-LiHT data support local-scale mapping and regional-scale sampling of plant biomass, photosynthesis, and disturbance. The data are accurately georeferenced and can be matched very precisely with field plot data that are georeferenced using high-accuracy (dual-frequency, GLONASS-enabled) GPS.

Current Status and Future Plan for FIA Inventory in Interior Alaska

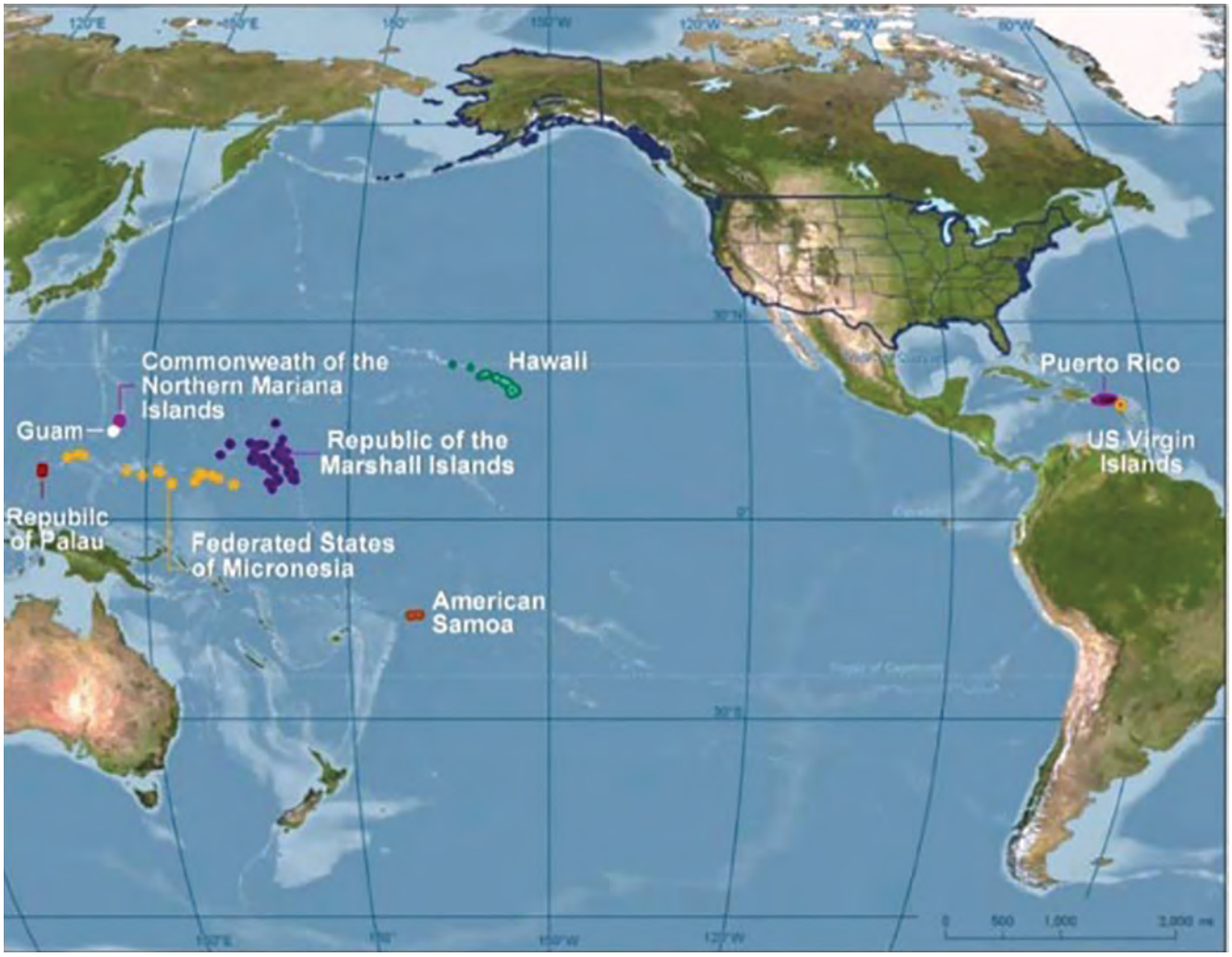
Since conducting the measurements and initial analyses for this pilot study, FIA was funded by Congress to implement a forest inventory for interior Alaska. Field work in the Tanana River Basin was initiated in 2016 and is planned for completion in 2018. The inventory will be periodic, in that field sampling will be completed at each of five inventory units (Tanana Valley, Susitna-Copper, Southwest Alaska, Lower Yukon, and Upper Yukon) before moving to another area. Based on the results of the pilot, as well as logistical and cost considerations, several changes were made to the interior Alaska inventory design, including (1) reduction of the field sampling intensity to 1 plot per 30,000 acres, (2) adjustment of inventory unit boundaries (previously based on river basins) to avoid splitting large national parks into separate reporting zones, (3) saplings are measured on a single, larger microplot rather than two microplots, and (4) soil cores are collected at three locations instead of one to improve precision of estimates of this large carbon pool.

U.S.-Affiliated Jurisdictions of the Insular Caribbean and Pacific

Authors: Humfredo Marcano, Michelle Lazaro, Sharon Stanton

Extending over expansive areas of ocean, the U.S.-affiliated Atlantic (Caribbean) and Pacific Islands encompass nearly all the tropical forests in the country. Puerto Rico (PR) and the U.S. Virgin Islands (USVI) represent an archipelago in the Caribbean with a tropical maritime climate that varies according to the effects of a diverse topography, predominantly regarding total rainfall patterns. The Pacific Islands are generally subject to climatic variables driven by the larger Pacific Ocean and lie within tropical latitudes resulting in consistently warm temperatures and high humidity. The diverse geology, soils, and land-use history within and among islands also interconnect to influence the structure and composition of forests. Puerto Rico, Culebra, Vieques, and Mona comprise the islands of PR included in the FIA program, whereas St. Croix, St. John, and St. Thomas comprise the USVI. American Samoa, Commonwealth of the Northern Mariana Islands (CNMI), and Guam are U.S. Territories, and the Republic of the Marshall Islands (RMI), Federated States of Micronesia (FSM), and the Republic of Palau make up the Freely Associated States (figure 2-6). PR represents around 2.19 million acres of land with a human population of 3.7 million, the

▲ Mount Denali, AK. Courtesy photo by istockphoto.com.



Source: Ramos (2012) in McGinley et al. (2015)

Figure 2-6. U.S.-affiliated jurisdictions of the insular Caribbean (Puerto Rico and the U.S. Virgin Islands) and Pacific (Hawaii, the Commonwealth of the Northern Mariana Islands, Guam, the Republic of Palau, the Republic of the Marshall Islands, the Federated States of Micronesia, and American Samoa).

USVI represent 82,164 acres of land with a human population of 106,405, and 1.8 million people and 4.6 million acres of land are across the Pacific Islands including the State of Hawaii (appendix table 50).

Forest Area and Stand-Size Trends

Mainland PR transitioned to a phase of total forest cover steadiness after a high rate of forest cover increase from 1980 to 2004 (Marcano-Vega 2017). Total forest area in PR was around 56 percent forest cover in 2014 (appendix table 50). The total forested area in the USVI also shows relative stability with 57 percent forest cover in 2014 (appendix table 50). Hurricane María made landfall in the USVI and PR during September 19–20, 2017, however, causing overall defoliation and substantial loss of branches and apical dominance in nearly all trees. Consequently, canopy cover was extensively reduced to values around 10 to 20 percent especially within highly disturbed forest areas. Nonetheless, new foliage was observed 2 weeks after the storm in most individuals, suggesting that rain events following the event may have helped reduce physiological stress due to the widespread loss of tree crowns and high temperatures. Total forested area across the Pacific Islands range from 36 percent in the State of Hawaii in 2015 to 94 percent in the Republic of Palau in 2014 (appendix table 50). Stand size trends in PR and the USVI by 2014 suggest a transition to more mature stages of forest development as the area occupied by small diameter stands decreased whereas that of medium and large diameter stands increased. Then again, however, limited data from PR after Hurricane María suggest that the event resulted in around 20 percent tree mortality in areas without major landslides. Higher mortality can be expected within rugged terrain and higher elevations due to

uprooting. Therefore, the transition to a mature stage is likely to change in particular forest stands according to the severity of storm effects regarding mortality, loss of tree crowns, and consequent colonization of new ingrowth. Stand sizes vary across the Pacific Islands and tend to be dominated by trees less than 5 inches diameter at breast height on Islands where tropical cyclones are a reoccurring natural disturbance that can impact the structure of the forest and reinitiate new growth of the forest stand.

Land Tenure Systems

Around 83 percent of the forest land area in PR is privately owned, whereas State and local Government or the U.S. Fish and Wildlife Service manage the rest as national forest. In the USVI, 75 percent of the forests are privately owned, 21 percent represent national park, with the rest being managed by local Government. Land tenure systems in Pacific Islands are a mix of individual private, shared family, public land owned by various levels of government and in American Samoa, Republic of Palau, FSM, and RMI indigenous tenure systems (see McGinley et al. 2015 for more information).

Tree Species Composition and Richness—Dominant Native and Naturalized Species

Dominant secondary forests in PR represent the legacy of past agricultural activities with combinations of native and introduced tree species. From a total of 349 species of live trees recorded in PR, the naturalized African tulip tree accounts for the highest biomass storage, cohabiting with native trees (Marcano-Vega 2017). On the USVI, from a total of 118 species of live trees recorded, the tan tan tree accounted for the species with highest biomass storage. In CNMI, the tan tan tree also accounts for the species with the highest biomass storage from a total of 46 species recorded. Species that account for the highest biomass storage in the other Pacific Islands are Maota in American Samoa, lagundi on Guam, bkau or apgau in the Republic of Palau, and ʻōhiʻa lehua in Hawaii.

Forest Volume and Carbon Dynamics

The trend of increasing stand-size class in PR has occurred parallel to an increase in total values of aboveground live-tree net volume and total (aboveground and belowground) live-tree

▲ Forest and waterfall in Hawaii. Courtesy photo by istockphoto.com.

carbon (but see the *Forest Area and Stand-Size Trends* subsection for information on the effects of Hurricane María). Net volume in PR's forests was estimated at 1,392.7 million cubic feet with values of total carbon at 25.4 million tons in 2014. Average annual growth increased while mortality decreased, and data showed a positive growth-to-removals ratio. Total net volume and carbon of live stems in USVI's forests were estimated at 20.9 million cubic feet and 611,622 tons respectively, whereas values of annual growth, mortality, and removals held steady, revealing a positive growth-to-removals ratio in 2014. Stand-size class in the Pacific Islands also closely follows the pattern seen in volume and total live tree carbon, where the majority of volume and carbon is concentrated in small to medium stand-size classes. Total net growing stock volume across the Pacific Islands were estimated at 1,039.4 million cubic feet and 19.3 million dry tons of biomass (appendix table 53).

Timber and Nontimber Forest Products

Across the Islands, many tree species serve multiple purposes and are harvested for timber, medicinal, cultural, and subsistence-food purposes. The naturalized mango tree stands out as the species with fourth highest biomass in PR's forests in 2014 and other species used by local artisans have generally increased in volume (but see the *Forest Area and Stand-Size Trends* subsection for information on the effects of Hurricane María). The naturalized genip tree offers a favorite fruit and figured as the tree species with the second highest biomass in the USVI in 2014. In the Pacific Islands, *Cocos nucifera* is a major source of food, fiber, oil, and wood; *Pandanus tectorius* is used as a food product and weaving material; breadfruit is cultivated as a subsistence crop and can be sold in markets as a fresh fruit or processed into chips; and Noni is valued as a medical crop, dye, and juice product (Neville 2014).

American pika eating clover, Wallowa-Whitman National Forest located in Idaho, Washington, and Oregon. USDA Forest Service photo by Mark Penninger.

Major Forest Health Issues

Systematic and reoccurring FIA inventories can be used to understand the current extent and distribution of forests and also assess effects on the forest due to introduced species. In Guam, an unintentional introduction of cycad scale in 2003 resulted in a steep decline in the population of native cycad species and, in 2007, Rhinoceros beetle was found. The introduced South American Harrisia cactus mealybug has become an important herbivore of PR's and USVI's cactus, causing mortality in the tree cactus. Additionally, the introduced rust fungus has been confirmed affecting the naturalized rose-apple tree in PR, whereas in the USVI the introduced palm leaf skeletonizer has been observed as a heavy defoliator in palm species and the larva of the introduced cactus moth as a heavy feeder of native cacti.

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Section 3. Tree Diversity

Species Diversity and Distribution

Author: Sonja N. Oswalt

Species richness, or the number of unique species within a sample area, is a commonly reported ecological metric used to understand the sustainability of a forest. Alone, species richness at a single point in time tells little about the overall health of an ecosystem, but when combined with abundance and distribution, trends in diversity (either increasing or decreasing), and knowledge of the needs of other plants and animals in the ecosystem, richness can serve as an important indicator of forest resiliency. Additionally, comparisons of changes in native species richness with comparisons of nonnative species richness can be an important indicator of disturbance and forest health.

The United States encompasses a wide variety of ecological, physiological, and climatic zones. As a result, the Nation supports a diversity of trees that provide innumerable benefits to the American people. Cruisers noted 956 unique tree species across the country in 2017, including the Alaskan coast and the Caribbean Islands and Territories. The most abundant species in the conterminous United States was red maple (25 billion trees). Loblolly pine, frequently planted throughout its range, was the second most abundant at 22 billion trees. Balsam fir (16 billion trees), sweetgum (15 billion trees), and Douglas-fir (11 billion trees) round out the top five most frequently observed species in the country (figure 3-1). In contrast, Douglas-fir comprises the Nation's largest accumulation of aboveground live-tree biomass (AGB) at 3.0 billion tons (about 1 percent of the Nation's AGB), whereas loblolly pine contributes 2.1 billion tons of AGB. Red maple, although most numerous, contributed less than one-half the volume of AGB contained in Douglas-fir at 1.4 billion tons.

The most numerous tree in the North was red maple, which also contributes the most AGB at 798 million tons (11 percent of the total AGB for the region), followed by balsam fir (157 million tons AGB), quaking aspen, sugar maple, and northern white-cedar. Red maple has been increasing fairly ubiquitously

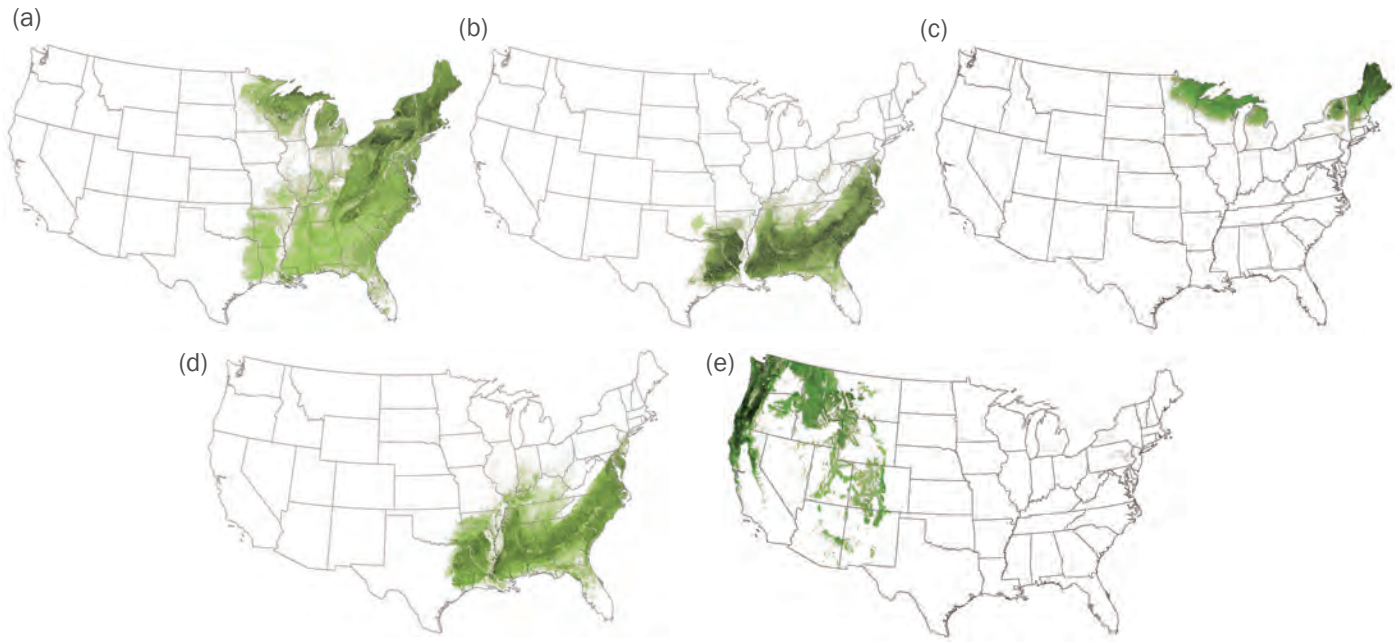


Figure 3-1. Species distributions for (a) red maple, (b) loblolly pine, (c) balsam-fir, (d) sweetgum, and (e) Douglas-fir.

▲ The world's oldest trees, bristlecone pines, in the Inyo National Forest, CA. The trees range from 4,000 to 5,000 years old. USDA Forest Service photo by Cecilio Ricardo.

across its range for some time (Lorimer 1984, Abrams 1998, Fei and Steiner 2007). The reasons for the expansion include the species' generalist characteristics (e.g., profuse seeding, unappetizing to deer, shade tolerant) as well as fire suppression, which results in a positive feedback loop termed "mesophication" by researchers (Abrams 1998; Fei and Steiner 2007; Nowacki and Abrams 2008; Zhang et al. 2015). Balsam fir is prized in the Northern United States for use in pulp, construction, and for Christmas tree farms (Frank 1990).

Loblolly pine, the South's most commercially important tree, contributes the largest quantity of biomass for a single species in the region at 2 billion tons of AGB. It is also the most numerous, with an estimated 22 billion stems. The total of live-tree AGB in the South is 10 billion tons; therefore, loblolly pine represents a full 20 percent of southern biomass and 8 percent of the Nation's AGB. In contrast, the next most numerous southern tree at 15 billion trees, sweetgum, contributed 573 million tons of AGB—only about one-fourth of the AGB contained in loblolly pine.

Gambel oak was the most numerous species in the Rocky Mountain Region at 7.5 billion trees, although the species' overall contribution to AGB is low compared to others in the region, at 63 million tons. In contrast, although lodgepole pine is slightly less abundant (7 billion trees), it contributes a significantly higher proportion of the region's AGB (395 tons). Gambel oak is a drought-tolerant hardwood that grows well in rocky, fire-frequented systems. Because Gambel oak reproduces through both acorns and rhizomatic cloning (Tiedemann et al. 1987), it easily recuperates from wildfire to form dense thickets of small-stemmed individuals. Compare that with lodgepole pine, which is well-suited to a wide variety of soil, temperature, and moisture conditions and can produce high commercial yields when stand density is managed. In recent years, mountain pine beetle has caused widespread mortality among lodgepole pine in the Western United States (Harvey et al. 2014). Bark beetles and fire are natural agents of stand turnover in western forest systems and may help perpetuate the regeneration of lodgepole stands (Harvey et al. 2014, https://www.na.fs.fed.us/spfo/pubs/silvics_manual/Volume_1/pinus/contorta.htm).

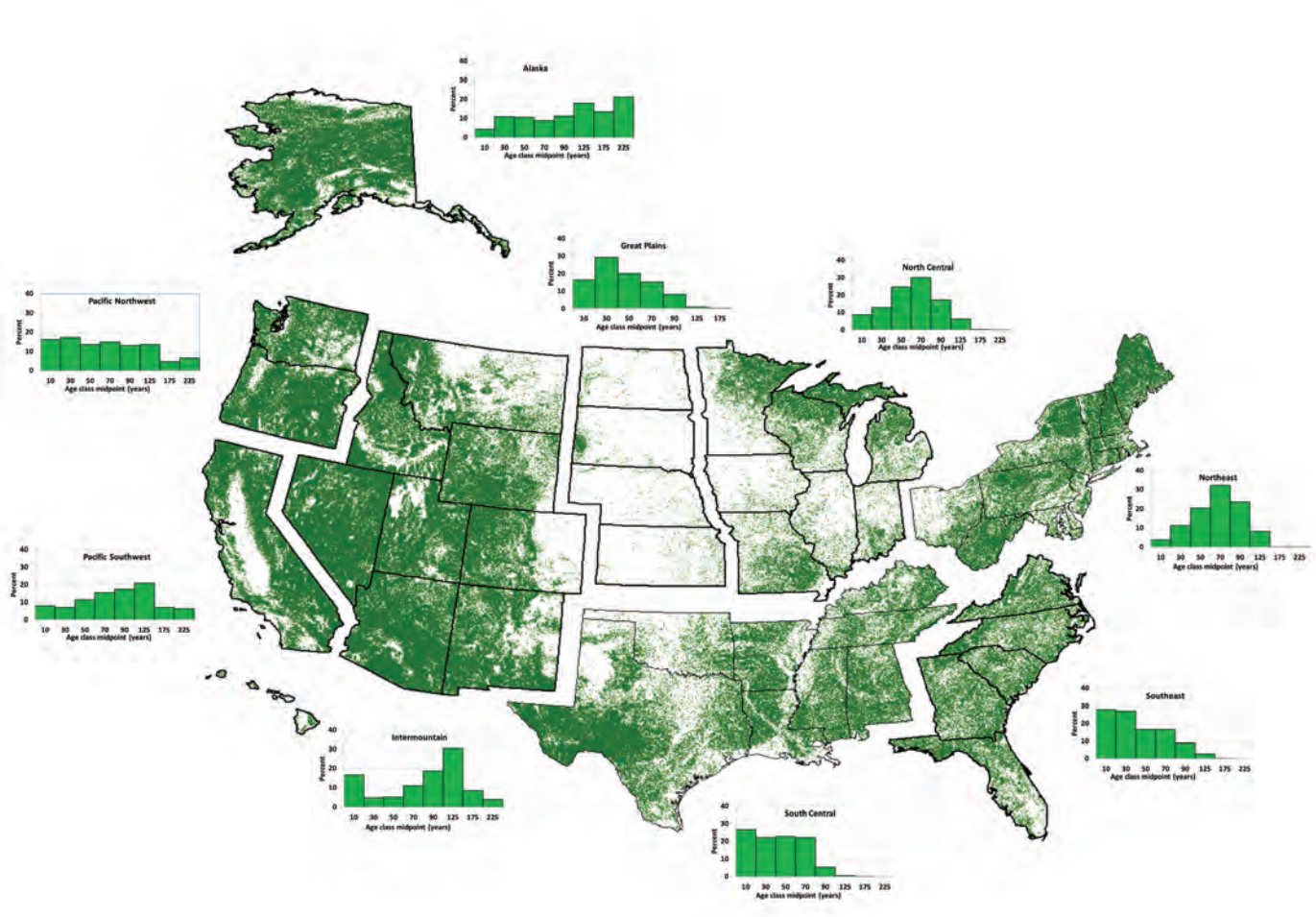
In the Pacific Coast Region (excluding Alaska), Douglas-fir is the most abundant species at an estimated 6 billion live trees and 2.3 billion tons of AGB. Western hemlock, with 2.4 billion trees and 524 million tons of AGB, is the next most abundant tree. In coastal Alaska, however, Western hemlock is most abundant, with 3 billion trees and 389 million tons of AGB. Mountain hemlock is the second most numerous tree on the Alaska coast (1.6 billion trees), but Sitka spruce contributes more AGB (250 million tons). Recent research indicates that Douglas-fir growth rates have been negatively impacted by increased temperatures and sustained droughts in western forests resulting from climate change (Restaino et al. 2016).

Stand-Age and Stand-Size Trends and Distributions

Authors: Stephen R. Shifley and Alan R. Ek

An important component of diversity is structural diversity across the landscape. Stand-age class is an indicator of forest structure and function (appendix tables 12 and 13). For a given forest type, age class is correlated with stand height, tree density, basal area, volume, biomass and carbon per acre. These are measures of forest structure, and with increasing age in the absence of major disturbances, we expect tree density to decrease and the other listed characteristics to increase. Forest age and structure are in turn indicators of forest function. For example, a forest's species composition and age are indicators of its suitability as habitat for different species of wildlife, its ability to sequester carbon, and the potential type and quantity of wood products it can provide. The structure of a forest can also indicate risk in term of natural and human disturbances, e.g., insect attacks and wildfire. Those relationships are even more informative when forest age class is reported by region (figure 3-2) and forest type (appendix tables 12 and 13). For individual public or private ownerships, the distribution of forest area by stand-age class is informative when choosing among management alternatives. Patterns of forest age-class provide additional insights when examined separately by forest type. For example, the dominant species in the aspen-birch forest type group are relatively short lived, so few aspen or birch forest areas will ever exceed 100 years of age, regardless of disturbance regimes. In contrast, undisturbed oak- or maple-dominated forest types can reach 200 years of age. Thus, the ecological interpretation of stand age differs by forest type.

Stand-size class is another indicator of forest structure and function that is based on the size rather than the age of the trees in a forest stand (appendix tables 14 and 15). Stand-size class has only four categories, and the classes are



Notes: Shaded area on map indicates forest cover. Based on appendix tables 12 and 13.

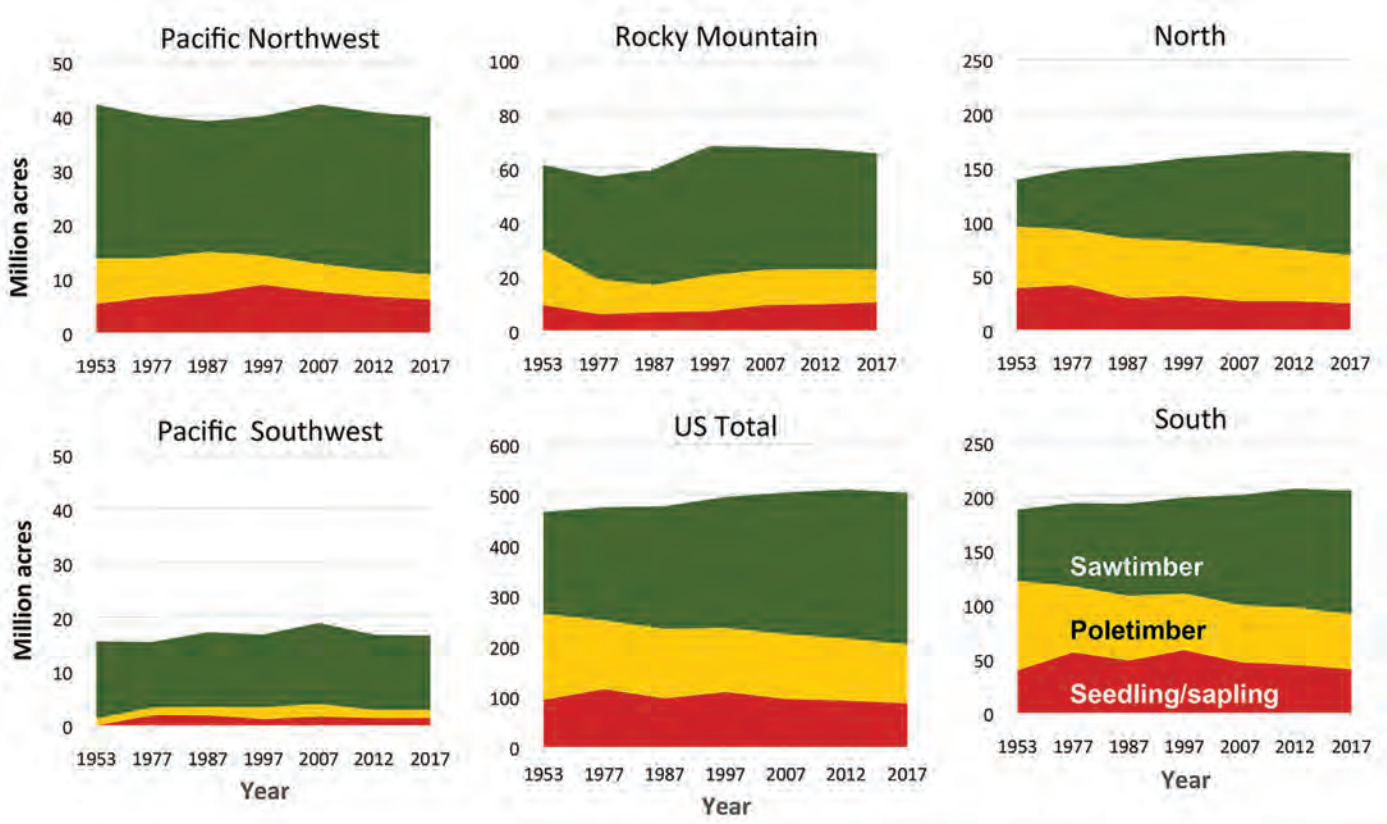
Figure 3-2. Figure 3-2. Distribution of timberland area by region and age class.

closely aligned with traditional forest products utilization. The seedling-sapling size class is dominated by trees that are smaller than 5 inches diameter at breast height (d.b.h.). The poletimber stand-size class is dominated by trees that are at least 5 inches d.b.h. and less than sawtimber size. Sawtimber stands are dominated by trees that are sawtimber size as defined by regional standards—typically about 9 inches d.b.h. for softwoods and 11 inches d.b.h. for hardwoods. The nonstocked size class indicates areas with trees where the tree cover amounts to less than 10 percent stocking. Nonstocked forest land, includes recently harvested areas and abandoned pastures that through succession are in the process of reverting to forest. Only 2 percent of U.S. forest land is in the nonstocked category, however.

Stand-size class and stand-age class are related, but they emphasize different aspects of forest stands. For example, a typical oak-hickory stand in the Eastern United States would remain in the seedling-sapling size class from age 0 to 30 years, the poletimber size class from age 30 to 70 years, and the sawtimber size class from age 70 and up. In contrast, an intensively managed loblolly pine stand might reach the sawtimber size class by age 30. Thus, examination of stand-size classes is particularly helpful in understanding forest conditions from a wood product or wildlife habitat perspective. Because only three primary stand-size classes exist, size classes are a simple way to compare the areas of young, maturing, and mature forest. Moreover, historical trends of timberland area by stand-size class are known for the period from 1953 to 2017 (appendix table 15) and are helpful in understanding forest changes over the past six decades (figure 3-3).

In contrast to stand-size class, stand-age class in years is defined uniformly across all forest types and regions, and it gives a finer-resolution picture of forest conditions—especially for old forests. For example, stand-age class can indicate the area of forest approaching an "old-growth" stage of development, whereas stand-size class cannot because it makes no distinction among stands that have reached the sawtimber size class.

Stand-age class and size-class categories are limited in their ability to represent conditions for stands that are truly uneven-aged or that otherwise have a complex age and size structure due to harvesting or to prior damage by weather, insects, disease, or wildfire. Nevertheless, they are useful indicators of current forest condition and diversity, patterns of past disturbances, constraints on future forest conditions, and opportunities for protection and management.



Notes: Over the past six decades, the U.S. total area in the sawtimber size class has increased relative to poletimber and seedling/sapling size classes, with the largest increases the East. Note that vertical scales differ by region. Based on appendix table 15.

Figure 3-3. Change in timberland area by region and stand-size class, 1953–2017.

A Window on Past Disturbances

Embedded in the forest age class distribution is a timeline of historical patterns of forest disturbance. Stand-initiating disturbances are those of such size and intensity that they result in a newly regenerated forest stand dominated by seedlings and sprouts in the 0- to 20-year age class. Thus, forest acres in the 60- to 80-year age class originated with disturbances that occurred decades ago, i.e., from roughly 1937–1957. Earlier, the post-Civil War boom (1865–1920) led to extensive exploitation of forests in the Eastern United States followed by eventual natural regeneration of many of these same areas. Today, eastern forests are gradually moving into the older age classes. The stand-initiating disturbances that formed the contemporary age-class distribution include logging, land clearing, land abandonment, wildfires, wildfire suppression, severe weather, insects, disease, and afforestation over the past two centuries. Thus the age distribution of today's forests reflects past social, economic, and technological influences as well as naturally occurring disturbances. The distinct regional patterns of age-class distributions are the result of differences in historical disturbances regimes. Wildfires, for example, have been a larger factor in regenerating western forests than in eastern forests where land clearing, farming, and farm abandonment have shaped the forest age-class distribution.

Forest Diversity

The distribution of forest area by forest type, age class, or size class is an indicator of forest diversity. If most of the forest area is concentrated in a few size classes, then the ages of a region's forests have little variety, and they have low age-class and structural diversity at the landscape-scale. In general, forest landscapes with greater diversity are expected to be more resilient to adverse effects associated with insects, disease, wildfire, severe weather, climate change, invasive species, and other disturbances. Landscape-scale forest diversity increases when forest area becomes more evenly spread across all age or size classes. Forests with such an age class distribution are also easier to manage for an even flow of harvests than those concentrated in a few age classes.

The distribution of forest area by age and size classes reported in appendix tables 12 and 13 and illustrated in figure 3-2 is a "coarse filter," meaning that it gives a first approximation of forest diversity across large areas. It is one of many ways and many spatial scales at which to examine forest diversity. In regions where forest age-class or size class diversity is low or has been declining over time, landowners, forest managers and policymakers may want to examine how and why that occurred, if it is repeated for other measures of diversity and what, if anything, to do about it.

▲ Ottawa National Forest Visitor Center, Michigan. USDA Forest Service photo.

Age-Class Dynamics

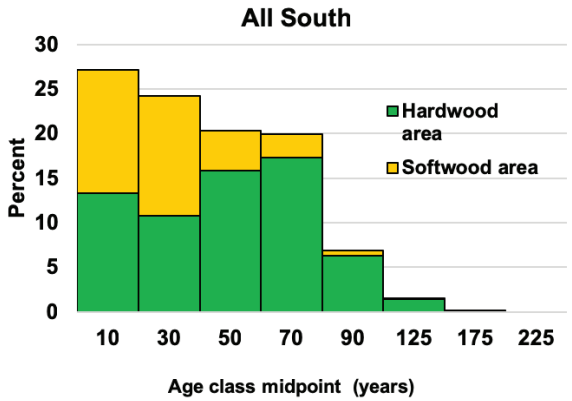
Due to historical patterns of forest disturbance, old forests are relatively rare in the United States. Most forests have been regenerated at least once in the past century. Thus, only about 13 percent of United States timberland is older than 100 years and most of that is in the West. With current low rates of forest disturbance (including harvesting) and forest regeneration, the current stand-age class distributions in many regions of the United States will shift to the right with more acreage of old forests in coming decades. For clarity, it is important to note that we are talking about the mean age of the main tree cohort in an identifiable forest stand; some individual trees in the stand may be much older or younger.

In the Northeast, North Central, Great Plains, and Pacific Southwest subregions of the country, young forests have become relatively rare. For example, only 4 percent of Northeast timberland (about 3 million acres) is early successional forest in the 0- to 20-year age class, whereas 32 percent is in the 60- to 80-year age class (figure 3-2). Lack of young forest (sometimes called early successional forest) can limit forest diversity in the same way that lack of old forest does (Greenberg et al. 2011). Over the coming decades, the paucity of forest acreage now in the youngest age classes will ripple through successively older age classes. The total acreage in those age cohorts will never increase as they move though successively older age classes, and it may decrease if some of those acres are regenerated or convert to other land uses.

Information on the distribution of acres by stand-age class and stand-size class is essential for assessing whether current conditions are on a path to provide desired ecosystem services, sustainable timber and nontimber products, and viable rural communities in future decades. Changes to the age-class distribution are often quite predictable but take decades to materialize and are greatly influenced by management actions and inactions by more than 11 million private forest landowners. Further, the primary tool for planning and managing age class development over time is timber harvest, which also requires wood product markets that are compatible with the harvested material (see related sections on Harvest Removals and Timber Products, Biomass and Alternative Fuels, and Economic Outlook). Thus, periodic forest monitoring is required to track the combined effects of human activity plus unplanned disturbances on the age-class and size-class diversity of the Nation's forests.

Differences by Forest Types

The various forest types, e.g., paper birch versus sugar maple, also differ in lifespan such that the longer lived maple may succeed the aging stands of the former. Such successional dynamics can also change the age class distribution and the associated ecological and economic value of the forest. The information in appendix tables 12 through 15 provides opportunities to dig deeper into age-class and size-class patterns by forest type and region. For example, figure 3-4 indicates the combined effect of a focus in the South on management of fast-growing pine forests for both pulpwood and sawtimber, and the accumulation of hardwoods at older ages for sawtimber due to a lesser market demand for hardwoods.



Notes: Differences among forest types can be substantial and important when interpreting trends. Based on appendix table 12.

Figure 3-4. Distribution of timberland area by age class for softwood and hardwood forest types in the U.S. South, where softwoods are often intensively managed.

Ecologically Unique Species/Populations

Authors: Andrew Gray and Anita Rose

All species are by definition unique and are defined by specific genomes and traits, many of which have developed over millions of years of evolution. Even so, some species with combinations of traits or unusual patterns of growth or distribution attract particular interest from ecologists and the public. Tree species that grow exceptionally large, or are exceptionally long-lived, often attract substantial interest. Species that are rare or occupy restricted ranges are often subjects of conservation concern and study to determine whether management, pathogens, or natural limits (e.g., geographic barriers, past climatic shifts) might be causing rarity. Some species appear to occupy "keystone" status within ecosystems where they anchor and drive community dynamics, including providing important ecosystem services to people.

Assessing status and trends of organisms or conditions that are by definition rare or unusual can be difficult. Strategic forest inventories such as Forest Inventory and Analysis are designed to estimate attributes over relatively large domains (i.e., area or number of individuals). The systematic sampling approach used by these inventories usually results in limited information for species with small populations or restricted ranges. As a result, much of the information we have about

the distribution and characteristics of rare species necessarily comes from targeted studies and expert opinion. Information from strategic inventories, however, can nevertheless provide valuable information on how rare or unique particular species or populations are, and how they relate to the rest of the forested condition.

In this section, we present information on a few selected species and species groups to highlight their ecologically unique attributes.

ʻOhiʻa Lehua

The ʻōhiʻa lehua tree is endemic to Hawaii and makes up 32 percent of the live tree basal area and 42 percent of the biomass in Hawaiian forests. ʻŌhiʻa is a keystone species in many ecosystems and has a wide ecological amplitude, from colonizing lava flows within decades, to forming large canopy dominants in moist rainforests (the largest diameter tree recorded on an FIA plot was 62 inches), to growing as a shrub in high-elevation bogs (figure 3-5). The species made up a large percentage of the biomass in cloud forests, with similar abundance (40 to 50 percent) in most other forests, except for mangrove and the other tropical hardwood types (table 3-1). Reports of elevated ʻōhiʻa mortality started in 2010, which has since been traced to an introduced fungal pathogen (*Ceratocystis fimbriata*). Known colloquially as "rapid ʻōhiʻa death," the pathogen is quite virulent and has decimated large patches of forest in Hawaii and presents a major threat to watershed, cultural, and ecological values in the State.

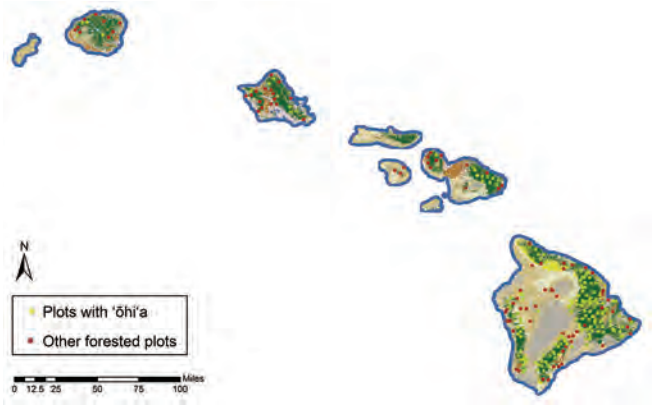


Figure 3-5. Map of the approximate Forest Inventory and Analysis sample locations where ʻōhiʻa was recorded as present and additional forested plots where it was not. National Land Cover Database classified satellite image of land cover types is shown as background.

Pacific Yew

Pacific yew is a species that is native to the wetter forests of the Pacific Northwest, ranging from southeast Alaska to northern California on the west side of the Cascade crest, but is also found in moist forests in the Blue Mountains, northern Idaho, and western Montana. Although this slow-growing, shade-tolerant species is often most evident in old stands, where it can attain diameters of 27 inches or more, it is well distributed across a range of age classes (figure 3-6). Yew fruit is a bright red "berry" or aril, which is quite poisonous to humans if eaten. Pacific yew was discovered to contain a powerful cancer-treating compound called taxol, and the tree was harvested for several years to extract the chemical, until a mechanism was developed to synthesize it from the needles of cultivated yew species in 1990.

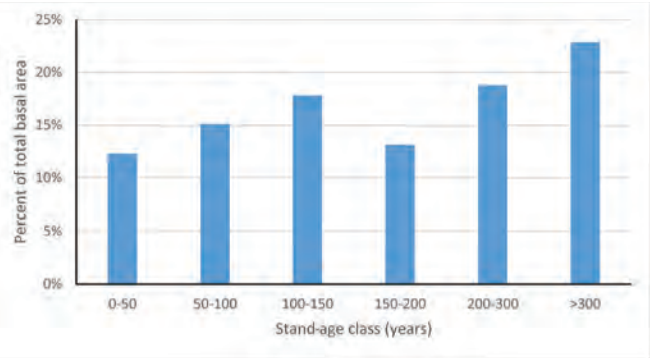


Figure 3-6. Proportion of total Pacific yew basal area by stand-age class. Although the largest trees are found in older stands, the species is well-represented among the more abundant younger stands.

Table 3-1. Abundance of ʻŌhiʻa lehua in Hawaii by forest type, showing area and aboveground biomass of ʻŌhiʻa and all live trees.

Forest type	Area (acres)	All trees (Tg)	ʻOhiʻa (Tg)	ʻOhiʻa (percent)
Cloud forest	43,910	1.68	1.26	75.0
Dry forest	182,679	2.83	1.17	41.3
Lower montane wet and rain forest	804,408	61.37	26.56	43.3
Mangrove	4,107	0.30	0.05	16.7
Moist forest	378,026	20.45	10.28	50.3
Other tropical hardwoods	58,051	7.39	0.05	0.7
Total	1,471,181	94.02	39.37	41.9

Tg = teragram.

Longleaf Pine

Longleaf pine is a species of the Atlantic and Gulf coastal plains and Piedmont that may have dominated stands over as much as 92 million acres of forest land (Oswalt et al. 2012) and was primary habitat for a number of species, including the red-cockaded woodpecker. Longleaf needles can be up to 18 inches long. Unlike most conifers, naturally regenerating seedlings go through a grass stage for their first few years, when most of the tree growth is dedicated to root development, before growing in height. Longleaf pine is fire-resistant and developed in association with periodic fire. Fire suppression contributes to crowding by other species and lack of pine regeneration, and historic harvest and conversion to other timber species have reduced the area covered by longleaf. Currently, the forest type covers 3.5 million acres, primarily in Florida, Alabama, Georgia, and the Carolinas (table 3-2); it is also still found on the Cumberland Plateau on the Bankhead National Forest. An additional 1.0 million acres of Longleaf pine-oak forest type are found in the region (Oswalt et al. 2012). The largest inventoried tree was 28 inches in diameter. Many landowners and agencies are collaborating to restore longleaf pine across more of its historic range.

Unique species have impacts beyond simply the area they cover or biomass they represent. Monitoring the changes in the populations over time will help us understand their role and assess strategies to maintain them into the future.

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Table 3-2. Abundance of longleaf pine in terms of the area of forest type and the aboveground biomass of live trees, by State.

	Area of forest type		Aboveground biomass	
State	Acres	Percent	Biomass (Tg)	Percent
Alabama	687,072	19.4	20.68	18.4
Florida	963,566	27.1	26.62	23.7
Georgia	563,388	15.9	15.86	14.1
Louisiana	195,961	5.5	9.48	8.4
Mississippi	278,107	7.8	11.02	9.8
North Carolina	338,542	9.5	11.70	10.4
South Carolina	492,894	13.9	15.16	13.5
Texas	30,114	0.8	1.82	1.6
All	3,549,644		112.34	

Tg = teragram.

Section 4. Volume and Forest Dynamics

Volume

Author: Sonja N. Oswalt

When considering the Nation's resources, the volume of wood available for possible commercial use has implications for our economic security, national defense, environmental well-being, and overall national health. The total live-tree volume on the Nation's timberland exceeds 1 trillion cubic feet. That translates to nearly 9 billion stacked cords of wood, or enough wood to fill the Great Pyramid of Giza 12 times. Of live-tree volume in the country, 88 percent is considered growing stock, and live-tree volume is nearly split in half between softwoods and hardwoods, with softwoods at 54 percent of live-tree volume and hardwoods at 46 percent. Softwood growing stock volume in all regions except the Rocky Mountain increased between 2007 and 2017. In the Rocky Mountain Region, the decline is a combination of measurement error associated with implementing the first round of the annualized Forest Inventory and Analysis inventory design in the previous Resources Planning Act Assessment (Oswalt et al. 2012) and the impacts of continuous drought and beetle-associated mortality. Softwood growing stock in the South and North has risen consistently since the mid-1950s (figure 4-1).

Hardwood growing stock in the both the North and South has risen steadily since the mid-1950s in part due to older, larger trees remaining in the woods, particularly since eastern hardwood lumber production has fallen off since the late 1990s (Oswalt 2017; Luppold, in press). Hardwood growing stock volume in the North reached a high of 209 billion cubic feet in 2017, compared to 192 billion cubic feet in 2007 and

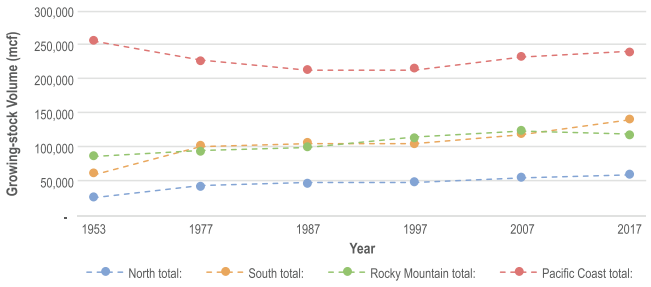


Figure 4-1. Softwood growing stock volume by region, 1953–2017.

77 billion cubic feet in 1953—a 173-percent increase over the past six decades. While slightly less dramatic, hardwood growing stock volume in the South more than doubled from 1953 to a high of 178 billion cubic feet in 2017, a 5-percent increase from 2007. In contrast, in the Rocky Mountain and Pacific Coast Regions hardwood growing stock volume is a small proportion of total volume and has remained fairly steady since 2007 (figure 4-2).

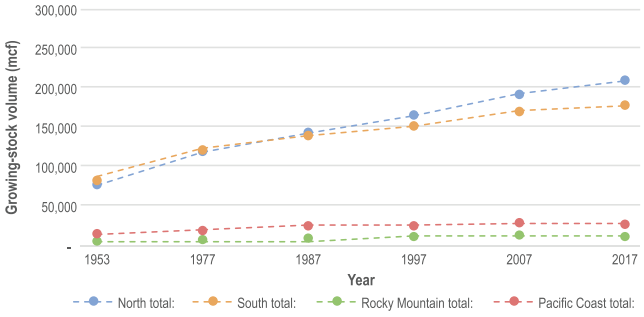


Figure 4-2. Hardwood growing stock by region, 1953–2017.

Per-acre tree volume is higher on naturally regenerated versus planted timberland across the country with the exception of the North. In the South, per-acre volume averaged 1,616 cubic feet per acre on naturally regenerated timberland as compared to 1,258 cubic feet per acre on planted timberland. The most likely explanation for this difference is shorter rotation times on planted timberland versus the older age (thus larger trees) on naturally regenerated timberland, as well as species related differences (e.g., most planted timberland in the South is pine, whereas a large proportion of natural timberland includes hardwood trees).

Average Annual Net Growth, Mortality, and Removals

Author: Sonja N. Oswalt

The volume of timber on the landscape is influenced by many factors including the productivity of the site, the physiological limitations of the species present, competition for resources,

management practices (or absence of management), and external influences on the forest in the form of pests, disease, and natural disasters, among others. The average annual net growth, mortality, and removals of trees are called components of change and are key pieces in understanding the overall sustainability of U.S. forest resources.

The average annual growing-stock mortality rate in Rocky Mountain softwoods (figure 4-3) has doubled since 2006 (from 1.2 billion cubic feet to 2.4 billion cubic feet), a function of the combined forces of mountain pine beetle infestation, continuous drought, and forest fires (Berner et al. 2017). In comparison, hardwoods in the region have experienced a 37-percent increase in average annual mortality rates, an increase also tied to wildland fire and drought (figure 4-4). Hardwood volume in the Rocky Mountain Region is low compared to softwood volume; however, even with the increase, average annual mortality is 173 million cubic feet in hardwoods—14 times lower than the volume of softwood mortality. As a result of the significant mortality in the Rocky Mountain, the average annual net growth rate of softwood growing stock has declined significantly (net growth accounts for mortality). Thus, the net effect has been a change from average annual accretion of 1.8 billion cubic feet of soft- and hardwood volume to an accretion of 299 million cubic feet on average, annually, since 2006. While growing stock mortality rates have increased and thereby slowed overall net growth, removals of growing stock volume on Rocky Mountain timberland have decreased from 584 to 404 million cubic feet per year, on average. Removals in the Rocky Mountain are among the lowest in the country. The significant mortality rates in the region, however, have resulted in a negative growth-to-removals ratio of 0.74. In other words, more volume is being removed from timberland than is being added through growth.

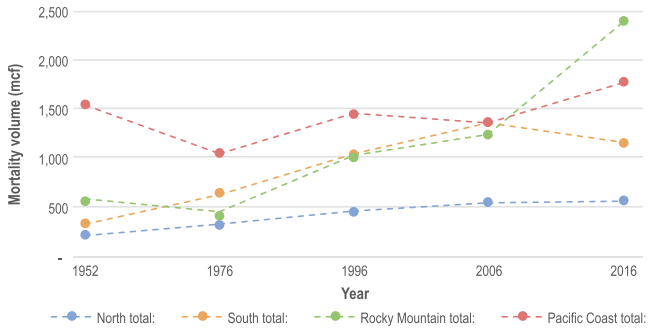


Figure 4-3. Average annual softwood growing stock mortality by region, 1952–2016.

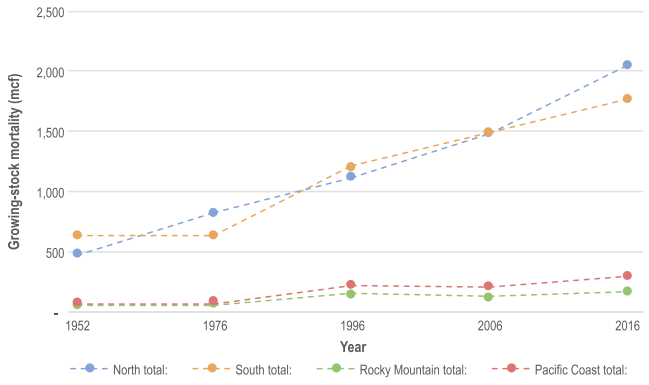


Figure 4-4. Average annual hardwood growing stock mortality by region, 1952–2016.

Tree featured in 2014 film, "The Meaning of Wild," Kootznoowoo Wilderness, Admiralty Island, Tongass National Forest, AK. USDA Forest Service photo by Don MacDougall.

Given that total standing growing-stock volume in the Rocky Mountain Region is 130 billion cubic feet, current removals do not pose a threat unless mortality continues at its current rate with no simultaneous increase in growth rates. At the current rate, the average per-year net volume removal (removals minus net growth) is 105 million cubic feet. Total standing volume is 1,238 times that "net" removal value. Therefore, current growing-stock volumes are resilient to the increased mortality and continued removals so long as rebounds in growth occur through time.

Average annual mortality rates have gone up across the country since 2006 in all regions, not just the Rocky Mountain, though none as dramatically as that region. The North experienced increased average annual mortality in both softwood and hardwood growing stock. Average annual mortality rates increased 38 percent from 2006 to 567 million cubic feet in softwoods, and 34 percent from 2006 to 2 billion cubic feet in hardwoods. Eastern hardwood species have been impacted in recent years by several different forest pests, most notably beech bark disease (a complex comprised of the beech scale insect and canker fungi; Cale et al. 2017), emerald ash borer (Herms and McCullough 2014), and dogwood anthracnose (Oswalt et al. 2012), among others. Hemlock woolly adelgid is one pest that has had a notable impact on Northern softwood species, particularly through delayed mortality as trees are weakened and succumb to secondary damage agents.

Concurrent with increasing average annual mortality rates in the last decade, net growth rates have declined slightly in both northern and southern hardwood forests, although average annual net growth on softwoods has continued to increase in both regions (figures 4-5 and 4-6). The recession led to many softwood mill closures and more standing volume in the woods, thus growth occurred on that volume that might otherwise have been removed. The Pacific Coast experienced some decreased growth, mostly in softwoods in the Pacific Southwest subregion Dramatic wildfires and extended drought have played a role in the growth declines in that region.

Removals of wood volume from timberland, which includes both harvested volume and volume that was "removed" from the timberland base because of reclassification into reserved land or another land use, have declined across the Nation by 17 percent from 16 billion cubic feet since 2006 to 14 billion cubic feet in 2016. The decline in removals has occurred in every region, but is particularly noticeable in the South, where total removals went down by 19 percent from 2006 to 2016, and 23 percent from 1996 to 2016 (figures 4-7 and 4-8). During the recession of 2007 to 2009, wood industries across the United States, but particularly in the South, suffered the loss of many jobs as mills closed in the wake of poor housing markets, foreclosures, and stalled construction (Woodall et al. 2011). Though housing markets are recovering, imports and excess log-yard inventory backlogs are still impacting removals. Additionally, the FIA inventory from which this information comes is collected over a period of time, meaning that the temporal events in the data experience a bit of a time lag as well as a "dampening" effect. Thus, we expect we will see the economic recovery reflected in the removals totals in the next RPA update, assuming the economy remains robust and housing continues to recover.

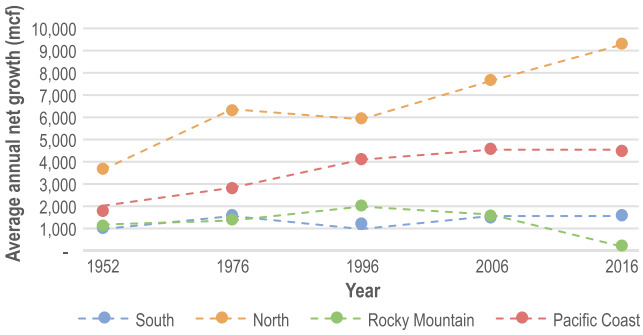


Figure 4-5. Average annual softwood net growth by region, 1952–2017.

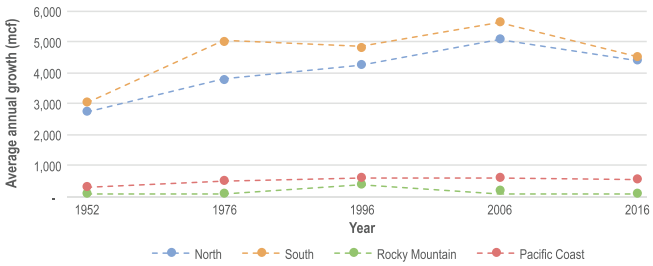


Figure 4-6. Average annual hardwood net growth by region, 1952–2017.

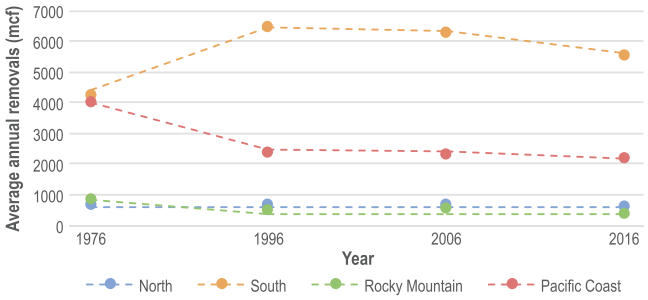


Figure 4-7. Average annual softwood removals by region, 1976–2016.

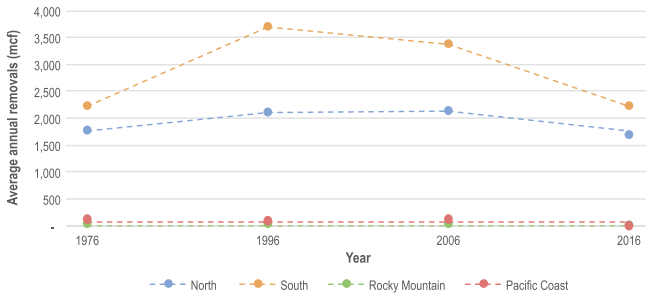


Figure 4-8. Average annual hardwood removals by region, 1976–2016.

Forest Biomass and Carbon

Authors: Grant Domke, Brian Walters, James Smith, Michael Nichols

Forest land is the largest terrestrial carbon sink on Earth (Pan et al. 2011). In the United States, it is estimated that annual carbon sequestration in forests offsets more than 11 percent of economy-wide carbon emissions each year (U.S. EPA 2017). The accumulation of carbon in forest ecosystems is driven by tree growth resulting in sequestration of carbon dioxide in live biomass. Live biomass may persist for many years principally as wood (e.g., perennial woody vegetation) or may die at the end of each growing season (e.g., annual herbaceous vegetation). Eventually, when live biomass dies, the carbon in that biomass may accumulate in dead organic matter (i.e., standing dead wood, downed dead wood, or litter) and returns to the atmosphere via decomposition or respiration. Disturbances (e.g., harvesting, fire, or drought) influence the fate of live biomass and the overall carbon mass balance in forest ecosystems (Hicke et al. 2012, Harris et al. 2016, Williams et al. 2016). Fire, for example, may result in some live biomass being consumed with the carbon returning to the atmosphere immediately. In other cases, the process is slower or less direct and live biomass may be killed and transferred to the dead wood pool where it will decompose and move to the litter or soil carbon pools or be reemitted to the atmosphere.

Status, Trends, and Distribution of Aboveground Tree Biomass

The distribution of forests and the amount of biomass in forests are driven, in large part, by climate, soil types, geology, disturbance, and the history of land use and land use change. Forests are common in the Eastern United States and the mountainous regions of the Western United States. Estimated aboveground tree biomass, which includes live trees > 1 inch diameter at breast height (d.b.h.) and sound dead wood ≥ 5 in d.b.h. on timberland, has increased by more than 32 percent over the last decade in the United States, from 24,421 million dry tons (MT; see appendix table 38a) to 32,311 MT (figure 4-9, see appendix table 38b). This increase is primarily driven by increases in biomass per unit area (figure 4-10), and to a lesser extent, by increases in forest land area (see appendix table 10). The contribution of dead wood to the total standing biomass on timberland increased from 1.5 percent (376 MT) of the total standing biomass in 2007 to 2.6 percent (840 MT) of the total standing biomass in 2017 (figure 4-9). This was the result of increased tree mortality in the North, South, and Pacific Coast Regions. Live biomass increased in each region over the last decade with the largest increase (71 percent) in the Pacific Coast Region, which now has nearly 29 percent (9,007 MT) of the Nation's biomass (figure 4-9). In the South, biomass increased by nearly 17 percent (1,432 MT) and this region continues to have the majority of the Nation's live tree biomass (10,104 MT). The Northern United States also has a substantial amount of live tree biomass (8,869 MT), which increased by more than 19 percent over the last decade. In the Rocky Mountain Region, live-tree biomass increased by nearly 28 percent over the last 10 years whereas standing dead tree biomass declined by 43 percent over the same period (figure 4-9).

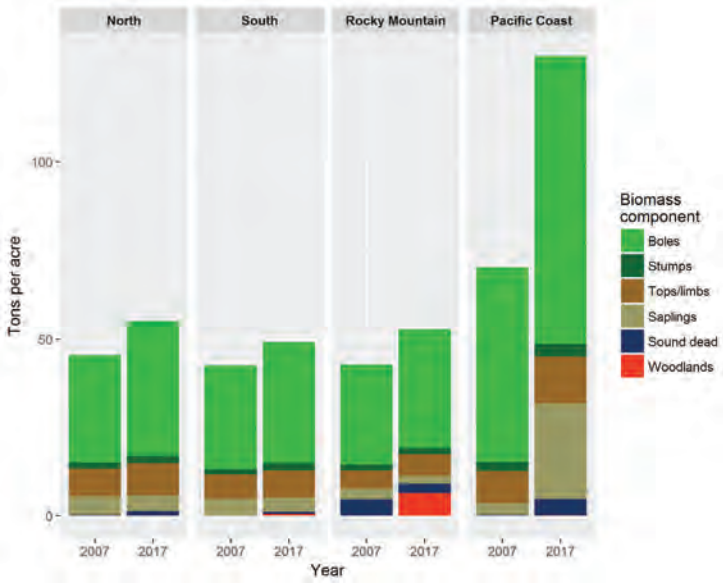


Figure 4-9. Aboveground standing biomass on timberland in the United States by region, 2007 and 2017.

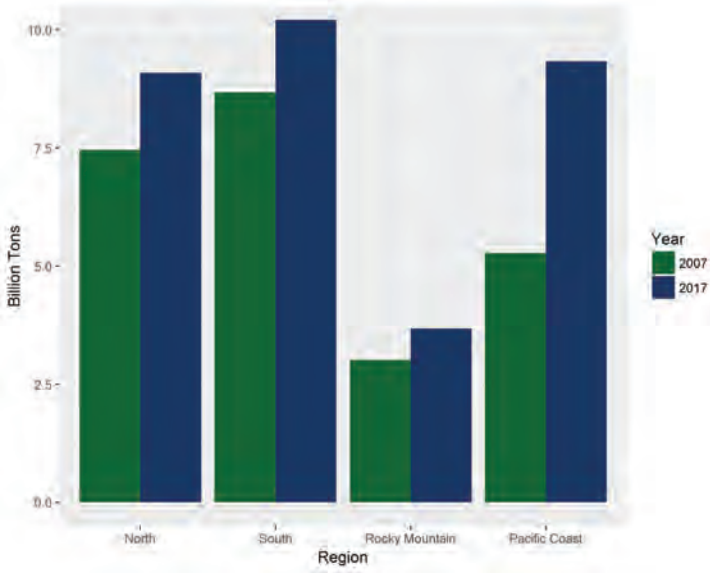
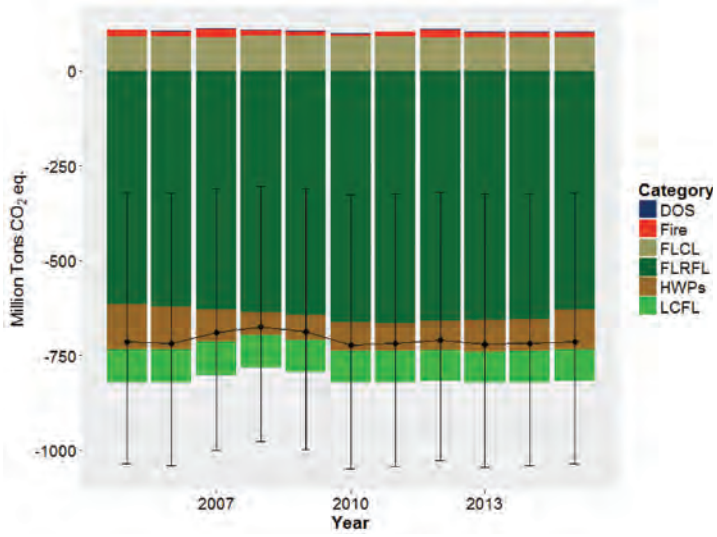


Figure 4-10. Aboveground standing biomass per hectare of timberland in the United States by region and component, 2007 and 2017.

Greenhouse Gas Emissions and Removals From Forest Land

As signatories to the United Nations Framework Convention on Climate Change, the United States is required to submit an economywide report of greenhouse gas emissions and removals from 1990 to near present each year (U.S. EPA 2017). The forest land category accounts for more than 83 percent (-714 million tons carbon dioxide equivalent [MMT CO_2 eq.]; note that negative estimates in this section reflect sequestration whereas positive estimates represent emissions) of the total net sequestration in the land use, land use change, and forestry sector, which includes forest land, grassland, cropland, settlements, wetland, and other lands (U.S. EPA 2017). The net flux estimates within the forest land category include emissions and removals from forest ecosystems, harvested wood products (HWPs), drained organic soils, and land use change (figure 4-11), each classified by CO_2 and non-CO_2 (e.g., methane [CH_4] and nitrous oxide [N_2O]). The vast majority of carbon sequestration can be attributed to growth in live trees within the Forest Land, Remaining Forest Land, and Land Converted to Forest Land categories. Accumulation of carbon in dead organic matter (i.e., standing and downed dead wood and litter) and soils in these categories also contributes to the strength of the sink within forest land in the United States. Timber harvesting removes carbon from forest land, but much of that carbon is stored in long-lived HWPs. Harvested wood contributes to the net sink because approximately 76 percent of the annual domestic harvest input to the wood products pool (446 MMT CO_2 yr^{-1}) is offset by release processes (341 MMT CO_2 yr^{-1}) such as firewood consumption or emissions from HWPs in landfills, yielding a corresponding net increase



CO_2 = carbon dioxide. DOS = drained organic soils. Fire = Non-CO_2 emissions from wildland and prescribed fire (expressed as CO_2 eq.). FLCL = Forest Land Converted to Land. FLRFL = Forest Land Remaining Forest Land. HWP = Harvested Wood Products. LCFL = Land Converted to Forest Land.
Note: The points represent the estimated net from all sources and sinks associated with forest land (with approximate 95-percent confidence intervals).
Source: U.S. EPA (2017)

Figure 4-11. Estimated emissions and removals (MMT CO_2 eq.) from all sources and sinks associated with forest land in the 2017 national inventory report of greenhouse gas emissions and sinks.

▲ High Rock Sundown, Clinch Ranger District, George Washington and Jefferson National Forests, Virginia. USDA Forest Service photo.

▲ Men fish the Madison River in the Beaverhead-Deerlodge National Forest south of Ennis, MT. USDA Forest Service photo.

in wood products of 107 MMT CO_2 eq. (figure 4-11; U.S. EPA 2017). Land use change (Forest Land Converted to Land) is the largest source of carbon emissions to the atmosphere annually. The estimated net carbon flux associated with forest land conversion over the last decade has been approximately zero with gains in forest land constituting -93 MMT CO_2 eq. yr^{-1} and losses resulting in emissions of -93 MMT CO_2 eq. yr^{-1} (figure 4-11; U.S. EPA 2017). The estimated emissions constitute decades and possibly centuries of accumulated carbon within these forest ecosystems which is abruptly or gradually released to the atmosphere during land use conversion whereas the gains in forest land only represent carbon sequestration from new growth of live biomass and the accumulation of newly dead organic matter over the 20 years since land use conversion. Finally, emissions from fire, both wild and prescribed, are quite variable over the reporting period (1990–2015), with major fire years (see appendix table 49) contributing greater emissions than minor fire years.

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▲ Small yellow fungi at El Verde sector of Luquillo Experimental Forest, PR. USDA Forest Service photo.

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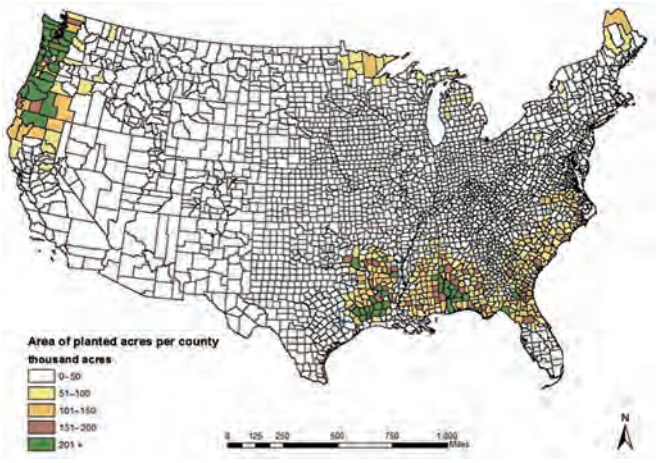
Section 5. Forest Products and Services

Plantations

Author: Andrew Hartsell

Tree volume and components of change often inform forest management, particularly with regards to forest products and the sustainability of forest industries. Timberlands are forests that are capable of producing at least 20 cubic feet per acre per year of industrial wood, which is not reserved (withdrawn from wood extraction by law or statute). Forests classified as woodland are not considered timberland. Timberland comprises 67 percent of forest land in the United States. The majority (87 percent) of timberland is of natural origin. The remainder is planted forest, which may include plantations (e.g., loblolly pine trees grown in rows), augmented planting of natural stands (e.g., planting oak trees under a canopy), or planting for the purposes of restoration.

Southern forests have the highest planted timberland rates. Alabama (33 percent), Georgia (32 percent), Mississippi (32 percent), Florida (31 percent), and Louisiana (31 percent) have the highest national rates of planted timberland. The Pacific Coast States of Oregon and Washington have the largest proportion of planted timberland outside the South at 28 and 27 percent. The importance of artificially regenerated stands in Southern and Pacific Coast forests is evident in figure 5-1.



Source: Forest Inventory and Analysis data

Figure 5-1. Area of planted acres per county in the conterminous United States.

The primary planted forest-type group on southern timberland is loblolly-shortleaf pine at 71 percent of all of the South's planted forests (figure 5-2). Longleaf and slash pines comprise 14 percent of the region's plantations. Loblolly, shortleaf, longleaf, and slash pine trees, also referred to as "yellow pines," are both used in the pulp and paper industries, as well as for dimensional lumber and plywood. The Douglas fir forest-type group represents the majority of planted trees in the Pacific Coast States. Douglas fir is used for dimensional lumber and plywood as well as marine structures (e.g., docks), railroad ties, logs, fencing, pulp, and furniture. Planted hardwood stands comprise less than 8 percent of the total plantation acreage in the region.

Southern-yellow pine plantations are more productive than natural pine stands on a per acre basis. It is how this land management practice is applied that determines its value. Understanding how plantations impact timber productivity, biodiversity, and forest structure at regional and national levels is vital if society is to make wise land management decisions. These issues will be explored using forest inventory data.

For example, one might wonder about the productivity of southern pine plantations. Forest inventory data show that, although southern yellow pine plantations occupy only 18 percent of the forest area of the region, they contain 47 percent of the region's all-live softwood volume. Moreover, plantations

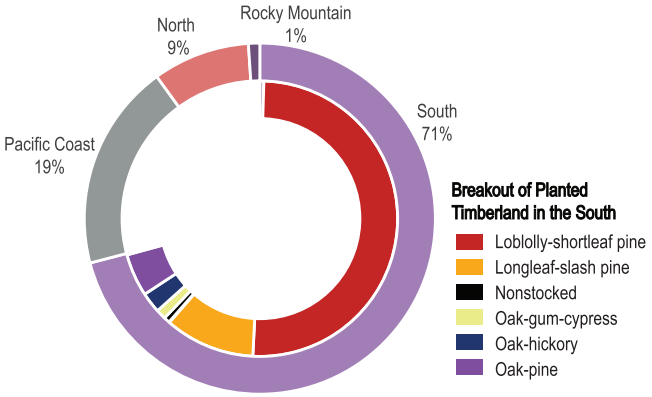


Figure 5-2. Proportion of planted timberland by region (outer donut), with breakout of southern planted timberland by forest-type group (inner donut).

account for 67 percent of the annual softwood growth and 82 percent of the annual removals of softwood species. Thus, plantations increase the efficiency of timber production across the South (table 5-1).

The growth-to-volume ratio for planted stands is 0.1, indicating that for every 10 cubic feet of standing volume, 1 cubic foot is grown each year. Conversely, natural stands have a growth-to-volume ratio of 0.03, three times less than planted stands. The removals-to-volume ratio for artificially regenerated stands is 0.07, revealing that 7 feet of volume is removed per year for every 100 cubic feet of live tree volume. The removals-to-volume ratio for natural stands is 0.01, seven times less than planted stands. These numbers reveal that southern plantations provide more annual growth and removals of live trees per acre and standing volume than stands of natural origin.

Plantations may be more efficient at growing pines, particularly loblolly, but are they more vulnerable to disease and pests? Plantation management is actually very effective in reducing tree mortality. Mortality-to-volume ratios for both management regimes are low, but the mortality-to-volume ratio for southern plantations is 0.006, much lower than the 0.11 estimate for natural forests.

Ecological concerns are often raised in relation to plantation forestry. For instance, species diversity is lower in planted stands than in natural pine stands, suggesting that replacement of natural pine stands by planted stands is a subject of environmental concern. Over one-half of the South's softwood forest area, 55 percent, is classified as planted. Of this planted area, 71 percent is in the loblolly/shortleaf forest-type. These statistics demonstrate that southern pine plantations are dominated by one forest-type: loblolly/shortleaf.

Conversely, natural stands are dominated by hardwood species and forest-types. Natural stands account for 79 percent of the region's hardwood volume and 67 percent of the region's all-live average annual growth. Oak/hickory is the largest forest-type in this category, representing 48 percent of the total hardwood area in natural stands. Woodland hardwoods were the next largest category at 13 percent of the South's hardwood forest area.

Natural stands and plantations stand structures differ, particularly in diameter distributions. In planted stands, all-live softwood volume peaks in the 8- to 10-inch classes and declines sharply thereafter. Of the all-live softwood volume in planted stands, 60 percent is in the 6-, 8-, and 10-inch diameter classes. Only 22 percent of the total softwood volume in plantations is in the ≥14-inch classes (figure 5-3).

Table 5-1. Total forest area, standing volume, average annual growth, removals, and mortality of live trees on southern forests by species group and stand origin, 2017

Forest-type group	Natural					Planted				
	Area	Volume	Growth	Removals	Mortality	Area	Volume	Growth	Removals	Mortality
	Thousand acres	Million cubic feet per year				Thousand acres	Million cubic feet per year			
White / red / jack pine	408.3	1,583.8	45.3	5.3	11.0	82.9	206.0	11.8	5.7	2.4
Spruce / fir	24.2	91.6	2.7	0.0	0.6	7.7	15.4	0.9	0.0	0.1
Longleaf / slash pine	5,787.5	9,569.2	276.9	75.2	87.5	7,196.5	8,417.9	767.3	413.7	59.7
Loblolly / shortleaf pine	24,895.1	55,921.8	2,519.3	630.3	492.4	34,083.4	52,003.1	5,191.6	2,805.1	261.6
Other eastern softwoods	1,843.6	1,339.7	42.6	11.0	11.1	27.0	10.8	1.0	0.9	0.0
Total softwoods	32,958.7	68,506.2	2,886.9	721.8	602.6	41,397.4	60,653.1	5,972.6	3,225.3	323.8
Pinyon / juniper	9,683.6	3,499.5	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oak / pine	18,870.5	33,294.5	1,111.5	410.0	374.1	3,449.7	1,867.9	184.2	525.9	23.8
Oak / hickory	87,812.3	148,569.0	3,329.0	2,095.9	1,472.9	1,756.5	593.2	63.6	293.1	11.3
Oak / gum / cypress	23,879.5	54,267.7	966.7	488.9	783.5	795.5	268.1	27.8	33.2	1.3
Elm / ash / cottonwood	11,893.8	16,875.4	418.9	198.5	238.2	253.8	89.4	4.9	5.9	0.5
Maple / beech / birch	1,876.4	4,395.2	50.6	26.0	63.7	3.2	0.1	0.0	0.0	0.0
Aspen / birch	16.3	12.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other hardwoods	982.0	941.9	4.0	12.9	19.3	4.9	1.0	0.0	0.0	0.0
Woodland hardwoods	24,049.9	3,486.2	-1.9	0.0	2.1	0.0	0.0	0.0	0.0	0.0
Tropical hardwoods	687.1	570.8	7.7	0.6	7.7	7.8	2.1	0.0	0.3	0.0
Exotic hardwoods	1,017.5	497.2	15.0	40.0	27.4	60.9	7.5	2.2	7.8	0.0
Total hardwoods	180,768.9	266,410.2	5,903.6	3,272.9	2,989.0	6,332.3	2,829.1	282.7	866.2	37.0
Nonstocked	6,101.8	212.7	-4.1	224.1	46.3	472.7	11.2	16.0	88.5	0.6
Total	219,829.3	335,129.0	8,786.4	4,218.8	3,637.9	48,202.5	63,493.5	6,271.2	4,180.0	361.4

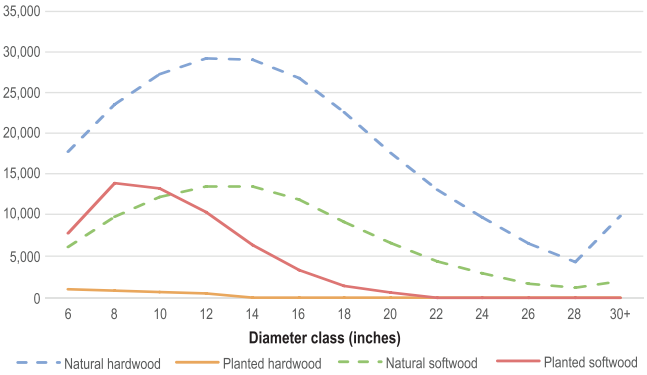


Figure 5-3. Volume of all-live trees on southern forest land by major species group and stand origin, 2017.

All-live softwood volume in natural stands is more broadly distributed across diameter classes and peaks around 13.6 billion cubic feet in the 14-inch diameter class. Of the live softwood volume in natural stands, 56 percent occurs in the ≥ 14-inch classes. This is quite a contrast with the 14.2 percent for planted stands. These differences are brought about because planted stands are managed to harvest at a young age, whereas natural stands are often unmanaged or not managed as intensely as plantations, resulting in older, larger trees.

As described previously, nearly all of the South's hardwood trees are found in natural stands. Therefore, comparing hardwood volume in plantations with that in natural stands may be unnecessary. The line representing planted hardwood volume nearly lies on the horizontal axis. The degree to which hardwood volume exceeds all other types is evident. Additionally, the fact that larger trees are more abundant in natural stands is clear as well.

Southern planted forests are composed nearly entirely of the loblolly/shortleaf forest-type. These plantations, on a per acre basis, contain and produce more volume than natural stands, and have a lower mortality-to-volume ratio. Natural stands tend to have a greater variety of species, especially hardwoods, and have a greater proportion of their trees in larger diameter classes.

Harvest Removals and Timber Product Output

Author: John Coulston

The forests of the United States provide many goods and services, which include supplying the source material for industrial products and residential fuelwood (see table 5-2 for product definitions). From a global perspective, the U.S. share of global industrial roundwood production was 17 percent in 2013, and the United States has the highest intensity of industrial roundwood per capita consumption (Wear et al. 2016). Wood product markets affect forest sector jobs (Sorenson et al. 2016, Hodges et al. 2012, Woodall et al. 2012), shape the composition and structure of future forests,

Table 5-2. Definitions of source material for industrial products and residential fuelwood used in this document.

Term	Definition
Bioenergy/fuelwood	Roundwood products and mill residue byproducts used to produce some form of energy (heat, steam, etc.) in residential, industrial, or institutional settings.
Byproducts	Primary wood products, e.g., pulp chips, animal bedding, and fuelwood, recycled material from mill residues.
Composite panels	Roundwood products manufactured into chips, wafers, strands, flakes, shavings, or sawdust and then reconstituted into a variety of panel and engineered lumber products.
Industrial roundwood products	Any primary use of the main stem of a tree, such as saw logs, pulpwood, veneer logs, intended to be processed into primary wood products such as lumber, wood pulp, or sheathing, at primary wood using mills.
Post, poles, pilings	Roundwood products milled (cut or peeled) into standard sizes (lengths and circumferences) to be put in the ground to provide vertical and lateral support in buildings, foundations, utility lines, and fences. May also include nonindustrial (unmilled) products.
Pulpwood	A roundwood product that will be reduced to individual wood fibers by chemical or mechanical means. The fibers are used to make a broad generic group of pulp products that includes paper products, as well as fiberboard, insulating board, and paperboard.
Removals	Removal of live tree volume from the forest land base including growing stock and nongrowing stock sources. The three main types are (1) harvested volume used for timber products, (2) logging residue (not used for a product), and (3) other removals arising from cultural treatments or land use change (sometimes used as a product.)
Sawlog	A roundwood product, usually 8 feet in length or longer, processed into a variety of sawn products such as lumber, cants, pallets, railroad ties, and timbers.
Veneer log	A roundwood product either rotary cut, sliced, stamped, or sawn into a variety of veneer products such as plywood, finished panels, veneer sheets, or sheathing.

and are strong drivers of investments in forest management (FAO 2009). Biomass removals that provide these services are a critical component when quantifying the forest dynamics of the United States.

The 2007-to-2009 recession impacted the construction and manufacturing industries in a manner not experienced since World War II (U.S. BLS 2012). Consumer spending declined in nearly all categories recorded by the Bureau of Labor Statistics, and the housing market was particularly affected with housing prices dropping by 32 percent by 2009 (Holt 2009). Housing starts (new residential construction, not seasonally adjusted) fell from 1.6 million in 2000 to a low of 554,000 in 2009. This reduced demand for lumber and other wood products used in construction, with a decline in U.S. softwood lumber consumption of 50 percent between 2005 and 2009, resulting in the lowest consumption since the late 1940s (Woodall et al. 2012). The recession led to a loss of 322,805 jobs in U.S. primary wood products sectors (forestry and logging, wood products manufacturing, and paper manufacturing. Additional jobs in related industries were also lost (Woodall et al. 2012). Since 2009, consumer spending has risen, and the manufacturing and construction sectors have recovered, with housing starts rising to 1.2 million as of the end of 2016 (U.S. Census Bureau 2017). While the timber products market has partially recovered as a result of the recovery of the construction and manufacturing industries, removals rates are still lower than prerecession levels.

Removals Status and Trends

Removals of biomass from forests can occur for several reasons. The primary origin is removal during harvesting, though biomass is also removed during silviculture treatments and land use change (figure 5-4). Historically, removals for industrial products accounted for 70 to 77 percent of total removals. The primary timber products considered in the quantification of removals are saw logs, veneer logs, pulpwood and composites, fuelwood, and other products. Removals of these timber products peaked in 1986 at 17 billion cubic feet. From this peak, removals for products declined 24.8 percent to 12.8 billion cubic feet in 2011. From 2011 to 2016, removals for products has increased by 12.2 percent, in line with an economy recovering from recession effects on the manufacturing and construction markets.

Logging residues are the slash left in the woods after harvesting. Removals associated with logging residue increased from 2.1 billion cubic feet in 1952 to 3.7 billion cubic feet in 2016 (figure 5-4). Approximately one-half of the total logging residue volume is from softwood and the remainder is from hardwoods. This proportion has been relatively consistent (± 10 percent) from 1952 to 2016. Hardwood species have accounted for only 37 to 44 percent of total removals, suggesting that hardwood harvesting yields more residue than softwood harvesting.

Removals from land use change and silviculture practices (other removals) are also a significant source of biomass removals from forest. Estimating other removals requires a remeasured forest inventory. Accordingly, estimates of other removals are not available for the Western United States, where remeasurement periods are longer (≥10 years) and a full set of remeasured inventory plots are not available to quantify these removals. In the Eastern United States (North Region, South Region, and Great Plains Subregion) other removals have historically ranged between 1.0 and 1.8 billion cubic feet. In 2016, however, other removals dropped to approximately 0.5 billion cubic feet. Most (0.4 billion cubic feet) of other removals came from hardwoods, whereas 0.1 billion cubic feet came from softwoods.

Regionally, the North is a predominately hardwood region whereas the Pacific Coast, Rocky Mountain, and South are predominately softwood regions (figure 5-5). In the North, hardwood removals increased from 1952 to 1986 and have since declined from peaking in 1986. Similarly, in the Pacific

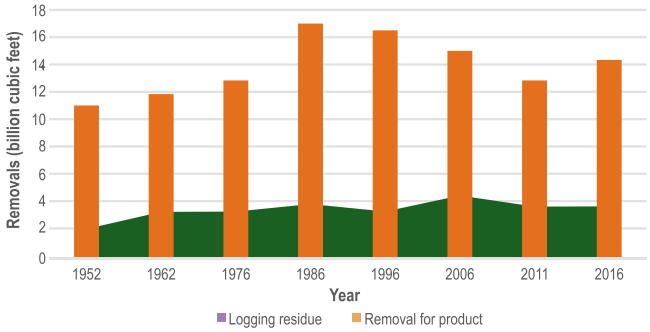


Figure 5-4. Removals for forest products and logging residues in the United States, 1952– 2016.

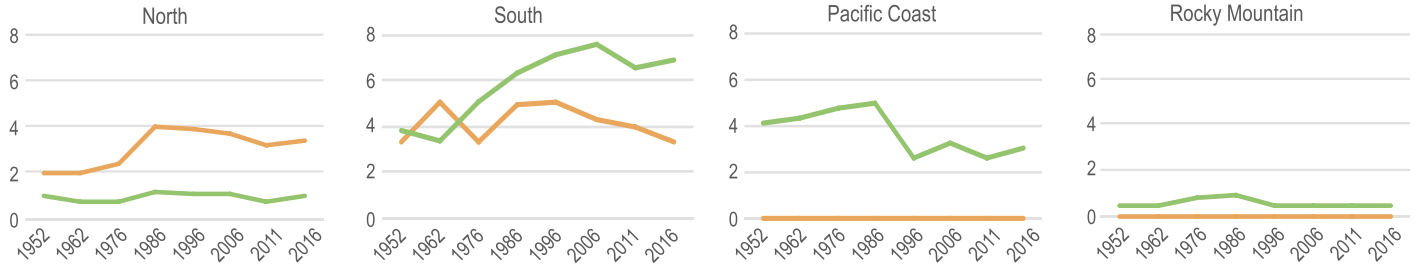


Figure 5-5. Timberland removals by region and species group in the United States, 1952–2016.

Coast and Rocky Mountain Regions, softwood removals peaked in 1986 and have since also declined. In the South, softwood removals increased from 1952 to a peak in 2006. From 2006 to 2011, removals declined in all regions. Following that, hardwood removals in the North increased in 2016 to 3.5 billion cubic feet. Both the Pacific Coast and South had an increase in softwood removals between 2011 and 2016 (0.4 and 0.3 billion cubic feet increases, respectively). Softwood removals in the Rocky Mountain Region continued to decline between 2011 and 2016.

Status and Trends by Products

In 2016, removals for industrial products and fuelwood were 14.4 billion cubic feet (approximately 84 percent of peak production in 1986). From 1952 to 2011, saw log output was greater than the other primary products; however, in 2016, pulpwood and composite output exceeded saw log output (figure 5-6). The decrease in saw log output caused by the economic recession between 2006 and 2011 has experienced a partial recovery. By 2016, saw log output was 76 percent of the 2006 output. Pulpwood and composite output in 2016 was 5.6 billion cubic feet, which exceeds the previous peak output in 1996. Fuelwood (which includes residential firewood and pellets, utility pellets, and timber used directly to produce energy, which includes bioenergy, industrial fuelwood, and residential fuelwood) has increased from 2006 output. Veneer log output declined from a peak in 1986 to 0.7 billion cubic feet in 2016.

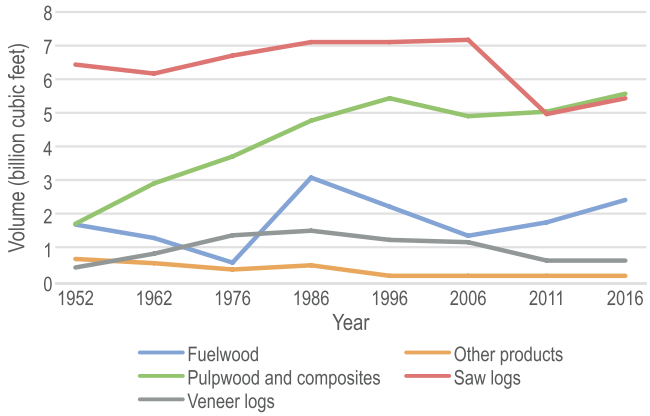


Figure 5-6. Primary industrial forest product production in the United States, 1952–2016.

Mill Residue

The conversion of raw wood material to products generates substantial quantities of residues that can be used for fiber products, fuel, other products, or may be discarded. Fiber products include pulp, paper, particle board, oriented strand board, and medium density fiber board. Fuel includes a range of biomass energy (e.g., fuel pellets) and other products: mulch, animal bedding, and others. Greater than 99 percent of residues created during processing are used, leaving very little waste material. In 2016, wood processing facilities in the United States generated 63.7 million dry tons of residues. These residues were primarily used for fuel (46 percent) and fiber products (38 percent). Most (45.9 million tons) of the residue was from softwoods with the remainder from hardwood sources.

Forests and Energy

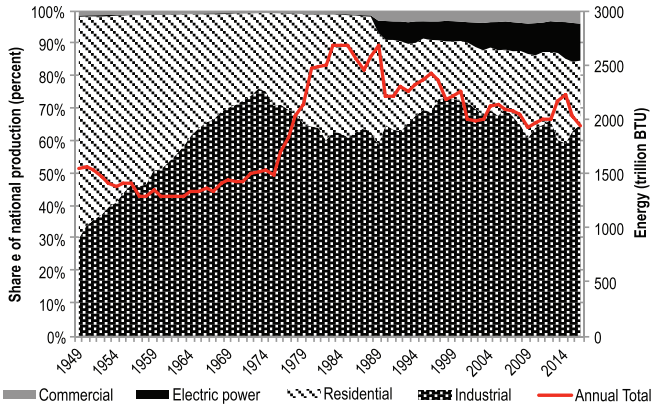
Author: Francisco X Aguilar

Wood can be used for the generation of renewable energy with its supply designed to complement other forest management objectives (Dale et al. 2015). Wood energy, i.e., energy derived from wood, is procured directly from forests (primary), indirectly as co-products from other manufacturing activities (secondary) and recovered at the end of wood product life cycles (tertiary). Most recent data from the U.S. Energy Information Administration (DOE EIA 2017a) show that wood energy in 2016 accounted for nearly 20 percent and 41 percent of all renewable energy and bioenergy produced in the country, respectively. At the turn of the century, wood energy accounted for about 37 percent of the country's renewable energy portfolio and 75 percent of all bioenergy. Wood energy has the potential to be carbon neutral when carbon released through combustion or decay had once been absorbed from the atmosphere and if it is sequestered back into growing biomass. Wood energy, as compared to fossil fuels, has the potential to reduce impacts of long-term carbon emissions as lands from which wood is sourced remain under forest management and carbon remains captured in long-lived wood products integrated with wood energy supply-chains (Miner et al. 2014). Incremental demand for wood for energy can potentially create additional pressure on forest ecosystems for which guidelines for woody biomass harvesting practices have been developed across numerous States (Berger et al. 2013, Evans et al. 2013)

▼ Man tracking his timber deliveries. Courtesy photo by istockphoto.com.

U.S. Forests Supporting Domestic Wood Energy Markets

Most wood energy, about two-thirds, (figure 5-7) was produced by the industrial sector (e.g., wood products industry) in 2016. Historic fluctuations in industrial generation levels are closely associated with industry's expansion and contraction cycles where energy generated onsite largely includes power from the combustion of black liqueurs and heat used for drying of wood products (DOE EIA 2017a). The residential sector accounts for one-fifth of the country's wood energy consumption with recent changes affected by greater use of other energy alternatives (e.g., natural gas) and an overall declining trend driven by greater urbanization. Rural households account for about a total of 63 percent of U.S. wood energy residential consumption. Wood consumption for the generation of power is the third largest sector that has grown by about 65 percent over the 2000-to-2016 period partly driven by public policy incentives and regulations (e.g., State-level renewable energy portfolios). The commercial sector is the smallest of all at slightly over one-tenth of annual wood energy consumption.



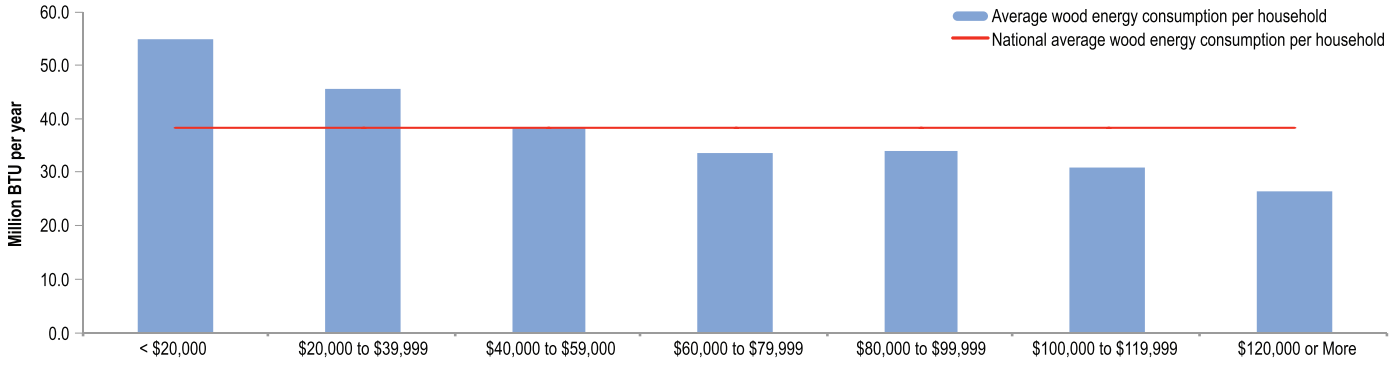
Source: DOE EIA (2017a)

Figure 5-7. Total and relative wood energy consumption by sector (1949–2016).

U.S. forests through energy contribute directly to the well-being of millions of households across the Nation. For instance, about 2.3 million households in the country use wood as the main fuel for home heating, and another 9.3 million households use wood as a secondary heating fuel (DOE EIA 2017b). In total, nearly 10 percent of U.S. households use some kind of wood for energy consumption (inclusive of logs, pellets, scraps, and others) with total annual consumption about the same as propane consumption. Heating stoves are the most commonly used equipment found in households that rely on wood as the main source of heat, and fireplaces are the most common choice for secondary wood heating. Data from the Residential Energy Consumption Survey (figure 5-8) show that households at lower annual income levels consume more wood energy than the national average (Aguilar et al. 2014, DOE EIA 2016).

U.S. Forests Supporting Global Wood Energy Markets

Among wood energy feedstocks, wood pellets have experienced some of the fastest growth levels in production in recent years. Global wood pellet production has grown from nearly 22 million tons in 2012 to nearly 31 million tons in 2015 (FAO 2017). The United States has accounted for slightly over one-fourth (26 percent) of total production of wood pellets worldwide. For all of 2016, respondents to the U.S. Energy Information Administration's (EIA's) monthly densified biomass survey purchased 12.8 million tons of raw biomass feedstock, produced 6.9 million tons of densified biomass fuels (i.e., pellets), and sold 6.5 million tons of densified biomass fuel (DOE EIA 2017). Exports represented 4.8 million tons and domestic sales of densified biomass fuel were 1.7 million tons in 2016. As of December 2016, EIA data suggest a total of 88 operating manufacturers of densified biomass fuels with a total installed production capacity of 11.8 million tons per year. These facilities collectively supported the equivalent of 2,076 full-time employees. The South Region accounts for the lion's share of installed capacity at about 73 percent of total



Source: DOE EIA (2016)

Figure 5-8. Residential average wood energy consumption by income level and national average.

nameplate capacity and represents about 62 percent of wood pellet industry employment in the country (DOE EIA 2017). Expansion in wood pellet manufacturing capacity in the South is attributed to the European Union Renewable Directive 2009/28/EC (OJEU 2009; Abt et al. 2014). U.S. wood pellet annual manufacturing capacity is expected to grow by 1.7 million in 2017 (DOE EIA 2017) based on reported plans and manufacturing plants under construction (table 5-3).

Table 5-3. National and regional densified biomass annual capacity, inclusive of plants in operation, temporarily not in operation, planned or under construction, and unknown status.

	Annual capacity (tons per year)
North region	2,438,580
South region	10,193,455
Rocky Mountain and Pacific Coast regions	1,117,848
United States total	**13,749,883**

Source: DOE EIA (2017)

Nonwood Forest Products

Author: James Chamberlain

A wide range of native plants and fungi throughout the continental United States and its insular territories are harvested for their nontimber values. Evidence suggests that these plants and fungi contribute to the ecological, social, cultural, and economic well-being and resiliency, although knowledge about them is rudimentary, at best. Integrating these nontimber forest species into management of the resources requires balancing multiple and often conflicting land use objectives. Sustainably managing the harvest of nontimber forest products requires inventory data of the plants and the raw materials.

In general, commercially harvested products are divided into five broad market segments: culinary, medicinal and dietary supplements, floral decorative, nursery stock and landscaping, and fine arts and crafts. In 2013, the largest volume of forest plants harvested for nurseries and landscaping reported by the National Forest System (NFS) came from the national forests of North Carolina (USDA Forest Service 2015). For many, nutritional security and health depends on food and medicine foraged from forests, and those plants and fungi are highlighted in this analysis.

More is known about American ginseng than perhaps any other medicinal forest product because it is listed in the Convention on International Trade of Endangered Species of Fauna and Flora. More than 60,000 pounds of American ginseng root is harvested annually. Beargrass, harvested from forests of Western United States, is used in making traditional baskets and for the commercial floral industry.

More than 100,000 pounds of fiddlehead ferns, an important part of rural economies in many New England States, are harvested annually (Fuller 2012). Maple syrup is the most prominent edible forest product, and sales of this specialty product contribute more than $100 million to the economy of producing States (Farrell and Chabot 2012). Pine nut production is primarily from natural stands of pinyon trees on public forests in Western United States. Ramps, also known as leeks, are a spring ephemeral forest species that is only available for a few short weeks, yet tens of thousands of pounds are harvested annually. Every region has nontimber forest species that are unique and representative of the eco-geography. A comprehensive reporting of most nontimber forest products is lacking due to insufficient data, yet evidence suggests that these products contribute significantly to U.S. economy.

Large volumes of plant material are removed from public forests as nontimber products (USDA Forest Service 2015). Table 5-4 presents information on permitted harvest volumes

Table 5-4. Permitted harvest volumes from national forests and BLM lands in 2013.

Product categories	Product unit	440,213,467 acres of Forest Service and BLM Land	
		Product	Product/ 100.000 acres
Arts, crafts, and floral	Bunches	100	<1
	Bushel	71,823	16
	Cords	98	<1
	Cubic feet	665	<1
	Number	1,000	<1
	Pounds	5,645,532	1,283
	Ton	7,725	2
Christmas trees	Each/number	212,744	48
	Linear feet	1,741	<1
Edible fruits, nuts, berries, and sap	Gallon	303,748	69
	Pounds	670,726	152
	Taps	18,430	4
Grass and forage	Pounds	4,120,983	936
	Ton	1,136	<1
Fuelwood	CCF	611,496	139
Medicinal	Pounds	42,650	10
Nonconvertible	Acre	28	<1
	Bushel	106	<1
	Cubic feet	1,700	<1
	Each/piece	12,452	3
	Pounds	64,096	14
	Ton	44	<1
Nursery and landscape	Each/number	46,499	10
	Ton	1	<1
Posts and poles	CCF	35,403	8
	Linear feet	2,140	<1
	Number	28,900	7
Regeneration and silviculture	Bushel	5,706	1
	Pounds	333,781	76

BLM = Bureau of Land Management. CCF = hundred cubic feet.

from national forests and Bureau of Land Management (BLM) lands in 2013. More than 25 million pounds of plant material were reported harvested from forests managed by these agencies in that year. Over 75,000 bushels of material were reported harvested, as well as more than 300,000 pieces of product. Approximately 21,000 cubic feet of material was harvested and reported under four product categories. More than 300,000 gallons of food for humans were reported harvested from these forests, as well.

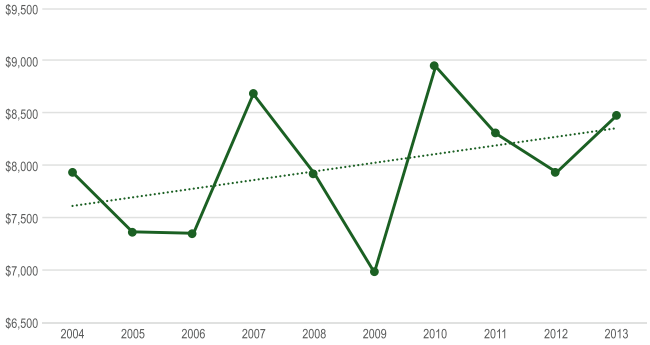
Providing a single estimate of the volume of nontimber forest products harvested from U.S. forests is not possible because of the number of different units of measure. Unlike timber products that are reported in board feet or cubic feet, 12 units of measure are used to report harvest volumes (table 5-4) for nontimber products. The units of measure can be condensed to nine units that enable some estimation of overall harvest volumes. For example, about 84 percent of the products reported in pounds was categorized as "arts, crafts, and floral" products. About 12 percent of the total was "grass and forage" for livestock. The remainder was split between food, medicine, nursery stock, and materials for forest regeneration.

Approximately 92 percent of the reported harvest volume in bushels was categorized as materials for "arts, crafts, and floral" products. More than 70 percent of the reported harvest in pieces also was in this product category. Additionally, 62 percent of the reported harvest in cubic feet was categorized as "arts, crafts and floral" products. Fuelwood accounted for almost 30 percent of the reported harvest in cubic feet. Products reported in linear feet included Christmas trees (45 percent of total) and post and poles (55 percent). This diversity of products and inconsistency in units of measure exacerbate efforts to report total volume of materials being harvested for nontimber values.

Value of Permitted Harvest From Federal Forests

The overall economic value of nontimber forest products harvested from Federal lands can be estimated by extrapolating from revenues generated by the issuance of harvest permits. Estimates based on permits do not represent the total value because records are limited to Federal lands and do not include harvesting on private lands. As an example, Chamberlain et al. (2013) estimated the annual value of wild-harvested American ginseng in 2007 at the first point of sale to range from $18 million to $36 million. The estimated value of all medicinal plants harvested from national forests and BLM lands, based on permits, was $2.4 million in 2008. Although estimates based on permits may not reflect total, they provide valuable insights into the overall economic importance of these products. For the 10-year period (2004–2013), the national forests and BLM generated nearly $80 million from the issuance of permits to harvest nontimber forest products. Revenues from receipts have increased on average about 2 percent per annum, although extreme fluctuations have occurred (figure 5-9).

Using methods developed by Alexander et al. (2011), estimates of the wholesale value of nontimber forest products can be advanced. Estimated wholesale value of these products has increased from $900 million in 2004 to about $963 million in 2013 (figure 5-10). Volatility in the value illustrates that demand changes over time. In 2007, the wholesale value was about $986 million, and it increased to over $1 billion in 2010. Fuelwood makes up more than 50 percent of the total, whereas plant materials used from crafts and floral decoration account for about 18 percent of the total. Food and medicine foraged from forests, together account for less than 10 percent of the total value, perhaps because most is harvested for personal use.



Sources: USFS 2015; Bureau of Land Management reports.

Figure 5-9. Value of receipts from harvest permits issued by national forests and Bureau of Land Management, 2004–2013.

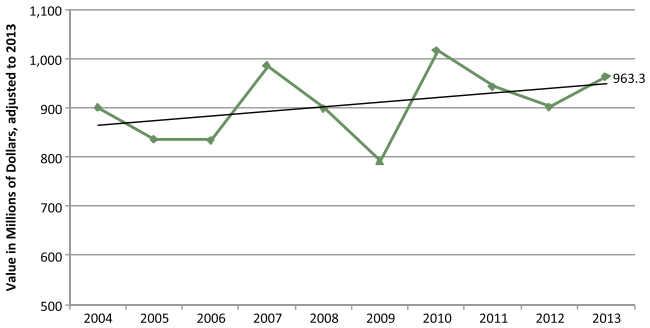
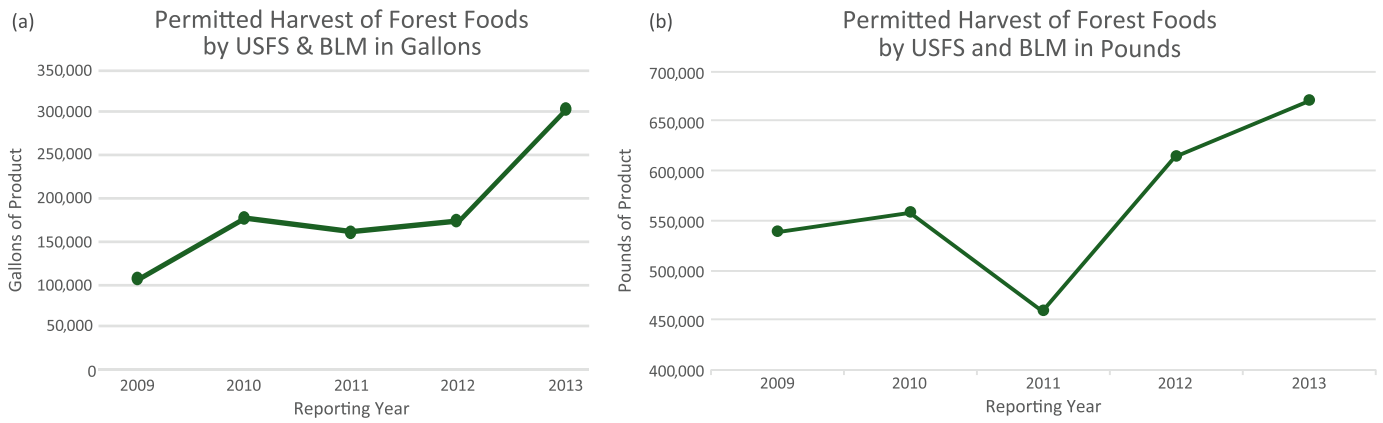


Figure 5-10. Estimated wholesale value of nontimber forest products, based on receipts from permits issued by National Forests and Bureau of Land Management, 2004–2013.

Permitted Harvest of Forest Foods

The permitted harvest of foods from national forests and BLM has increased since 2009 (figure 5-11). From 2009 through 2013, more than 2.8 million pounds and over 900,000 gallons of food were harvested from these public lands. On average, close to 570,000 pounds and 184,000 gallons are harvested each year. Over this time period, harvest of foods reported in pounds increased about 25 percent, whereas the harvest of foods reported in gallons increased about 190 percent.



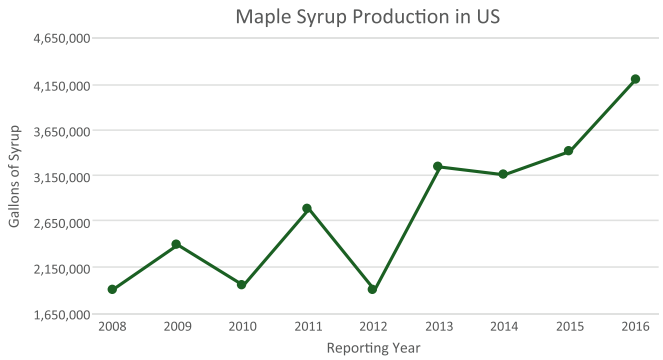
Sources: USFS 2015; Bureau of Land Management reports.

Figure 5-11. Permitted harvest of forest foods from national forests and Bureau of Land Management lands, reported in (a) gallons and (b) pounds, 2009–2013.

Figure 5-11 illustrates the trend in food harvested from NFS and BLM lands. In 2011, the permitted harvest of foods in pounds declined about 18 percent, to 458,000 pounds. Permitted harvest increased more than 33 percent the following year, and another 9 percent in 2013. Permitted harvest of food reported in gallons dipped in 2011, and regained that loss the next year. Permitted harvest in 2013 of foods reported in gallons increased nearly 75 percent from the previous year.

Maple Syrup Production

Commercial production of maple syrup is primarily in the Northeast, with limited production in the Midwest. Since 2008, annual national harvest has increased approximately 120 percent (figure 5-12). Production in 2016 exceeded 4.2 million gallons (USDA NASS 2016), a 23-percent increase over the previous year. Production in Vermont, the highest maple-producing State, increased 330 percent from 2000 to 2016, whereas production in Ohio increased about 100 percent. Over the same period, production in Wisconsin and Michigan increased 260 and 105 percent, respectively. According to Farrell and Chabot (2012), less than 1 percent of more than 2 billion tappable-sized trees are used, indicating continued growth potential. Between 2007 and 2013, the number of taps reported by the USDA National Agriculture Statistics Service increased from 7 million to 10.6 million. Permitted taps on NFS land also increased from 10,000 to 18,400.

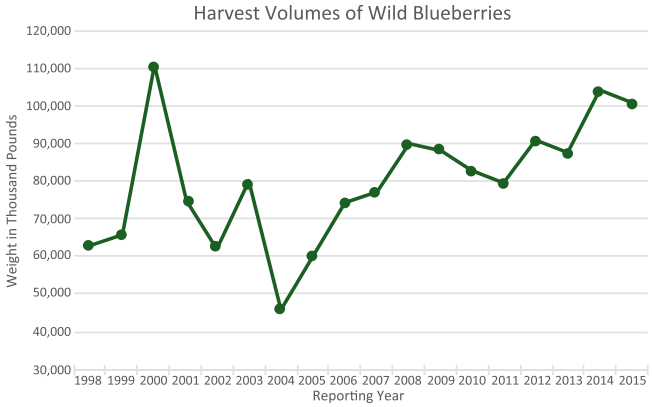


Source: National Agricultural Statistics Service

Figure 5-12. Maple syrup production in the United States, 2008–2016.

Wild Blueberry Production

The National Agricultural Statistics Service tracks production of lowbush blueberry, which is considered wild because populations are managed and not cultivated. Maine is the largest producer in the world (Yarborough 2015), with more than 44,000 acres producing over 100 million pounds of wild blueberries. Wild blueberry production increased approximately 23 percent from 1998 through 2007 (Alexander et al. 2011) followed by a 14-year low in 2004 (figure 5-13). Since then, the reported harvest has averaged an approximately 10-percent increase annually, with some fluctuations. In 2012, approximately 91 million pounds of wild blueberries were harvested, representing a 98-percent increase from 2004. The volume harvested in 2012 was approximately 45 percent more than in 1998.



Source: National Agricultural Statistics Service

Figure 5-13. Wild blueberry production in the United States, 1998–2015.

Mushroom Production

Mushrooms are the major culinary forest product harvested from Federal forest lands. Since 2004, the increase in permitted harvests has been steady, though erratic on BLM lands. Over 5 years (2009–2013), approximately 2.8 million pounds and about 920,000 gallons of mushrooms and fungi were permitted for harvest from national forests and BLM lands. In 2013, virtually all of the permitted mushroom harvest, reported in gallons, came from the Western and Rocky Mountain regions, with more than 99 percent of the total national permitted harvest coming from three States: California, Oregon, and Washington.

Wild Harvested Medicinal Plants

In 2013, more than 42,000 pounds of medicinal forest products were permitted for harvest from Federal forest lands. The largest volume, approximately 15,000 pounds, was harvested from Southern forests. Western forests provided similar volumes at 14,710 pounds. The Rocky Mountain Region is the third largest permitted harvest, about 12,000 pounds in 2013.

About 50 percent of the approximately 20 medicinal plants monitored by the American Herbal Products Association (2007; 2012) are native to southern hardwood forests. American ginseng is perhaps the best-known medicinal forest product, and on average, annual harvest has increased approximately 12 percent from the 5-year period that ended in 2007 versus the period that ended in 2012. Kentucky reported the largest harvest, representing about 24 percent of the total national harvest. During the period 2003 to 2007, 7 States reported 80 percent of the total national harvest of wild American ginseng. Over the period 2008 through 2012, those same 7 States reported 84 percent of the total national harvest. More than 65 percent of the 19 States certified to export American ginseng reported an increase in harvest during these periods. New York reported that largest increase in harvest volume, recording nearly a 93-percent increase. Of the 6 States that reported a decline in harvest, Minnesota reported the largest decrease of 40 percent.

The value of American ginseng has increased over time, as well (figure 5-14). In 2000, the value of wild-harvested American ginseng at the first point of sale was approximately $20 million (adjusted to 2013 dollars). Since 2012, the value has increased from less than $30 million to over $80 million in 2014 (adjusted to 2013 dollars).

Managing forests to include nontimber forest products can produce a forest that is healthier and more resilient. The extent and scale of harvest is challenging to estimate as formal or institutionalized methods to inventory supply or track harvest volumes are few. Data are primarily based on Federal records and do not include harvests from private lands. This is particularly challenging for products that come from

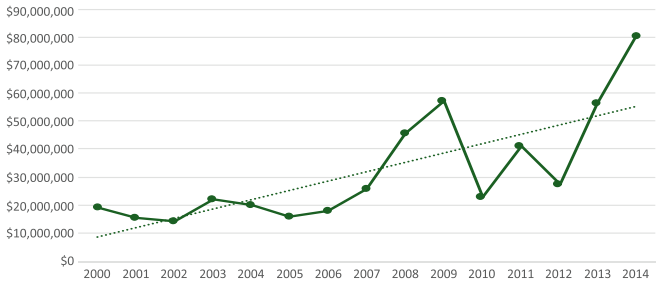


Figure 5-14. First-point-of-sale value of wild-harvested American ginseng, 2000–2014.

eastern forests that are predominantly in private ownership. Reporting on nontimber forest products has improved dramatically over the last 10 years. There remains, however, an urgent need to develop market-based knowledge that provides regular and reliable information on harvest volumes, geographic distribution of harvests, prices, and other pertinent information.

U.S. Native Peoples and Forests

Authors: Marla R. Emery, Michael Benedict, Michael Dockry, Serra Hoagland

Native cultures and economies are grounded in land and natural resources (Pretty 2002), including forests and the trees, plants, animals, and fungi in them. As of 2016, 566 federally recognized American Indian and Alaska Native Tribes or communities were in the United States and another 60 Tribes that have been recognized through formal processes of U.S. State governments (NCSL 2017). According to the 2010 census Native Hawaiian and Other Pacific Islanders number 1,225,195 nationwide, of whom 355,816 reside in the State of Hawaii (Hixson et al. 2012). The U.S. Constitution, treaty, and case law require the Federal Government to work with Tribes and Native communities as sovereign nations for the protection of their lands and the resources on which they depend (National Congress of American Indians 2015). While no singular Native culture exists, teachings about the roles, responsibilities, and relationships between human beings and the rest of the biotic and abiotic world are common. These teachings, together with long experience in place, are the basis for traditional ecological knowledge, which guides indigenous use and stewardship of forests and other resources (Emery et al. 2014).

Indigenous Forest Lands and Harvests

At the time of writing, 313 federally recognized Tribes manage lands classified as timberland or woodland forests. Management of each Tribal forest is guided by a Forest Management Plan developed in cooperation with the Bureau of Indian Affairs (BIA), Division of Forestry and Wildland

Paper Birch

Author: Cassandra M. Kurtz

Paper birch is found throughout Canada and the Northern United States. It is an early successional, short-lived species that generally establishes following disturbance. It is important in the timber industry and recently has been overharvested for décor, with young trees often illegally harvested. This, coupled with climate change (causing heat and drought stress and mortality) and the aging of forests, has put the sustainability of this species in jeopardy.

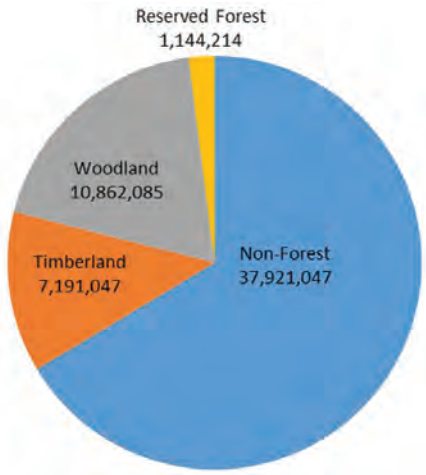
▲ Paper birch trees with evidence of bark harvesting. USDA Forest Service photo.

Paper birch also has cultural significance. The Ojibwe use the bark for many purposes such as canoes, baskets, and wigwams. Product quality is a concern and can vary substantially from tree to tree. Several characteristics are important such as straightness, texture, and exfoliation, as well as the presence of lichens, moss, branch scars, lenticels, blemishes, and fungus. When harvested properly, trees experience very minimal to no damage. Improper harvesting can stress and even kill trees, however.

To supplement the paper birch data collected by the Northern Research Station, a protocol was developed to monitor paper birch bark throughout the Lake States Ceded Territories (LSCT) from 2004 through 2006. The territories cover a region from northeastern/east central Minnesota, across northern Wisconsin, northern Michigan, and into Michigan's Lower Peninsula. This region represents the four Ojibwe cessation treaties of 1836, 1837, 1842, and 1854. Through monitoring the birch of the LSCT, we found the total bark supply and the number of paper birch 5 inches diameter at breast height or larger has decreased by around 50 percent since 1980. These large changes in availability are a concern (Kurtz et al. 2015, Moser et al. 2015).

Fire Management. The latter maintains the most complete inventory of indigenous forest lands and harvests and, consequently, is the source of data reported here. The BIA Division of Forestry and Wildland Fire Management defines timberlands as those "stocked, with tree species of such form and size to produce forest products that are generally marketable [for] … lumber, pulpwood, or veneer" (U.S. DOI 2016).[2] All other forests are classified as woodlands. Common management practices on individual Tribal forest holdings include prescribed fire to selectively manage for a number of products, as well as standard silvicultural techniques.

Individual Tribal forest holdings range from 1 to more than 5 million acres. Most Tribes provide free use permits for members to harvest for firewood and cultural uses. Forty-two Tribes have sizable commercial timber harvest programs, with others engaging in occasional timber sales. Of the total 57,118,361 acres of Tribal and Alaska Native lands (figure 15), nearly one-third (18,053,100 acres) are forested. Over one-half of these are classified as woodlands (11,072,651 acres), whereas



Data shource 2016 Bureau of Indian Affairs Indian Forest Information Database

Figure 5-15. U.S. Tribal lands and forested land classifications (acres).

[2] Note that this definition potentially includes forested lands that would not be classified as timberlands under the Forest Service's national Forest Inventory and Analysis program, which defines timberlands as "forest land capable of producing in excess of 20 cubic feet per acre per year and not legally withdrawn from timber production, with a minimum area classification of 1 acre."

▲ Cascade Falls, Eastern Divide Ranger District, George Washington and Jefferson National Forests, Virginia. USDA Forest Service photo.

8,124,445 acres are timberlands. In 2016, a total of 445,900 board feet of timber were harvested from 77,916 acres of timberland.

Indigenous Forest Management

Indigenous forest management in the United States is assessed by an independent team on a decadal basis through authorities defined in the National Indian Forest Resource Management Act of 1990 (25 U.S.C 3101 et seq.), which defines Indian forest land as "Indian lands, including commercial and noncommercial timberland and woodland, that are considered chiefly valuable for the production of forest products or to maintain watershed or other land values enhanced by a forest cover, regardless whether a formal inspection and land classification action has been taken" (25 U.S.C 3101 et seq.). This assessment is more commonly known as the Indian Forest Management Assessment Team (IFMAT) and covers facets such as management principles and staffing patterns within Tribal forestry departments in the United States. The first IFMAT report was published in 1993, IFMAT II was completed in 2003, and Gordon et al. completed the most recent (IFMAT III) in 2013.

Overarching principles of indigenous forest management include a focus on sustainability and long-term stewardship, although the degree to which each Tribe is able to implement these principles depends on numerous factors (Gordon et al. 2013). Menominee Tribal forestry often is cited as an example of these principles in action, with its emphasis on long rotations, selective harvesting, and long-term monitoring (Trosper 2007). For most forest Tribes and Native communities, staffing shortfalls are a major impediment to realizing state-of-the-art forestry, with approximately 800 individuals needed to fill gaps in Tribal forestry personnel (Gordon et al. 2013). Growing Tribal land bases, comparatively lower salaries, and remote locations complicate efforts to recruit exceptional candidates for these positions.

Positive landscape-scale outcomes can be seen where indigenous forest management principles and staffing levels are fulfilled. Examples of effective forestry in Indian country include strip harvests to regenerate birch in the Lake States, density management in the Pacific Northwest, fuels management in the Southwest, and pine enhancement through hardwood pulp harvests in the Northeast (Gordon et al. 2013). Such outcomes offer models for sustainable forest management beyond Native lands.

Federal Law and Trust Responsibility Relative to Forests

Several legal and regulatory structures govern Federal agency relationships with Tribes and Native communities relative to forests. Among these are treaty law, the National Environmental Policy Act, National Historic Preservation Act, Native American Graves Protection and Repatriation Act, and the Tribal Forest Protection Act (see Wilkinson 2004). Under treaty law, rights not explicitly given up are retained by a Tribe. In many cases, among these are rights to access forests and forest resources for purposes including, but not limited to, harvesting materials for cultural activities, hunting and fishing, spiritual and religious ceremonies, and access to sacred sites (Wilkinson 2004).

The BIA is the primary U.S. Government agency responsible for the Federal trust responsibility[3] to manage Tribal forests sustainably and productively (U.S. Congress 1994). The Forest Service and other Federal land management agencies also have trust and treaty obligations to Tribes and Native communities with respect to forests and forest resources off Tribal lands (see, for example, USFS 2009). Additionally, Forest Service Tribal relations programs often engage with Tribes to develop formal agreements that outline how the relationship between a Tribe and the Forest Service will be implemented, protocols for consultation, timeframes, and communication (for sample agreements, see http://www.fs.fed.us/spf/tribalrelations/index.shtml).

[3] Note: The trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect Tribal treaty rights, lands, assets, and resources, as well as a duty to carry out the mandates of Federal law with respect to American Indian and Alaska Native Tribes and villages.

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▼ Ruffed grouse can be seen and heard "drumming" in the Cherokee National Forest, TN. USDA Forest Service photo.

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Section 6: Forest Health

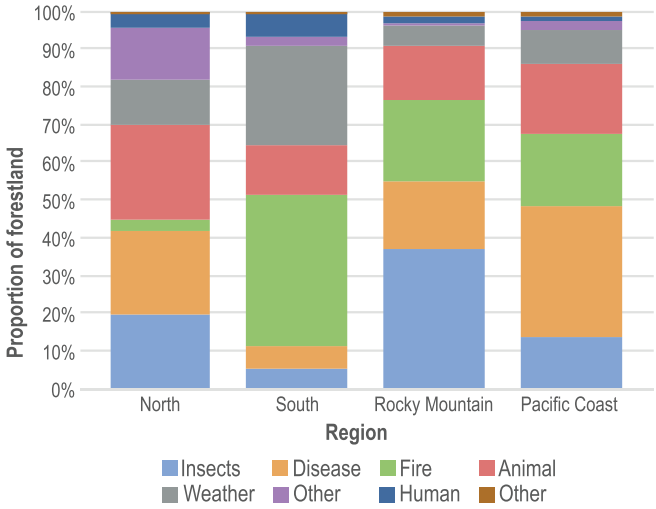
The health of the forest is more than the sum of forest area, the pattern of forests on the landscape, the removal of volume from the timberland base, or even tree mortality. Forest health includes the preponderance of invasive plants, animals, and insects and their realized and potential impacts. Forest health considers the potential effects of changing climatic conditions on the distribution of forest types and the growth rates of trees. Wildfire, diseases, and other natural disasters influence forest health, as well, and all affect the goods and services that the forest can provide. The Forest Health Monitoring program of the Forest Service regularly reports on the health of the forest. Therefore, although several current issues affected forest health are summarized from those data and reports in this chapter, the information is not intended to duplicate the efforts of those reports, which are available at https://fhm.fs.fed.us/pubs/index.shtml.

Landscape Disturbance Events

Author: Sonja Oswalt

The primary disturbance agents currently affecting forest and woodlands in the United States are wildfire, insects, and disease (figure 6-1; Miles 2017). While those are the primary disturbances listed by crews visiting plots, it is important to recognize that multiple disturbances may be present at the same time in a forest and that not all disturbance results in mortality. For example, insect infestation may weaken trees leaving them susceptible to disease, which may further weaken trees to the point of mortality. Then, in a drought year, stands of dead trees may provide tinder for wildfire. Additionally, some types of disturbance are more easily recognized than others (e.g., wildfire damage), and crews may underestimate less easily recognized disturbances. Therefore, no one category of disturbance is necessarily comprehensive of the entire area impacted by that disturbance, and no one category of disturbance necessarily represents mortality agents for the forests impacted.

Wildfire disturbances were listed as the primary disturbances on forest land in Florida, Georgia, Alabama, and Idaho though



Source: Forest Service, Forest Health Monitoring program; https://foresthealth.fs.usda.gov/portal/PestSummary/DamageSummary; date accessed: July 27, 2017

Figure 6-1. Acres of forest land by region and primary disturbance category.

many other States such as California also experienced high wildfire disturbance rates, but were more heavily impacted by weather events and disease. Proportional to all primary disturbances recorded on plots, disease, and animal damage were most prevalent on northeastern forests. Beech bark disease is widespread in northeastern forests (Giencke et al. 2014), and likely accounts for much of the disease-related disturbance recorded by field crews. White-tailed deer (*Odocoileus virginianus*) routinely graze northeastern forests and are widely known to be potentially devastating herbivores in forest stands (Cote et al. 2004). Animal (also, presumably, white-tailed deer grazing) and insect damage were most prevalent on North Central forests.

Wildfire was proportionally much more prevalent than other disturbances on southeastern forests. Florida alone reported over 3,000 wildfires in 2016 (NIFC 2016). Likewise, insects and fire were most common on south central forests. Unlike other regions, animal damage comprised nearly all the disturbance in the Great Plains, reflecting the impact of grazing on forest and woodlands in that region, while insects (predominately the mountain pine beetle [MPB]) and fire

At-Risk Forests

Authors: Christopher M. Oswalt, Randall Morin, Mark Brown, Sara Goeking

A number of forest ecosystems, such as five-needle pines in the west and longleaf pines in the coastal plains of the Southeast, are at risk of declines so significant that those systems could be lost completely. No one cause is to blame for these declines. Invasive insect and pathogen outbreaks, a changing climate, altered fire regimes, changing cultural practices, and a growing population are all contributing factors. The systems described below are examples of some existing at-risk forests and species, but do not represent a comprehensive list (figure S-1).

Five-needle pine trees

In the Western United States, high-elevation five-needle pine trees provide food and shelter for wildlife as well as watershed protection values in snowy regions. Two of these species, whitebark pine and limber pine, are threatened by a combination of drought, heat, altered fire regimes, insect epidemics, and a non-native fungus known as white pine blister rust.

As of 2015, 49 percent of all standing whitebark pine trees and 38 percent of all limber pine trees were dead. There are currently 297 million dead whitebark pine trees and 98 million dead limber pine trees in the Western United States (figure S-2) Although recent droughts and insect epidemics have largely abated, the threat of white pine blister rust and future climate extremes may continue to threaten these species.

Longleaf pine

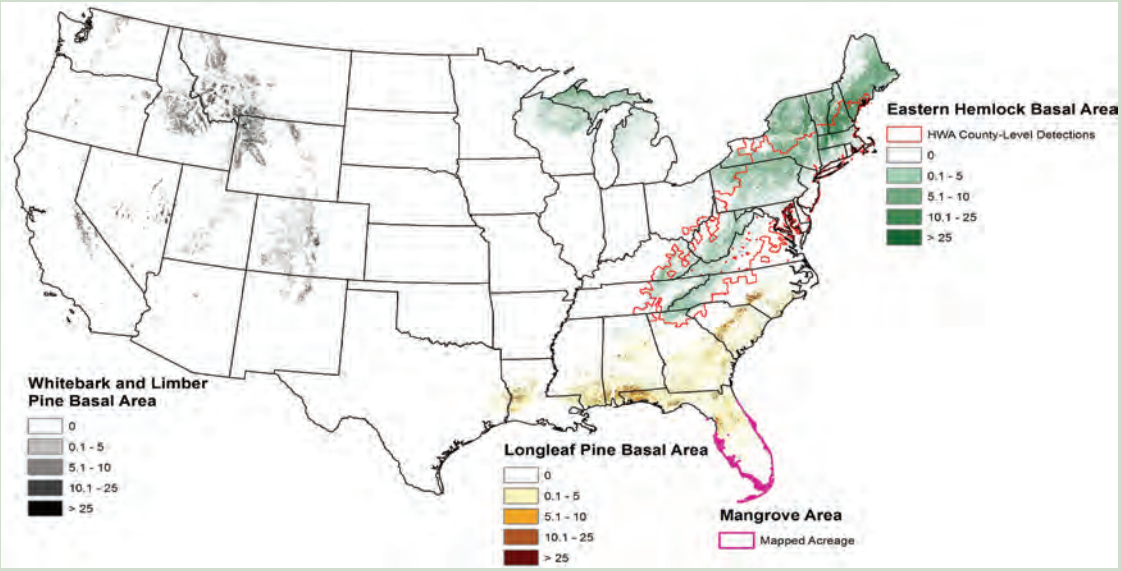
Longleaf pine was once one of the most ecologically important southern tree, at one time spanning an estimated 92 million acres. Currently, longleaf dominated forests occur only on about 4.3 million acres of forest land. While significant declines were still occurring during the last 30 years of the 20th century, recent data suggests that longleaf dominated forests could be increasing in response to regeneration efforts throughout the South (Oswalt et al. 2015).

Hemlock

The hemlock woolly adelgid (HWA) was first reported in Richmond, VA, in 1951. The annual mortality of eastern hemlock is strongly related to the numbers of years since infestation. The greatest impacts have occurred in areas where HWA has been present for several decades. Broad-level trends indicate that the South is the only region currently showing a decline in hemlock volume, though site-specific studies suggest that HWA has had devastating impacts at local levels (Colbert et al. 2002, Elliott et al. 2016).

HWA may not expand its current range much farther north due to cold winters. However, warming temperatures could make these areas, where the hemlock component of species composition is substantial, more suitable for HWA in the future.

Figure S-1. Distribution and basal area of the at-risk species discussed here, including the outline of hemlock wooly adelgid outbreak detections.



Mangroves

The majority of U.S. mainland mangroves are distributed along the Gulf Coast, primarily Florida. Major threats to mangrove forests include hurricanes, urban development, agricultural drainage, and canal building. Potential changes in climate and associated sea level rise could be creating northward and landward expansion of mangroves, necessitating accurate mapping of changes in this rare ecosystem. FIA researchers, in conjunction with the Florida Forest Service, are pursuing new methodologies for inventory and monitoring of this unique ecosystem.

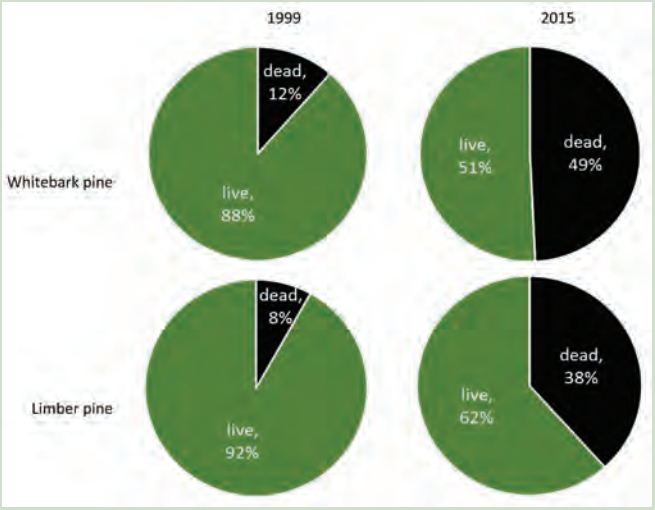


Figure S-2. Proportion of whitebark and limber pines that were dead and alive in 1999 compared with 2015.

plagued western forests. Finally, disease and fire were primary disturbances on the Pacific Coast (including Alaska, but excluding Hawaii).

Insects and Diseases

Author: Sonja Oswalt

Insects, native and nonnative, and diseases can all cause defoliation, which may eventually weaken trees and lead to mortality through time. Additionally, when one agent of damage begins to exert effects on a tree, it can open up pathways for other agents to become active, thereby forming damage complexes that infect the host tree. Insect and disease surveys completed in 2014 identified the five most damaging agents in the country in terms of area impacted by mortality as MPB, spruce beetle, fir engraver, western pine beetle, and five-needle pine decline (Potter and Paschke 2013). In 2015, surveys noted that MPB mortality decreased by 428,194 acres, though that was limited to specific States and MPB activity simultaneously increased in California at that time (figure 6-2). Since the 2012 update (Oswalt et al. 2012), MPB damage has decreased by 1.1 million acres annually (figure 6-2). Note that, although aerial surveys provide information over broad spatial scales, these summary statistics do not take into account survey effort or constancy over the reporting time period.

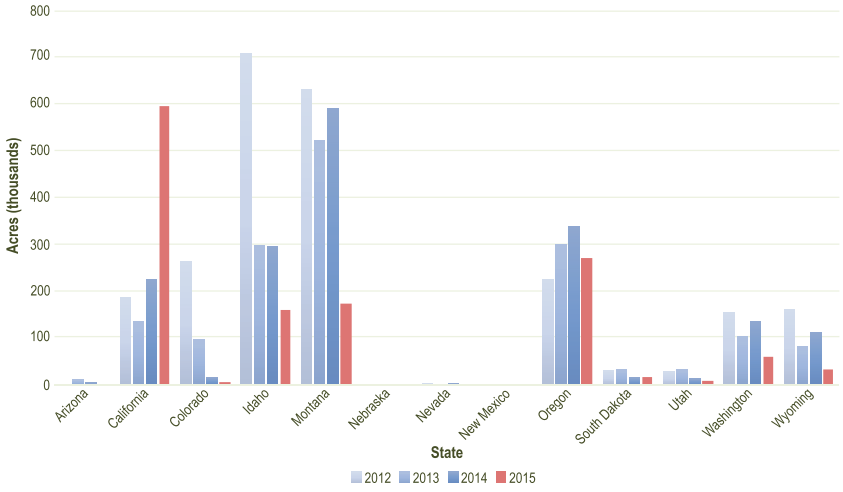
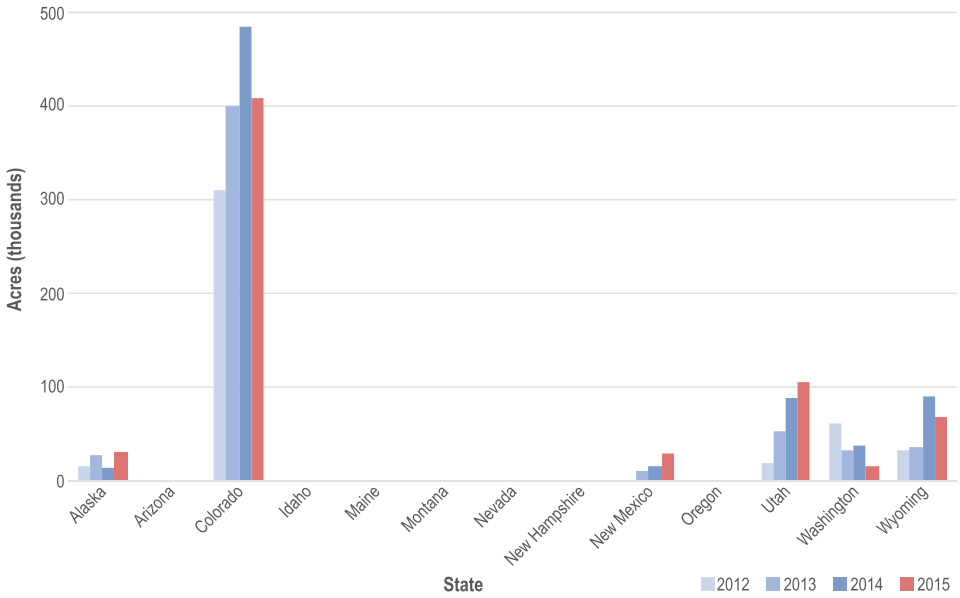


Figure 6-2. Acres damaged by mountain pine beetle by State impacted and survey year, 2012–2015 .

Spruce beetle damage has been highest in Colorado, a trend that continues, although damage detected by surveys in 2015 was lower than detected damage in 2014 (figure 6-3). In general, damage since 2012 has increased in affected States by 217,231 acres. Engelmann spruce are particularly susceptible to spruce beetle damage during prolonged drought stress, which has affected much of the Western United States including Colorado in recent years (Hart et al. 2014).

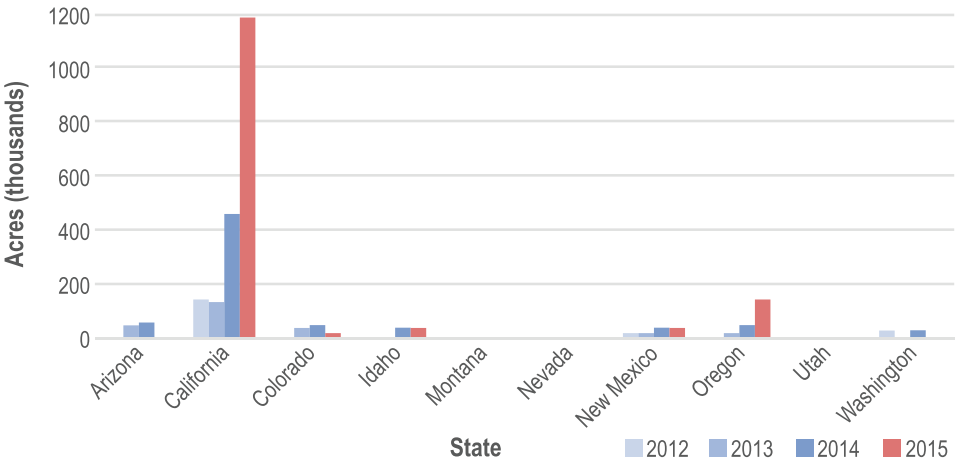
Fir engraver beetle damage increased dramatically from 2014 to 2015, from damage detection on 717,251 acres to damage on 1.4 million acres. The primary increases occurred in California (figure 6-4). Similarly, western pine beetle damage occurred on twice the acreage damaged in 2014, and much of that damage was in California and Oregon. Drought conditions are likely responsible for the increases.

In the East, emerald ash borer (EAB), beech bark disease, and balsam woolly adelgid are among the most damaging agents detected by surveys in eastern forests. EAB damage was detected on 271,927 acres in 2015—double the damage detected in 2014 (figure 6-5), though it is unclear whether the increase is real EAB activity, or if it is an artifact of increased detection capabilities. If it is indeed real, the increase occurs despite widespread quarantines and education efforts directed at slowing or stopping the transport of firewood, logs, and nursery stock, which are all avenues for borer movement.



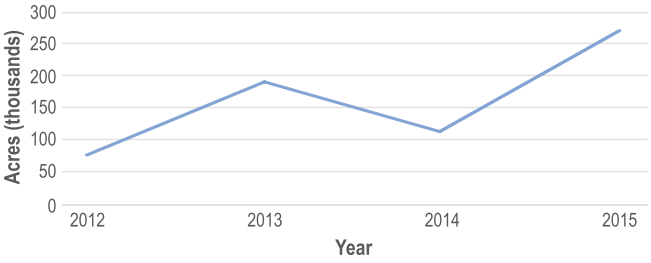
Source: Forest Service, Forest Health Monitoring program; https://foresthealth.fs.usda.gov/portal/PestSummary/DamageSummary; date accessed: July 27, 2017

Figure 6-3. Acres damaged by spruce beetle by State impacted and survey year, 2012–2015.



Source: Forest Service, Forest Health Monitoring program; https://foresthealth.fs.usda.gov/portal/PestSummary/DamageSummary; date accessed: July 27, 2017

Figure 6-4. Acres damaged by fir engraver beetles by State impacted and survey year, 2012–2015.

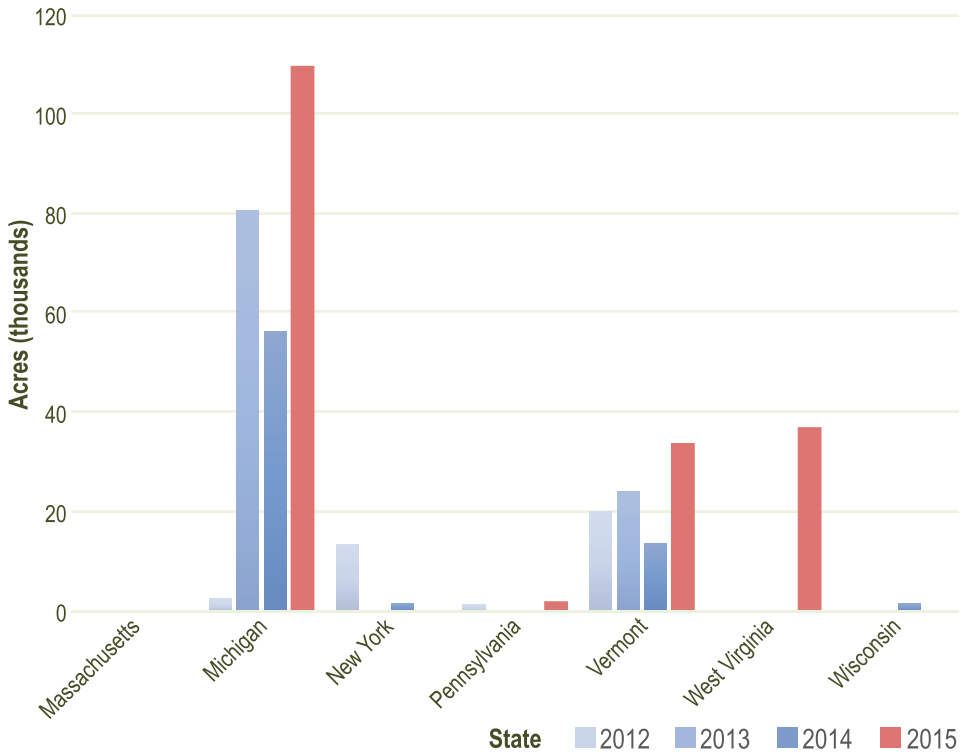


Source: Forest Service, Forest Health Monitoring program; https://foresthealth.fs.usda.gov/portal/PestSummary/DamageSummary; date accessed: July 27, 2017

Figure 6-5. Acres impacted by emerald ash borer, 2012–2015.

Beech bark disease is used to describe a complex formed by beech scale and the Neonectria fungi for which the scale provides infection points. The combination of scale and multiple Neonectria species result in tree mortality. In 2015, beech bark disease damage was detected on 182,287 acres, compared to 73,670 acres in 2014, though, like EAB the increase may be due to improved collection methods rather than a real increase on the landscape (figure 6-6). The largest increases were in Michigan.

Blue Lake and Stevens Peak during autumn in the Tatoosh Wilderness on the Olympic National Forest in Washington's Olympic Peninsula. USDA Forest Service photo.



Source: Forest Service, Forest Health Monitoring program; https://foresthealth.fs.usda.gov/portal/PestSummary/DamageSummary; date accessed: July 27, 2017

Figure 6-6. Acres impacted by beech bark disease, 2012–2015, by State.

Invasive Trees

Author: Christopher M. Oswalt

Invasive species have the potential to severely affect the health of the Nation's forests. Many of the most aggressive insects and pathogens infesting trees in the United States are nonnative species that have become invasive. Nonnative invasive plant species have tremendous potential to negatively alter forest ecosystems.

Many species of nonnative invasive trees have been increasing over time and are becoming widely distributed across the United Sates. The best estimate based on the most current Forest Inventory and Analysis data suggest that invasive trees are found in 2,320 counties across 42 States (figure 6-7). Invasive tree species range from melaleuca invading forests of Florida, tallowtree creating monoculture stands on the Gulf Coast, tree-of-heaven invading forests of the Appalachians, to Siberian elm impacting forests of the North and West.

At times, invasive trees establish and occupy a forested site with such high densities that the FIA program classifies those forests as either exotic hardwood or exotic softwood forest type. Currently, over 2 million acres of exotic (nonnative) forest types are in the United States (table 6-1). About 1.4 million acres are exotic hardwood and slightly over 600,000 acres are exotic softwood.

Table 6-1. Area of exotic (nonnative) forest types in the United States.

Forest type	Area (acres)
Exotic hardwoods	1,447,308
Exotic softwoods	613,332
Total	2,060,640

The greatest density of nonnative invasive trees observed by the FIA program are found in the Appalachian region, the Gulf Coastal Plain, and in southern Florida (figure 6-7). The top three observed nonnative invasive trees are tree-of-heaven, tallowtree, and chinaberry (black locust, which is classified

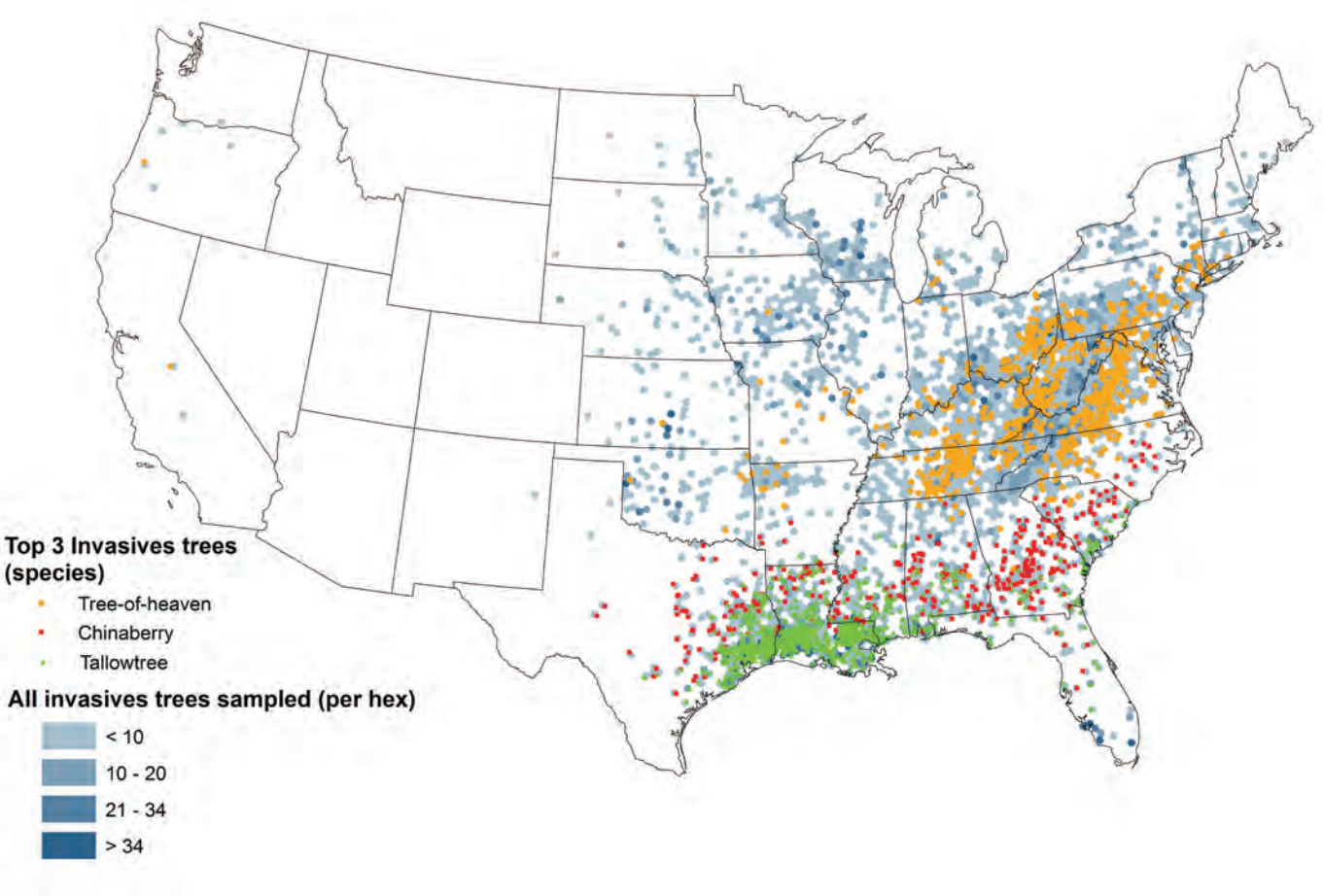


Figure 6-7. Top three invasive trees observed by the Forest Service, Forest Inventory and Analysis program, and density of all invasive tree observations in the United States.

Forest Health Assessment and Applied Sciences Team (FHAAST)

The Forest Health Technology Enterprise Team (FHTET) was created by the USDA Forest Service's Deputy Chief of State and Private Forestry in February of 1995 to deliver forest health technology services to field units and State and private partners in support of the Forest Service's Land ethic: "promote the sustainability of ecosystems by ensuring their health, diversity and productivity. FHTET had dual functions. The central or core component consists of activities that directly support the Forest Service in meeting its legal mandate in the protection of forest health. An entrepreneurial component was later developed to deliver services on a cost-reimbursable basis.

In November of 2016, FHTET was renamed the Forest Health Assessment and Applied Sciences Team or FHAAST. Key operating principles such as customer focus, emphasizing teamwork and shared leadership, innovation, a high degree of accountability and reporting, optimization of human and technical resources are still a few of FHAAST's core operating principles. FHAAST now focuses on the analysis and reporting of forest health conditions, the quantitative analysis of agents that impact forest health, predictive services, risk analysis, remote sensing and image analysis, pesticide application technologies and biocontrol/biopesticide development.

as an invasive species in Northern States despite the fact that it is native to the United States, was removed from this analysis; table 6-2). Tree-of-heaven, although observed across many parts of the United States, is highly concentrated in the Appalachian region (figure 6-7). Tallowtree is a significant forest invader in the Southern United States, particularly the Gulf Coast of Texas, Louisiana, Mississippi, Alabama, and Florida (figure 6-7). Chinaberry can be found invading forests throughout the Southeastern United States in both the Gulf and Atlantic Coastal Plains (figure 6-7). For a full accounting of all invasive plants sampled by the FIA program, see Oswalt and Zimmerman (2012).

Table 6-2. Name, volume, mean diameter, and sample size of nonnative invasive trees observed in the United States by the Forest Service, Forest Inventory and Analysis program.

Common name	Volume (cubic feet)	Diameter (mean at breast height)	Sampled (number)
Tallow tree	457,011,704	5.05	5,052
Tree-of-heaven	444,131,126	6.57	2,443
Chinaberry	117,614,138	6.30	854
Siberian elm	230,034,045	8.98	760
White mulberry	84,214,445	6.56	624
Princesstree	117,174,441	8.08	402
Silktree	29,528,250	5.64	326
Punktree	41,727,614	6.77	270
Norway maple	99,844,004	8.53	264
Russian olive	4,559,810	5.52	45
Saltcedar	37,709	5.00	1

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▲ Sunny day on Mount Juneau. USDA Forest Service photo by Alannah Johnson.

Section 7: National Forest Systems

Author: Sonja Oswalt

National forests and grasslands of the United States were first created in 1891 when Congress gave the President the authority to establish forest reserves. That year, President Harrison created the Yellowstone Forest Reserve. In response to criticism and public backlash, the President's ability to set land aside was repealed in 1897. New legislation allowed the Federal Government to designate national forests for purposes of protecting water quality and providing the Nation with a continuous supply of timber (Pinchot 1907).

Later, the Forest and Rangeland Renewable Resources Act of 1974 specified that forested land in the National Forest System should be "maintained in appropriate forest cover … to secure the maximum benefits of multiple use sustained yield management in accordance with land management plans." Today, 155 national forests, 20 national grasslands, 222 research and experimental forests, and other special areas are across 44 States, Puerto Rico, and the U.S. Virgin Islands (figure 7-1).

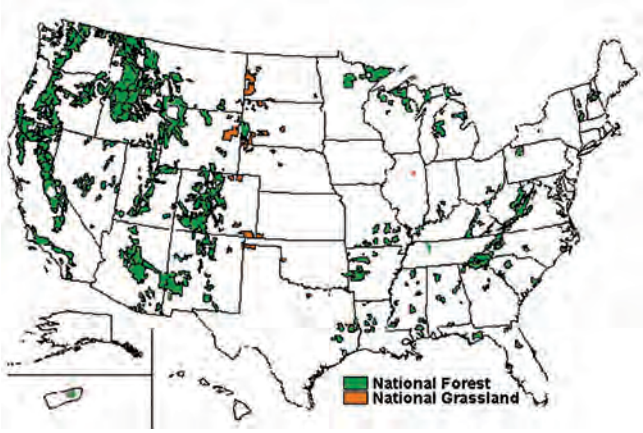

Figure 7-1. Location of national forests and grasslands in the United States.

The National Forest System comprises 193 million acres, including 145 million acres of forest land that account for about 19 percent of the Nation's total forest land. National forests and grasslands experienced 185 million recreational visits in 2016 (USDA Forest Service 2016). National forests are not evenly dispersed on the landscape. The Western United States is home to the vast majority of the country's national forests. The Rocky Mountain Region contains 50 percent of all of the national forests, and when combined with the Pacific Coast, these two regions comprise 83 percent of all the Nation's NFS forest land (figure 7-2).

Idaho, Montana, and California contain the most national forest acreage. Of Idaho's forest land, 76 percent is categorized as national forest, and Idaho accounts for 11 percent of all national forest acreage in the country.

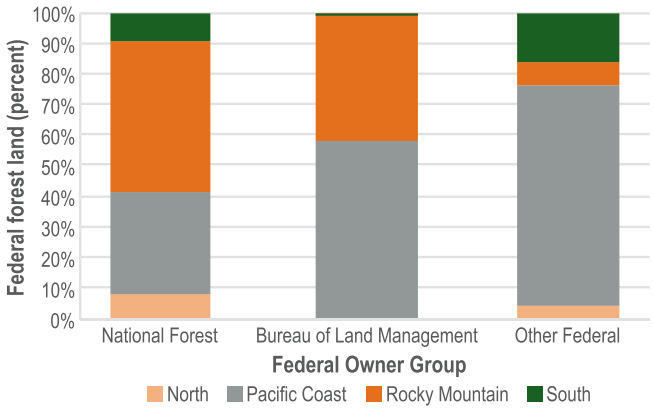

Figure 7-2. Proportion of each Federal ownership group by region.

▲ Aaron Baker goes fly fishing in the Davidson Campground, Pisgah National Forest, NC. USDA photo by Lance Cheung.

Forest Productivity

More than 28 million acres of NFS forest land is reserved, which means it is unavailable for use as a timber resource. That accounts for 35 percent of the entire Nation's reserved forest land area. The remainder falls within a series of productivity classes that describe the potential of the land for growing trees. Productivity is generally a function of soil type, climate, precipitation, and other environmental conditions. Nationally, national forests rank just below private corporate forests in terms of the proportion of their land in the highest two (120+) productivity classes (figure 7-3). In contrast, over 90 percent of forest area owned by other public agencies is in the lowest two productivity classes.

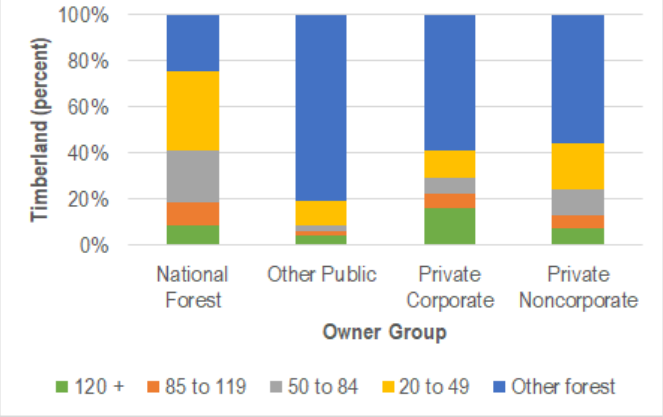

Figure 7-3. Proportion of timberland area in four ownership groups by productivity class.

The Northern Idaho ground squirrel pictured here in Mud Creek, Payette National Forest, ID, is found only in Adams and Valley Counties in the Central Idaho Mountains. This species was listed as Threatened April 3, 2000, and is one of the rarest mammals in North America. USDA Forest Service photo.

The greatest proportion of NFS lands is found in the Intermountain subregion. Most of that land has low productivity, with estimated average growth rates of 0 to 49 cubic feet per acre per year. Given the arid climate in that region, low growth rates are not abnormal. Private corporate land in the Intermountain west has a slightly higher proportion of forest land in the most productive categories than does NFS forest land, but NFS forest land is proportionally more productive than private noncorporate and other public lands (figure 7-4). In fact, NFS lands account for 60 percent of all forest land in the 120+ productivity class in the Intermountain west. In general, Alaska and the Pacific Northwest, South Central, and Southeast have the largest amount of productive NFS forest land in proportion to the total amount of NFS land present (figure 7-5).

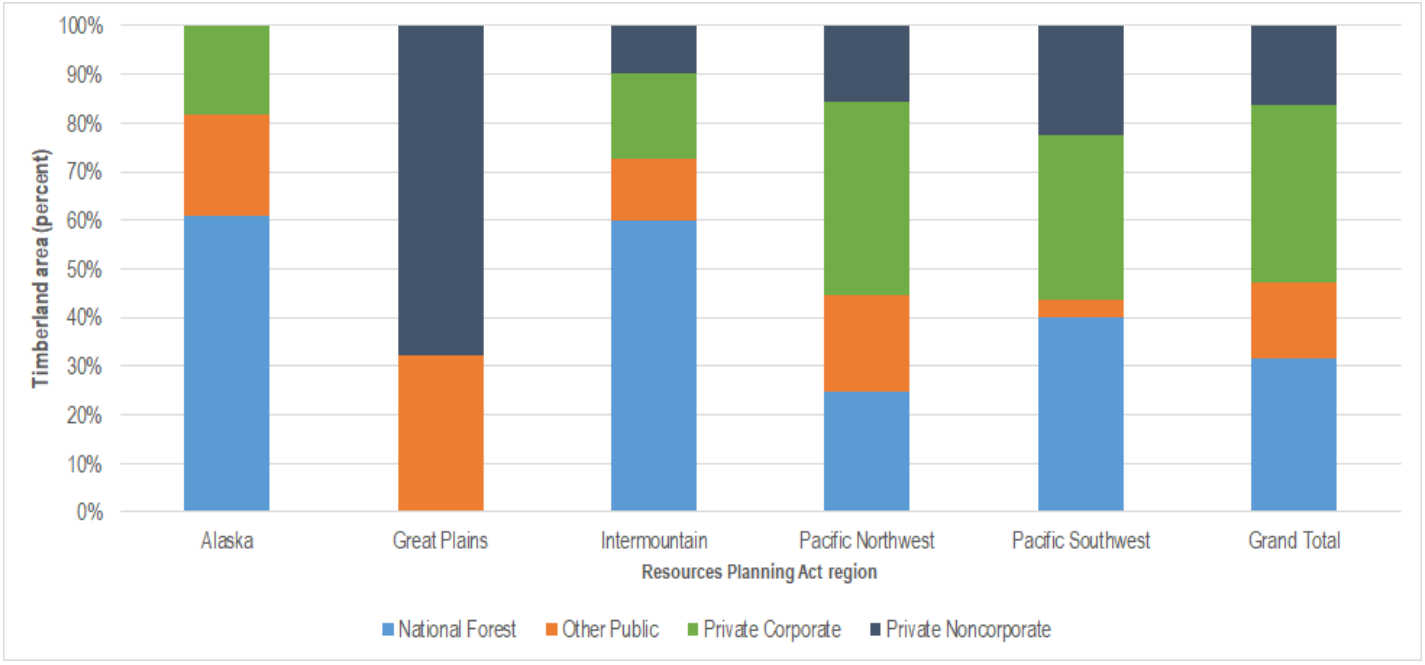

Figure 7-4. Proportion of National Forest System timberland area in 120+ productivity class by region and owner.

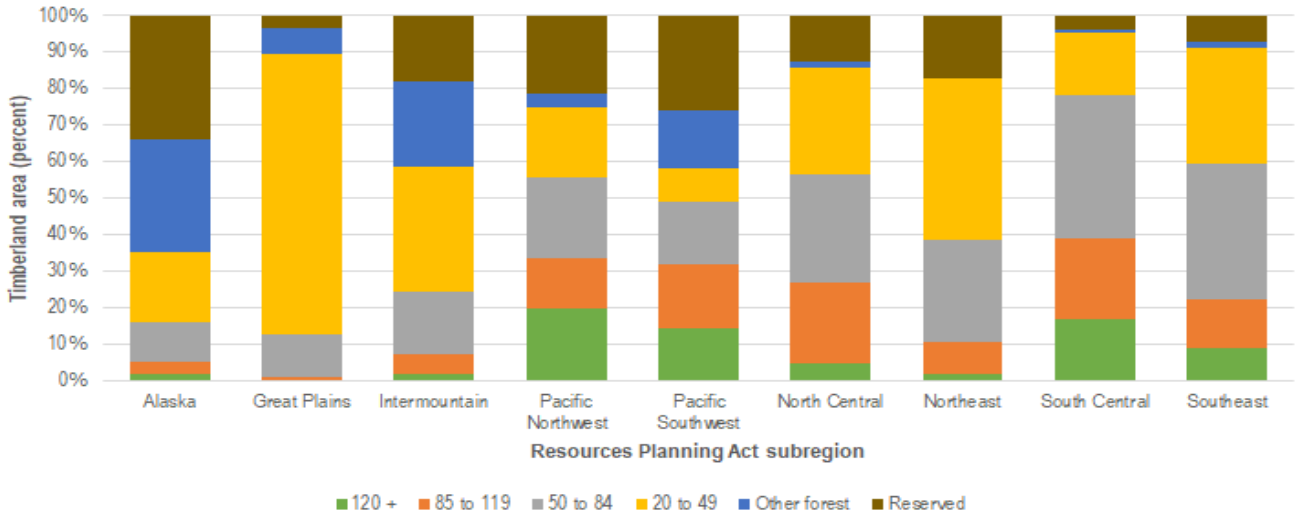

Figure 7-5. Proportion of National Forest System timberland by subregion and productivity class.

Stand Origin and Stand Age

Forest land in the NFS is nearly exclusively regenerated naturally. Only 4 percent of NFS forest land is planted nationally, whereas regional estimates range from less than 1 percent to 8 percent (figure 7-6). In the North, 66 percent of planted NFS land is in the white-red-jack pine forest type, and 91 percent of that forest type on Northern NFS land is planted. Even so, planted white-red-jack pine forests only occupy 582,816 acres out of a total 11 million acres of NFS forest land in that region. White-red-jack pine forests are frequently planted throughout the region on other ownerships, and are prized for aesthetics, wildlife habitat, and timber potential.

Douglas-fir is the most frequently planted forest type on the Pacific Coast, with Ponderosa pine a distant second. Douglas-fir comprises 43 percent of planted forests on NFS forest land in that region, though overall only 22 percent of Douglas-fir on NFS land in the Pacific Coast is planted. Douglas-fir is prized for construction, Christmas trees, a variety of manufacturing uses, and for wildlife habitat and foods.

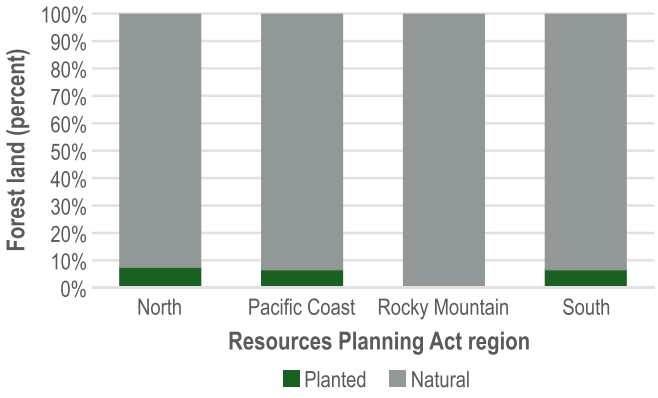

Figure 7-6. Proportion of National Forest System forest land by stand origin and region.

▲ The Nez Perce National Historic Trail, Big Hole Valley, Beaverhead-Deerlodge National Forest, MT. USDA Forest Service photo by Roger M. Peterson.

In the Rocky Mountain Region, less than 1 percent of forest land is planted. Ponderosa pine comprises 38 percent of that planted area, but only 297,345 acres out of 25 million acres of NFS land across the region. Softwoods are also the most frequently planted forest types in the South, specifically loblolly-shortleaf pine, followed by longleaf-slash pine. Loblolly-pine is one of the most commonly planted commercial species in the South. On NFS land, it comprises 59 percent of planted acreage, although of all southern NFS loblolly-shortleaf pine acres, only 18 percent is planted. Longleaf-slash pine is a forest-type that has received widespread attention in the South as a forest-type in need of restoration.

Forest stands on NFS lands tend toward maturity, particularly in the Northeast, the Western regions, and Alaska (figure 7-7). In the west, where most forest land is federally owned, NFS land drives the stand-age patterns. In contrast, eastern NFS land is a small proportion of forest area, but does still mirror overall landscape patterns. Nationally, forests on NFS land are predominately over 60 years of age (figure 7-7).

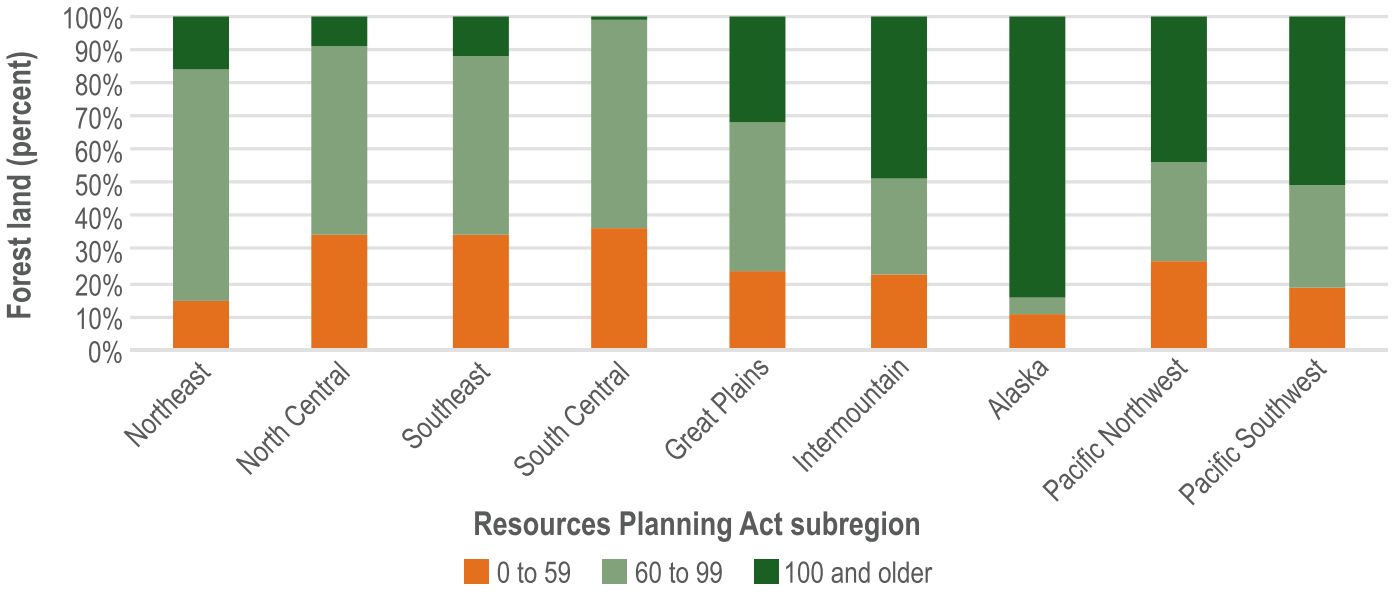

Figure 7-7. Proportion of National Forest System forest land by subregion and grouped stand age.

Components of Change

The total timberland volume on national forests, nationwide, was 279 billion cubic feet. Over one-half of all volume on NFS land comes from the Pacific Coast Region, which is not surprising given that the Pacific Coast is renowned for its large trees (e.g., giant sequoias and pacific redwoods). Tree volume on NFS land in the Rocky Mountain Region declined in the decade between 2007 and 2017 after experiencing many decades of increase (figure 7-8). Much of that is likely a result of mountain pine beetle infestations and wildfire mortality. Volumes in all other regions increased over the decade from 2007 to 2017 (figure 7-8).

Average annual mortality on NFS land in the Rocky Mountain Region has almost doubled since 2007 (figure 7-9). While mortality went up in the Pacific Coast and the North on NFS land, it didn't increase to the extent that it did on Rocky Mountain national forests. In contrast, average annual mortality in the South declined, reflecting a reduction in southern pine beetle mortality.

Mortality is reflected in average annual net growth patterns on the national forests. Thus, average annual net growth declined between 2006 and 2016, primarily because of negative net growth rates in the Rocky Mountain Region, and declining net growth rates in all regions (figure 7-10). Because net growth is gross growth minus mortality, the negative growth rate in the Rocky Mountain Region reflects the extensive mortality caused by MPB, as mentioned previously.

Removals of growing stock on NFS timberland between 2006 and 2016 averaged 449 million cubic feet of volume, annually. This equates to approximately 0.2 percent of total standing

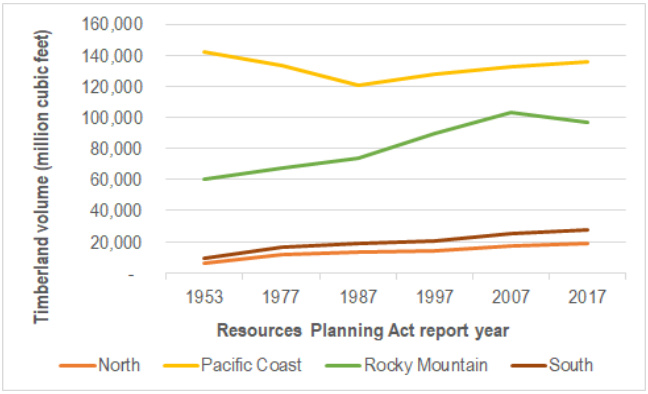

Figure 7-8. Volume of trees on National Forest System timberland by region, 1953–2017.

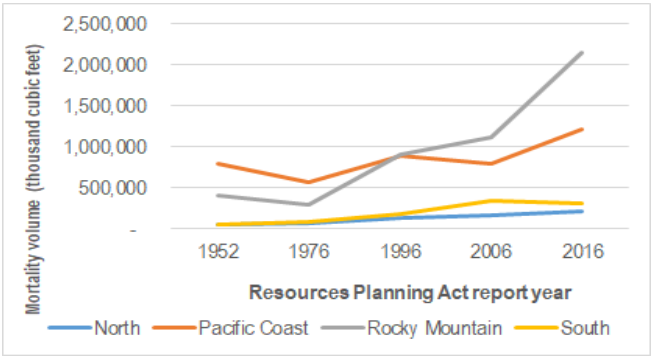

Figure 7-9. Average annual mortality of trees on National Forest System timberland by region, 1952–2016.

volume on NFS land each year. Removal volume includes timber harvests, thinning for fire management, removals from the timberland base into reserved status, or other land use change. Nearly one-half of all NFS removals occurred in the Pacific Coast Region and consisted nearly entirely of softwood removals.

View from Ocoee Scenic Byway, Sugarload Overlook, Cherokee National Forest, TN—the first FS scenic byway in the Nation. USDA Forest Service photo.

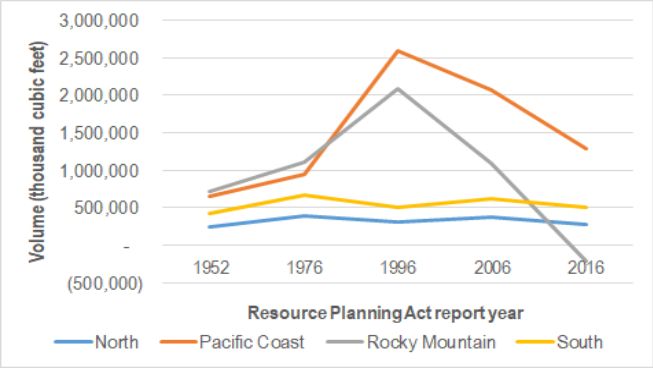

Figure 7-10. Average annual net growth of trees on National Forest System timberland by region, 1952–2016.

Wildland Fire

Wildfire management has been, and continues to be, a significant priority for the Forest Service. Urban growth at the wildland interface coupled with historic fire suppression efforts and significant drought in Western States has resulted in large-scale, often catastrophic wildland fire. Biologically, wildfires are a natural part of ecosystems. In fact, some ecosystems require fire in order to initiate the next generation of seedling growth (e.g., longleaf pine in the East). Catastrophic wildfires pose significant threats to the lives and properties surrounding forests, however.

The United States experienced over 67,000 wildland fires in 2016, burning 5.5 million acres of public and private land. In 2016, 5,676 wildfires were on 1.2 million acres of NFS land, a 20-percent decrease from the number of wildfires recorded the previous year (National Interagency Fire Center 2016; figure 7-11). Wildland fires on NFS land account for 8 percent of all wildfires and 23 percent of all acres burned in the Nation. Over a 10-year period, wildland fires burned about 1.6 million NFS acres per year (NIFC 2016).

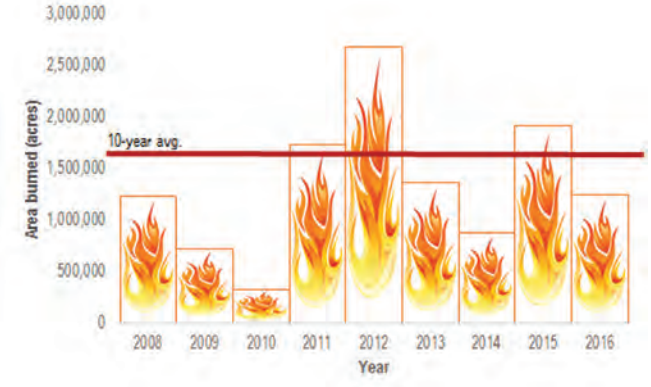

Figure 7-11. Area burned by wildfires on NFS land in the United States by year, with 10-year average noted. (Source: NIFC 2016).

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Children participate in snorkeling activities at the Alexander Springs Recreation Area, Ocala National Forest, FL. USDA Forest Service photo by Brandon Fair.

Appendix A: Resource Tables

Table A-1. Dates of inventory data by State

Region/State	Forest area and volume	Method for growth and mortality	Timber Products Output (removals) data			
			Pulpwood	Sawlogs and Veneer	Fuelwood	Other products
Northeast						
Connecticut	2015	Remeasure	2013	2011	2011	2011
Delaware	2015	Remeasure	2013	2011	2011	2011
Maine	2015	Remeasure	2013	2014	2014	2014
Maryland	2015	Remeasure	2013	2008	2008	2008
Massachusetts	2015	Remeasure	2013	2010	2010	2010
New Hampshire	2015	Remeasure	2013	2009	2009	2009
New Jersey	2015	Remeasure	2013	2010	2010	2010
New York	2015	Remeasure	2013	2009	2009	2009
Pennsylvania	2015	Remeasure	2013	2012	2012	2012
Rhode Island	2015	Remeasure	2013	2010	2010	2010
Vermont	2015	Remeasure	2013	2014	2014	2014
West Virginia	2015	Remeasure	2013	2007	2007	2007
North Central						
Illinois	2015	Remeasure	2013	2010	2010	2010
Indiana	2015	Remeasure	2013	2013	2013	2013
Iowa	2015	Remeasure	2013	2009	2009	2009
Michigan	2015	Remeasure	2013	2014	2014	2014
Minnesota	2015	Remeasure	2013	2014	2014	2014
Missouri	2015	Remeasure	2013	2015	2015	2015
Ohio	2015	Remeasure	2013	2009	2009	2009
Wisconsin	2015	Remeasure	2013	2013	2013	2013
Southeast						
Florida	2015	Remeasure	2013	2013	2013	2013
Georgia	2015	Remeasure	2013	2013	2013	2013
North Carolina	2015	Remeasure	2013	2013	2013	2013
South Carolina	2015	Remeasure	2013	2013	2013	2013
Virginia	2014	Remeasure	2013	2013	2013	2013
South Central						
Alabama	2015	Remeasure	2013	2013	2013	2013
Arkansas	2015	Remeasure	2013	2013	2013	2013
Kentucky	2014	Remeasure	2013	2013	2013	2013
Louisiana	2014	Remeasure	2013	2013	2013	2013
Mississippi	2015	Remeasure	2013	2013	2013	2013
Oklahoma	2015	Remeasure	2013	2013	2013	2013
Tennessee	2013	Remeasure	2013	2013	2013	2013
Texas(east)	2015	Remeasure	2013	2013	2013	2013
Texas(west)	2013		2013	2013	2013	2013

Table A-1. (cont.) Dates of inventory data by State

Region/State	Forest area and volume	Method for growth and mortality	Timber Products Output (removals) data			
			Pulpwood	Sawlogs and Veneer	Fuelwood	Other products
Great Plains						
Kansas	2015	Remeasure	2013	2015	2015	2015
Nebraska	2015	Remeasure	2013	2014	2014	2014
North Dakota	2015	Remeasure	2013	2014	2014	2014
South Dakota	2015	Remeasure	2013	2014	2014	2014
Intermountain						
Arizona	2015		2012	2012	2012	2012
Colorado	2015		2012	2012	2012	2012
Idaho	2015		2011	2011	2011	2011
Montana	2015		2014	2014	2014	2014
Nevada	2015		2012	2012	2012	2012
New Mexico	2015		2012	2012	2012	2012
Utah	2014		2012	2012	2012	2012
Wyoming	2015		2014	2014	2014	2014
Pacific Northwest						
Alaska (coastal)	2015		2011	2011	2011	2011
Oregon	2015		2013	2013	2013	2013
Washington	2015		2014	2014	2014	2014
Pacific Southwest						
California	2015		2012	2012	2012	2012
Hawaii	2015		N/A	N/A	N/A	N/A

Table 1a. Land area in the United States by major class, region, subregion, and State, 2017

Region, subregion, and State	Total land area[a]	Land class								
		Forest land								
		Total forest land	Timberland			Reserved	Other	Woodland[b]	Other land
			Total	Planted	Natural origin				
	Thousand acres									
North										
Northeast										
Connecticut	3,099	1,808	1,771	12	1,759	32	5	0	1,291
Delaware	1,247	361	346	29	317	12	3	0	886
Maine	19,739	17,579	16,778	329	16,449	651	150	0	2,161
Maryland[c]	6,252	2,463	2,180	156	2,025	276	6	0	3,789
Massachusetts	4,992	3,025	2,884	0	2,884	125	17	0	1,967
New Hampshire	5,730	4,758	4,474	18	4,456	279	5	0	971
New Jersey	4,707	1,990	1,740	18	1,722	248	3	0	2,716
New York	30,161	18,887	15,703	680	15,022	3,148	36	0	11,274
Pennsylvania	28,635	16,898	16,312	454	15,858	572	15	0	11,737
Rhode Island	662	370	356	0	356	11	2	0	292
Vermont	5,899	4,511	4,288	35	4,253	206	18	0	1,387
West Virginia	15,384	12,077	11,707	90	11,617	302	68	0	3,307
Total	126,507	84,727	78,539	1,821	76,718	5,861	327	0	41,780
North Central									
Illinois	35,532	4,980	4,679	89	4,590	299	2	0	30,552
Indiana	22,929	4,876	4,713	189	4,524	161	2	0	18,053
Iowa	35,749	2,923	2,804	25	2,778	98	21	0	32,826
Michigan	36,185	20,311	19,324	1,368	17,956	755	232	0	15,874
Minnesota	50,961	17,413	15,703	876	14,827	1,267	443	0	33,549
Missouri	43,995	15,409	14,850	160	14,690	350	209	0	28,586
Ohio	26,151	8,077	7,734	297	7,437	281	62	0	18,074
Wisconsin	34,661	17,074	16,548	1,063	15,486	374	151	0	17,587
Total	286,162	91,062	86,355	4,067	82,288	3,586	1,121	0	195,100
North total	412,669	175,789	164,894	5,888	159,006	9,447	1,448	0	236,879
South									
Southeast									
Florida	34,320	17,253	15,409	4,717	10,692	1,557	288	0	17,067
Georgia	36,809	24,635	24,061	7,686	16,375	574	0	0	12,174
North Carolina	31,115	18,829	18,139	3,339	14,800	641	50	0	12,286
South Carolina	19,239	12,931	12,756	3,258	9,499	159	16	0	6,307
Virginia	25,274	16,043	15,389	2,656	12,733	562	92	0	9,231
Total	146,756	89,692	85,754	21,654	64,100	3,493	445	0	57,064
South Central									
Alabama	32,413	23,127	23,029	7,492	15,536	98	0	0	9,286
Arkansas	33,303	19,040	18,492	3,560	14,932	507	40	0	14,263
Kentucky	25,271	12,442	12,246	46	12,200	196	0	0	12,829
Louisiana	27,650	14,984	14,707	4,617	10,090	250	27	0	12,667
Mississippi	30,031	19,380	19,179	6,142	13,038	192	9	0	10,651
Oklahoma[d]	43,901	11,911	7,141	687	6,454	214	4,556	363	31,627
Tennessee	26,390	13,967	13,407	749	12,658	551	9	0	12,423
Texas[d]	167,188	40,970	14,137	3,132	11,005	326	26,507	22,158	104,060
Total	386,148	155,821	122,338	26,426	95,913	2,334	31,149	22,521	207,806
South total	532,904	245,513	208,092	48,080	160,012	5,827	31,593	22,521	264,870

Table 1a. (cont.) Land area in the United States by major class, region, subregion, and State, 2017

Region, subregion, and State	Total land area[a]	Land class								
		Forest land								
		Total forest land	Timberland			Reserved	Other	Woodland[b]	Other land
			Total	Planted	Natural origin				
	Thousand acres									
Rocky Mountain										
Great Plains										
Kansas	52,326	2,527	2,393	48	2,346	9	125	0	49,799
Nebraska	49,167	1,532	1,403	55	1,347	27	102	0	47,635
North Dakota	44,161	789	490	25	464	56	243	16	43,356
South Dakota	48,519	1,949	1,799	36	1,763	47	103	0	46,570
Total	194,173	6,797	6,084	164	5,921	140	573	16	187,359
Intermountain									
Arizona	72,700	10,934	3,012	0	3,012	920	7,001	7,683	54,084
Colorado	66,331	20,063	10,598	19	10,579	2,667	6,798	2,741	43,527
Idaho	52,892	21,386	16,532	292	16,240	3,771	1,083	203	31,302
Montana	93,149	25,517	19,768	136	19,632	3,768	1,980	367	67,266
Nevada	70,260	7,487	250	0	250	1,282	5,955	3,077	59,697
New Mexico	77,631	16,619	4,279	7	4,272	1,446	10,894	7,982	53,030
Utah	52,589	12,087	3,749	7	3,743	1,011	7,326	6,209	34,293
Wyoming	62,140	9,751	5,381	27	5,354	3,302	1,069	742	51,647
Total	547,691	123,844	63,569	487	63,082	18,167	42,107	29,003	394,844
Rocky Mountain total	741,863	130,641	69,654	651	69,003	18,307	42,680	29,019	582,204
Pacific Coast									
Alaska									
Alaska	365,616	128,735	12,996	10	12,986	33,370	82,369	0	236,475
Total	365,616	128,735	12,996	10	12,986	33,370	82,369	0	236,475
Pacific Northwest									
Oregon	61,432	29,653	23,668	6,537	17,131	2,818	3,167	73	31,706
Washington	42,532	22,174	17,794	4,775	13,018	3,820	560	165	20,192
Total	103,964	51,827	41,462	11,313	30,149	6,638	3,728	238	51,899
Pacific Southwest									
California	99,699	31,515	16,583	1,452	15,131	6,374	8,559	5,253	62,931
Hawaii	4,110	1,471	744	51	693	727	0	0	2,639
Total	103,809	32,986	17,326	1,503	15,824	7,101	8,559	5,253	65,570
Pacific Coast total	573,389	213,549	71,784	12,826	58,958	47,109	94,656	5,490	353,944
United States	2,260,825	765,493	514,425	67,445	446,980	80,691	170,377	57,030	1,437,897

[a] Source: U.S. Department of Commerce. Census 2010 U.S. Gazetteer Files at http://www.census.gov/geo/maps-data/data/gazetteer2010.html.

[b] Woodland is a class of land which consists predominantly of stands of sparse woodland species such as juniper, pinyon juniper, mesquite and small stature hardwood species and are found in the arid to semiarid regions of the interior Western United States. These areas must span more than 1 acre (0.4 hectares, have sparse trees capable of achieving 16.4 feet (5 meters) in height in situ, and a tree canopy cover of 5 to 10 percent. When combined with shrubs and bushes these areas may achieve overall cover greater than 10 percent woody vegetation. Trees are defined as woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) in diameter at breast height, or 5 inches (12.7 cm) diameter at root collar, and a height of 16.4 feet (5 meters) at maturity in situ. These areas do not include land that is predominantly under agricultural or urban land use. For some local analysis these lands might be called scrub forest but the preferred terminology is "Forest and Woodland" when referring to these combined areas. The values in this column do not currently include qualifying ares that are predominantly shrub species only and large areas of chaparral.

[c] Maryland total land area includes 39,298 acres in District of Columbia.

[d] The forest and woodland areas of Texas and Oklahoma are greater than reported in some previous national assessments. This is due to the forest and woodlands in the western portions of these States being estimated by FIA for the first time in national assessments for 2012 and later. The RPA forest area estimates for Texas and Oklahoma are lower than reported in FIA dfatabases due to differences between FIA and RPA definitions of forest land. The difference between RPA and FIA forest estimates is found in the "woodland" column of this table.

Note: Data may not add to totals because of rounding.

Table 1b. Forest and woodlands area in the United States by region, subregion, and State, 2017

Region, subregion and State	Total forest and other wooded land	Forest				Woodland[a]
		Total forest	Timberland	Reserved	Other	
	Thousand acres					
North						
Northeast						
Connecticut	1,808	1,808	1,771	32	5	0
Delaware	361	361	346	12	3	0
Maine	17,579	17,579	16,778	651	150	0
Maryland	2,463	2,463	2,180	276	6	0
Massachusetts	3,025	3,025	2,884	125	17	0
New Hampshire	4,758	4,758	4,474	279	5	0
New Jersey	1,990	1,990	1,740	248	3	0
New York	18,887	18,887	15,703	3,148	36	0
Pennsylvania	16,898	16,898	16,312	572	15	0
Rhode Island	370	370	356	11	2	0
Vermont	4,511	4,511	4,288	206	18	0
West Virginia	12,077	12,077	11,707	302	68	0
Total	84,727	84,727	78,539	5,861	327	0
North Central						
Illinois	4,980	4,980	4,679	299	2	0
Indiana	4,876	4,876	4,713	161	2	0
Iowa	2,923	2,923	2,804	98	21	0
Michigan	20,311	20,311	19,324	755	232	0
Minnesota	17,413	17,413	15,703	1,267	443	0
Missouri	15,409	15,409	14,850	350	209	0
Ohio	8,077	8,077	7,734	281	62	0
Wisconsin	17,074	17,074	16,548	374	151	0
Total	91,062	91,062	86,355	3,586	1,121	0
North total	175,789	175,789	164,894	9,447	1,448	0
South						
Southeast						
Florida	17,253	17,253	15,409	1,557	288	0
Georgia	24,635	24,635	24,061	574	0	0
North Carolina	18,829	18,829	18,139	641	50	0
South Carolina	12,931	12,931	12,756	159	16	0
Virginia	16,043	16,043	15,389	562	92	0
Total	89,692	89,692	85,754	3,493	445	0
South Central						
Alabama	23,127	23,127	23,029	98	0	0
Arkansas	19,040	19,040	18,492	507	40	0
Kentucky	12,442	12,442	12,246	196	0	0
Louisiana	14,984	14,984	14,707	250	27	0
Mississippi	19,380	19,380	19,179	192	9	0
Oklahoma[b]	12,274	11,911	7,141	214	4,556	363
Tennessee	13,967	13,967	13,407	551	9	0
Texas[b]	63,128	40,970	14,137	326	26,507	22,158
Total	178,342	155,821	122,338	2,334	31,149	22,521
South total	268,034	245,513	208,092	5,827	31,593	22,521

Table 1b. (cont.) Forest and woodlands area in the United States by region, subregion, and State, 2017

Region, subregion and State	Total forest and other wooded land	Forest				Woodland[a]
		Total forest	Timberland	Reserved	Other	
	Thousand acres					
Rocky Mountain						
Great Plains						
Kansas	2,527	2,527	2,393	9	125	0
Nebraska	1,532	1,532	1,403	27	102	0
North Dakota	805	789	490	56	243	16
South Dakota	1,949	1,949	1,799	47	103	0
Total	6,813	6,797	6,084	140	573	16
Intermountain						
Arizona	18,616	10,934	3,012	920	7,001	7,683
Colorado	22,804	20,063	10,598	2,667	6,798	2,741
Idaho	21,590	21,386	16,532	3,771	1,083	203
Montana	25,884	25,517	19,768	3,768	1,980	367
Nevada	10,563	7,487	250	1,282	5,955	3,077
New Mexico	24,601	16,619	4,279	1,446	10,894	7,982
Utah	18,296	12,087	3,749	1,011	7,326	6,209
Wyoming	10,493	9,751	5,381	3,302	1,069	742
Total	152,847	123,844	63,569	18,167	42,107	29,003
Rocky Mountain total	159,660	130,641	69,654	18,307	42,680	29,019
Pacific Coast						
Alaska						
Alaska	128,735	128,735	12,996	33,370	82,369	0
Total	128,735	128,735	12,996	33,370	82,369	0
Pacific Northwest						
Oregon	29,726	29,653	23,668	2,818	3,167	73
Washington	22,339	22,174	17,794	3,820	560	165
Total	52,065	51,827	41,462	6,638	3,728	238
Pacific Southwest						
California	36,768	31,515	16,583	6,374	8,559	5,253
Hawaii	1,471	1,471	744	727	0	0
Total	38,239	32,986	17,326	7,101	8,559	5,253
Pacific Coast total	219,039	213,549	71,784	47,109	94,656	5,490
United States:	822,523	765,493	514,425	80,691	170,377	57,030

[a] Woodland is a class of land which consists predominantly of stands of sparse woodland species such as juniper, pinyon juniper, mesquite and small stature hardwood species and are found in the arid to semiarid regions of the interior Western United States. These areas must span more than 1 acre (0.4 hectares, have sparse trees capable of achieving 16.4 feet (5 meters) in height in situ, and a tree canopy cover of 5 to 10 percent. When combined with shrubs and bushes these areas may achieve overall cover greater than 10 percent woody vegetation. Trees are defined as woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) in diameter at breast height, or 5 inches (12.7 cm) diameter at root collar, and a height of 16.4 feet (5 meters) at maturity in situ. These areas do not include land that is predominantly under agricultural or urban land use. For some local analysis these lands might be called scrub forest but the preferred terminology is “Forest and Woodland” when referring to these combined areas. The values in this column do not currently include qualifying ares that are predominantly shrub species only and large areas of chaparral.

[b] The forest areas of Texas and Oklahoma are significantly higher than reported in previous national assessments. This is due to the nontimberland forests in the western portions of these States being estimated by FIA for the first time. The RPA forest area estimates for Texas and Oklahoma are significantly lower than reported by FIA due to differences between FIA and RPA definitions of forest land. The difference between RPA and FIA forest estimates is found in the "woodland" column of this table.

Note: Data may not add to totals because of rounding.

Table 2. Forest and woodlands area in the United States by ownership, region, subregion, and State, 2017

Region, subregion, and State	Forest on all ownerships	Public							Privatea			All owners
			Federal									
		Total public	Total Federal	National forest	Bureau of Land Management	Other	State	County and municipal	Total private	Private corporate	Private non-corporate	Woodland
	Thousand acres											
North												
Northeast												
Connecticut	1,808	502	8	0	0	8	309	185	1,305	236	1,070	0
Delaware	361	82	8	0	0	8	66	8	278	54	224	0
Maine	17,579	1,642	223	61	0	162	1,214	205	15,936	9,991	5,946	0
Maryland	2,463	681	80	0	0	80	449	151	1,782	425	1,357	0
Massachusetts	3,025	1,081	74	0	0	74	589	418	1,944	359	1,585	0
New Hampshire	4,758	1,301	855	780	0	76	203	242	3,457	813	2,645	0
New Jersey	1,990	1,037	131	0	0	131	627	279	953	302	651	0
New York	18,887	4,873	153	15	0	138	4,070	650	14,014	2,840	11,174	0
Pennsylvania	16,898	5,062	635	504	0	131	3,884	542	11,837	2,348	9,489	0
Rhode Island	370	105	0	0	0	0	61	44	265	53	212	0
Vermont	4,511	919	492	450	0	43	356	71	3,592	705	2,887	0
West Virginia	12,077	1,593	1,223	1,041	0	181	315	55	10,484	4,078	6,407	0
Total	84,727	18,878	3,883	2,851	0	1,032	12,143	2,851	65,849	22,203	43,647	0
North Central												
Illinois	4,980	840	383	293	0	90	221	237	4,139	341	3,798	0
Indiana	4,876	757	365	195	0	169	339	53	4,119	382	3,737	0
Iowa	2,923	429	119	0	0	119	189	121	2,494	135	2,359	0
Michigan	20,311	7,693	3,050	2,756	0	293	4,208	435	12,618	2,902	9,717	0
Minnesota	17,413	9,262	2,839	2,594	6	239	3,849	2,574	8,150	1,239	6,912	0
Missouri	15,409	2,789	1,907	1,541	6	360	797	85	12,620	762	11,857	0
Ohio	8,077	1,174	336	273	0	64	521	316	6,903	941	5,963	0
Wisconsin	17,074	5,151	1,618	1,424	0	193	1,181	2,353	11,923	1,513	10,410	0
Total	91,062	28,095	10,617	9,077	12	1,528	11,304	6,174	62,967	8,216	54,752	0
North total	175,789	46,973	14,500	11,928	12	2,560	23,448	9,025	128,816	30,418	98,398	0
South												
Southeast												
Florida	17,253	6,104	2,649	1,163	0	1,486	2,882	574	11,149	7,046	4,103	0
Georgia	24,635	2,656	1,827	872	0	955	476	353	21,979	8,377	13,602	0
North Carolina	18,829	3,169	2,103	1,223	0	880	798	268	15,660	4,578	11,082	0
South Carolina	12,931	1,612	1,047	614	0	433	406	159	11,319	4,170	7,149	0
Virginia	16,043	2,839	2,227	1,693	0	533	348	264	13,204	3,241	9,963	0
Total	89,692	16,381	9,853	5,565	0	4,288	4,910	1,617	73,311	27,412	45,899	0
South Central												
Alabama	23,127	1,509	942	656	0	286	399	168	21,618	7,974	13,644	0
Arkansas	19,040	3,696	3,177	2,538	0	640	442	76	15,344	5,649	9,694	0
Kentucky	12,442	1,442	1,187	800	0	387	185	70	11,000	1,917	9,083	0
Louisiana	14,984	1,888	1,039	582	0	457	601	248	13,096	7,469	5,626	0
Mississippi	19,380	2,166	1,690	1,185	0	505	223	253	17,215	4,679	12,536	0
Oklahoma	11,911	1,336	889	357	9	523	333	114	10,575	2,540	8,035	363
Tennessee	13,967	2,321	1,406	723	0	683	804	110	11,646	2,269	9,377	0
Texas	40,970	2,521	1,578	724	0	855	474	469	38,449	9,204	29,245	22,158
Total	155,821	16,880	11,909	7,564	9	4,335	3,461	1,510	138,942	41,702	97,240	22,521
South total	245,513	33,261	21,762	13,130	9	8,624	8,371	3,127	212,253	69,114	143,139	22,521

Table 2. (cont.) Forest and woodlands area in the United States by ownership, region, subregion, and State, 2017

Region, subregion, and State	Forest on all ownerships	Public							Privatea			All owners
			Federal									
		Total public	Total Federal	National forest	Bureau of Land Management	Other	State	County and municipal	Total private	Private corporate	Private non-corporate	Woodland
	Thousand acres											
Rocky Mountain												
Great Plains												
Kansas	2,527	181	127	0	0	127	30	24	2,346	99	2,246	0
Nebraska	1,532	172	83	49	0	34	74	14	1,360	44	1,316	0
North Dakota	789	227	159	83	13	62	62	7	562	0	562	16
South Dakota	1,949	1,162	1,072	1,027	21	24	79	11	787	73	714	0
Total	6,797	1,742	1,441	1,159	34	248	246	56	5,056	217	4,839	16
Intermountain												
Arizona	10,934	7,081	6,566	5,831	462	273	514	1	3,853	175	3,678	7,683
Colorado	20,063	15,554	14,972	10,996	3,594	382	487	95	4,509	681	3,828	2,741
Idaho	21,386	18,388	17,155	16,275	780	100	1,233	0	2,998	1,536	1,462	203
Montana	25,517	18,754	17,723	15,501	1,218	1,004	1,019	12	6,763	2,384	4,379	367
Nevada	7,487	7,215	7,197	2,335	4,756	106	18	0	271	67	204	3,077
New Mexico	16,619	10,392	9,366	7,635	1,169	562	1,013	13	6,227	900	5,327	7,982
Utah	12,087	9,749	8,724	5,740	2,832	152	967	58	2,338	548	1,790	6,209
Wyoming	9,751	8,495	8,131	5,837	668	1,627	357	7	1,256	359	897	742
Total	123,844	95,628	89,835	70,151	15,479	4,206	5,607	185	28,216	6,650	21,566	29,003
Rocky Mountain total	130,641	97,370	91,276	71,310	15,513	4,453	5,853	241	33,272	6,867	26,404	29,019
Pacific Coast												
Alaska												
Alaska	128,735	92,639	64,405	10,914	16,989	36,501	27,993	241	36,097	32,702	3,395	0
Total	128,735	92,639	64,405	10,914	16,989	36,501	27,993	241	36,097	32,702	3,395	0
Pacific Northwest												
Oregon	29,653	18,985	17,856	14,090	3,573	192	942	187	10,669	6,487	4,182	73
Washington	22,174	12,703	9,802	8,331	55	1,415	2,449	453	9,471	4,766	4,705	165
Total	51,827	31,688	27,657	22,422	3,629	1,607	3,390	640	20,139	11,253	8,887	238
Pacific Southwest												
California	31,515	19,191	18,105	15,166	1,407	1,532	697	389	12,324	5,008	7,316	5,253
Hawaii	1,471	891	156	0	0	156	711	23	581	386	195	0
Total	32,986	20,082	18,261	15,166	1,407	1,688	1,409	413	12,905	5,394	7,511	5,253
Pacific Coast total	213,549	144,408	110,322	48,502	22,025	39,796	32,792	1,293	69,141	49,349	19,792	5,490
United States	765,493	322,011	237,860	144,868	37,559	55,433	70,464	13,687	443,481	155,748	287,733	57,030

[a] It is no longer possible to classify private forest as forest industry and nonindustrial private due to disclosure issues. The new classes are private corporate and noncorporate. Native American lands are included in private noncorporate.

Note: Data may not add to totals because of rounding.

Table 3. Forest area in the United States[a] by region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, 1963, 1953, 1938, 1920, 1907, and 1630

Region, subregion, and State	2017	2012	2007	1997[b]	1987[b]	1977[b]	1963[b]	1953[b]	1938[b]	1920[b]	1907[b]	1630[c]
	Thousand acres											
North												
Northeast												
Connecticut	1,808	1,712	1,794	1,863	1,815	1,861	1,910	1,990	1,809	1,526	1,418	2,930
Delaware	361	340	383	389	398	392	392	454	423	351	370	1,130
Maine	17,579	17,660	17,673	17,711	17,713	17,718	17,425	17,088	16,036	14,487	13,428	18,180
Maryland	2,463	2,461	2,566	2,701	2,632	2,653	2,920	2,920	2,595	2,461	2,217	5,730
Massachusetts	3,025	3,024	3,171	3,264	3,097	2,952	3,070	3,288	3,283	2,794	1,846	4,630
New Hampshire	4,758	4,832	4,850	4,955	5,021	5,014	5,019	4,848	4,664	4,094	3,302	5,490
New Jersey	1,990	1,964	2,132	1,991	1,985	1,928	2,371	2,098	2,157	2,069	1,708	4,330
New York	18,887	18,966	18,669	18,581	18,775	18,380	15,865	14,450	13,321	12,502	10,786	27,450
Pennsylvania	16,898	16,782	16,577	16,905	16,727	16,826	16,486	14,805	13,945	12,517	8,744	27,260
Rhode Island	370	360	356	409	399	404	434	434	360	305	226	650
Vermont	4,511	4,591	4,618	4,607	4,479	4,512	4,230	3,860	3,549	3,021	2,527	5,550
West Virginia	12,077	12,155	12,007	12,108	11,942	11,669	11,469	10,327	10,074	9,041	7,811	14,610
Total	84,727	84,846	84,796	85,484	84,981	84,309	81,591	76,562	72,216	65,169	54,382	117,940
North Central												
Illinois	4,980	4,848	4,525	4,294	4,266	4,151	4,144	3,890	3,600	2,997	3,288	13,805
Indiana	4,876	4,830	4,656	4,501	4,439	3,943	4,018	4,103	3,580	2,989	5,292	19,520
Iowa	2,923	3,014	2,879	2,050	1,562	1,561	2,620	2,600	2,550	2,079	2,612	5,340
Michigan	20,311	20,127	19,545	19,335	18,220	18,691	19,699	19,592	19,073	19,109	15,283	33,110
Minnesota	17,413	17,371	16,391	16,796	16,584	16,709	17,403	17,826	19,615	19,339	15,036	31,500
Missouri	15,409	15,472	15,078	14,047	12,523	12,876	15,296	15,177	16,200	15,610	17,226	26,390
Ohio	8,077	8,088	7,894	7,855	7,309	7,037	6,091	5,500	5,110	4,280	6,094	23,470
Wisconsin	17,074	16,980	16,275	15,963	15,319	14,908	14,885	15,559	16,946	17,449	15,164	26,520
Total	91,062	90,730	87,243	84,842	80,221	79,876	84,156	84,247	86,674	83,852	79,995	179,655
North total	175,789	175,575	172,039	170,326	165,202	164,185	165,747	160,809	158,890	149,021	134,377	297,595
South												
Southeast												
Florida	17,253	17,461	16,147	16,254	16,721	17,040	19,050	20,817	21,740	20,189	22,918	29,840
Georgia	24,635	24,768	24,784	24,413	24,187	24,556	26,365	24,057	21,433	20,644	22,729	35,700
North Carolina	18,829	18,588	18,447	19,298	19,280	19,913	20,662	20,113	18,400	17,889	19,791	29,630
South Carolina	12,931	13,120	12,746	12,651	12,257	12,569	12,250	11,943	10,704	10,301	12,113	17,570
Virginia	16,043	15,907	15,766	16,047	16,102	16,387	16,412	16,032	14,832	14,399	14,687	24,480
Total	89,692	89,844	87,889	88,662	88,547	90,465	94,739	92,962	87,109	83,423	92,236	137,220
South Central												
Alabama	23,127	22,877	22,693	21,964	21,725	21,525	21,770	20,771	18,878	18,198	21,513	29,540
Arkansas	19,040	18,755	18,830	18,790	16,987	16,852	20,051	19,681	20,963	20,074	25,405	31,940
Kentucky	12,442	12,472	11,970	12,684	12,256	12,161	11,791	11,647	11,546	10,636	12,144	23,140
Louisiana	14,984	14,712	14,222	13,783	13,883	14,348	16,176	16,230	16,211	16,939	18,020	26,160
Mississippi	19,380	19,542	19,622	18,595	16,693	16,716	17,076	16,890	16,253	16,506	18,968	26,700
Oklahoma	11,911	12,256	10,156	9,925	11,635	11,685	11,735	10,329	10,415	9,779	10,818	13,330
Tennessee	13,967	13,942	14,480	13,603	13,258	13,184	13,629	13,956	13,000	12,144	16,476	24,010
Texas	40,970	40,318	34,763	33,091	38,977	38,466	37,954	37,708	37,949	32,092	31,819	41,980
Total	155,821	154,872	146,736	142,434	145,415	144,937	150,182	147,212	145,215	136,368	155,163	216,800
South total	245,513	244,716	234,625	231,096	233,961	235,402	244,921	240,174	232,324	219,791	247,400	354,020

Table 3. (cont.) Forest area in the United States[a] by region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, 1963, 1953, 1938, 1920, 1907, and 1630

Region, subregion, and State	2017	2012	2007	1997[b]	1987[b]	1977[b]	1963[b]	1953[b]	1938[b]	1920[b]	1907[b]	1630[c]
	Thousand acres											
Rocky Mountain												
Great Plains												
Kansas	2,527	2,502	2,106	1,545	1,358	1,344	1,351	1,668	2,408	2,221	2,788	1,570
Nebraska	1,532	1,576	1,245	947	722	1,029	1,162	903	1,188	1,028	1,472	1,470
North Dakota	789	734	724	674	460	422	439	473	495	551	355	450
South Dakota	1,949	1,911	1,682	1,632	1,690	1,702	1,837	2,169	2,080	1,905	2,111	2,480
Total	6,797	6,724	5,757	4,798	4,229	4,497	4,789	5,213	6,171	5,705	6,726	5,970
Intermountain												
Arizona	10,934	10,795	11,066	11,753	10,823	11,362	11,902	11,412	12,306	13,579	12,600	13,070
Colorado	20,063	19,995	20,822	19,510	19,486	22,271	19,783	19,200	18,920	19,074	20,971	21,440
Idaho	21,386	21,247	21,227	21,778	21,647	21,727	21,815	21,025	21,713	22,428	21,967	24,130
Montana	25,517	25,169	24,823	23,206	21,882	22,559	22,048	22,330	22,415	21,304	22,095	23,320
Nevada	7,487	8,121	8,230	7,124	6,271	7,683	6,000	6,500	7,750	10,738	11,657	12,000
New Mexico	16,619	16,615	16,682	15,505	15,432	15,360	15,487	15,050	14,334	15,119	14,854	15,680
Utah	12,087	11,866	11,962	11,905	11,234	11,720	12,205	11,219	11,310	11,554	11,305	11,890
Wyoming	9,751	10,807	11,156	10,709	9,731	10,028	9,777	10,513	10,757	11,508	10,952	12,490
Total	123,844	124,614	125,969	121,491	116,506	122,710	119,017	117,249	119,504	125,305	126,401	134,020
Rocky Mountain total	130,641	131,338	131,725	126,289	120,735	127,207	123,806	122,462	125,674	131,010	133,126	139,990
Pacific Coast												
Alaska												
Alaska	128,735	128,577	126,869	127,380	129,045	128,000	128,000	128,000	128,000	128,000	128,000	128,000
Total	128,735	128,577	126,869	127,380	129,045	128,000	128,000	128,000	128,000	128,000	128,000	128,000
Pacific Northwest												
Oregon	29,653	29,787	30,169	29,651	28,721	29,810	30,739	30,261	30,381	30,282	31,729	30,590
Washington	22,174	22,435	22,279	21,727	22,558	23,181	23,050	23,868	24,684	23,908	26,834	25,670
Total	51,827	52,222	52,449	51,378	51,279	52,991	53,789	54,129	55,065	54,190	58,563	56,260
Pacific Southwest												
California	31,515	32,057	32,817	33,721	30,582	32,574	34,541	34,078	35,619	37,404	37,404	44,470
Hawaii	1,471	1,748	1,748	1,748	1,748	1,986	1,982	2,000	2,000	2,000	2,000	2,200
Total	32,986	33,805	34,565	35,469	32,330	34,560	36,523	36,078	37,619	39,404	39,404	46,670
Pacific Coast total	213,549	214,604	213,883	214,226	212,654	215,551	218,312	218,207	220,684	221,594	225,967	230,930
United States	765,493	766,234	752,272	741,937	732,553	742,345	752,786	741,652	737,572	721,415	740,870	1,022,535

[a] Estimates for 1630, 1907 and 1938 include forest area for regions that would become the 50 States within the current United States. Esimates for 2007 and historic years have been adjusted for forest definition change to minimum 10% cover and removal of chaparral as a forest type- refer to 1997 RPA tables for historic estimates prior to this change.

[b] Data for 1909- 1997 adjusted for removal of chaparral type and addition of historic west Texas and west Oklahoma unproductive forest.

[c] Data for 1630 were also from Kellogg (1909) as an estimate of the original forest area based on the current estimate of forest and historic land clearing information. These data are provided here for general reference purposes only to convey the relative extent of the forest estate, in what is now the United States, at the time of European settlement.

Note: Data may not add to totals because of rounding.

Table 4. Forest and woodlands area in the United States by productivity class, region, subregion, and State 2017

Region, subregion, and State	Total forest	Productivity class[a]					Reserved forest land	Woodland[b]
		120 + cu. ft.	85-119 cu. ft.	50-84 cu. ft.	20-49 cu. ft.	0-19 cu. ft.		
		Thousand acres						
North								
Northeast								
Connecticut	1,808	0	95	610	1,066	5	32	0
Delaware	361	5	68	123	150	3	12	0
Maine	17,579	406	2,821	7,558	5,993	150	651	0
Maryland	2,463	115	480	744	842	6	276	0
Massachusetts	3,025	86	243	1,188	1,367	17	125	0
New Hampshire	4,758	167	702	1,864	1,742	5	279	0
New Jersey	1,990	15	152	415	1,157	3	248	0
New York	18,887	568	1,821	6,089	7,225	36	3,148	0
Pennsylvania	16,898	324	1,628	5,883	8,477	15	572	0
Rhode Island	370	3	27	114	211	2	11	0
Vermont	4,511	236	708	1,515	1,829	18	206	0
West Virginia	12,077	519	2,266	4,763	4,159	68	302	0
Total	84,727	2,444	11,010	30,866	34,219	327	5,861	0
North Central								
Illinois	4,980	340	1,524	2,190	624	2	299	0
Indiana	4,876	971	2,036	1,352	354	2	161	0
Iowa	2,923	87	611	1,347	759	21	98	0
Michigan	20,311	737	4,019	7,170	7,398	232	755	0
Minnesota	17,413	276	2,311	5,467	7,649	443	1,267	0
Missouri	15,409	328	3,105	6,854	4,564	209	350	0
Ohio	8,077	331	1,414	3,356	2,633	62	281	0
Wisconsin	17,074	952	3,970	6,572	5,055	151	374	0
Total	91,062	4,022	18,989	34,307	29,036	1,121	3,586	0
North total	175,789	6,467	30,000	65,173	63,255	1,448	9,447	0
South								
Southeast								
Florida	17,253	973	1,972	8,533	3,931	288	1,557	0
Georgia	24,635	6,663	9,771	6,917	710	0	574	0
North Carolina	18,829	2,468	4,197	8,857	2,616	50	641	0
South Carolina	12,931	3,500	4,104	4,449	704	16	159	0
Virginia	16,043	1,621	2,867	7,914	2,987	92	562	0
Total	89,692	15,225	22,911	36,669	10,949	445	3,493	0
South Central								
Alabama	23,127	5,521	6,603	9,619	1,286	0	98	0
Arkansas	19,040	831	3,382	10,532	3,748	40	507	0
Kentucky	12,442	656	2,236	6,213	3,141	0	196	0
Louisiana	14,984	4,664	5,927	3,772	343	27	250	0
Mississippi	19,380	6,593	6,913	5,257	415	9	192	0
Oklahoma	11,911	216	450	1,939	4,536	4,556	214	363
Tennessee	13,967	1,153	2,623	7,572	2,059	9	551	0
Texas	40,970	3,101	5,743	3,151	2,142	26,507	326	22,158
Total	155,821	22,736	33,877	48,055	17,670	31,149	2,334	22,521
South total	245,513	37,961	56,788	84,724	28,619	31,593	5,827	22,521

Table 4. (cont.) Forest and woodlands area in the United States by productivity class, region, subregion, and State 2012

Region, subregion, and State	Total forest	Productivity class[a]					Reserved forest land	Woodland[b]
		120 + cu. ft.	85-119 cu. ft.	50-84 cu. ft.	20-49 cu. ft.	0-19 cu. ft.		
		Thousand acres						
Rocky Mountain								
Great Plains								
Kansas	2,527	46	265	738	1,344	125	9	0
Nebraska	1,532	0	49	323	1,031	102	27	0
North Dakota	789	0	0	86	403	243	56	16
South Dakota	1,949	0	12	200	1,587	103	47	0
Total	6,797	46	326	1,348	4,365	573	140	16
Intermountain								
Arizona	10,934	8	55	881	2,069	7,001	920	7,683
Colorado	20,063	11	342	2,694	7,552	6,798	2,667	2,741
Idaho	21,386	1,917	3,563	5,250	5,803	1,083	3,771	203
Montana	25,517	229	1,373	5,557	12,609	1,980	3,768	367
Nevada	7,487	0	34	22	193	5,955	1,282	3,077
New Mexico	16,619	22	115	1,018	3,124	10,894	1,446	7,982
Utah	12,087	0	85	747	2,918	7,326	1,011	6,209
Wyoming	9,751	0	160	1,329	3,893	1,069	3,302	742
Total	123,844	2,186	5,726	17,497	38,161	42,107	18,167	29,003
Rocky Mountain total	130,641	2,232	6,052	18,845	42,525	42,680	18,307	29,019
Pacific Coast								
Alaska								
Alaska	128,735	314	653	2,030	9,999	82,369	33,370	0
Total	128,735	314	653	2,030	9,999	82,369	33,370	0
Pacific Northwest								
Oregon	29,653	9,266	3,801	5,659	4,943	3,167	2,818	73
Washington	22,174	8,328	3,184	4,196	2,086	560	3,820	165
Total	51,827	17,594	6,985	9,854	7,028	3,728	6,638	238
Pacific Southwest								
California	31,515	5,496	4,940	4,192	1,956	8,559	6,374	5,253
Hawaii	1,471	0	0	0	744	0	727	0
Total	32,986	5,496	4,940	4,192	2,699	8,559	7,101	5,253
Pacific Coast total	213,549	23,403	12,578	16,076	19,727	94,656	47,109	5,490
United States	765,493	70,063	105,417	184,818	154,126	170,377	80,691	57,030

[a] Productivity classes are displayed as cubic feet per acre per year.

[b] Woodland is a class of land which consists predominantly of stands of sparse woodland species such as juniper, pinyon juniper, mesquite and small stature hardwood species and are found in the arid to semiarid regions of the interior Western United States. These areas must span more than 1 acre (0.4 hectares, have sparse trees capable of achieving 16.4 feet (5 meters) in height in situ, and a tree canopy cover of 5-10 percent. When combined with shrubs and bushes these areas may achieve overall cover greater than 10 percent woody vegetation. Trees are defined as woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) in diameter at breast height, or 5 inches (12.7 cm) diameter at root collar, and a height of 16.4 feet (5 meters) at maturity in situ. These areas do not include land that is predominantly under agricultural or urban land use. For some local analysis these lands might be called scrub forest but the preferred terminology is "Forest and Woodland" when adding these areas to forest totals.

Note: Data may not add to totals because of rounding.

Table 5. Forest and woodland area in the Western United States by forest-type group, subregion, productivity class, and ownership group, 2017

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		Douglas fir	Ponderosa pine	Western white pine	Fir-spruce	Hem-lock-Sitka spruce	Larch	Lodge-pole pine	Red-wood	Other soft-woods	Western hard-woods	Pinyon-juniper	Non-stocked	Wood-land[b]
	Thousand acres													
All ownership groups														
Great Plains														
120 +	46	0	0	4	0	0	0	0	0	0	40	2	0	0
85 to 119	328	0	8	0	0	0	0	0	0	61	239	9	11	0
50 to 84	1,360	0	161	0	32	0	0	0	0	192	916	30	28	0
20 to 49	4,471	0	1,222	0	45	0	0	0	0	556	1,816	565	266	0
0-19 (other forest)	573	0	2	0	0	0	0	0	0	54	286	176	55	16
Reserved	20	0	0	0	0	0	0	0	0	4	9	7	0	0
Total	6,798	0	1,392	4	77	0	0	0	0	868	3,308	789	361	16
Intermountain														
120 +	2,357	765	151	36	1,004	238	88	22	0	5	2	0	47	0
85 to 119	6,461	1,873	523	4	2,779	419	279	224	0	5	186	0	168	0
50 to 84	21,225	5,122	2,287	8	8,482	487	626	1,568	0	120	1,739	0	787	0
20 to 49	47,811	9,811	8,872	9	9,367	248	218	8,412	0	1,547	5,310	0	4,016	0
0-19 (other forest)	42,107	218	202	0	153	0	0	639	0	2,376	6,750	27,968	3,801	17,254
Reserved	3,883	5	25	0	135	0	0	142	0	438	569	2,319	250	11,749
Total	123,844	17,794	12,061	56	21,919	1,392	1,211	11,009	0	4,491	14,556	30,287	9,068	29,003
Alaska														
120 +	417	0	0	0	0	370	0	0	0	0	47	0	0	0
85 to 119	799	0	0	0	5	643	0	0	0	0	151	0	0	0
50 to 84	3,217	0	0	0	143	2,553	0	6	0	80	412	0	22	0
20 to 49	14,563	0	0	0	5,546	3,609	0	59	0	269	4,892	0	189	0
0-19 (other forest)	82,369	0	0	0	29,816	3,600	0	377	0	43,074	4,337	0	1,166	0
Reserved	27,370	0	0	0	8,604	1,876	0	22	0	14,739	422	0	1,706	0
Total	128,735	0	0	0	44,115	12,651	0	464	0	58,162	10,261	0	3,083	0
Pacific Northwest														
120 +	18,999	10,800	347	3	1,314	2,946	94	169	6	20	2,691	0	608	0
85 to 119	8,030	3,455	1,021	7	1,510	704	153	196	0	35	818	0	130	0
50 to 84	11,521	3,452	3,275	9	1,989	554	229	763	0	112	611	0	526	0
20 to 49	8,549	2,051	2,402	9	906	576	64	1,360	0	290	357	0	534	0
0-19 (other forest)	3,728	152	93	3	144	108	4	87	0	2,163	755	26	192	238
Reserved	1,001	51	11	0	384	252	0	54	0	179	58	0	14	0
Total	51,827	19,961	7,148	33	6,247	5,140	545	2,628	6	2,798	5,289	26	2,005	238
Pacific Southwest														
120 +	6,435	497	284	7	613	46	0	31	693	2,700	1,436	0	126	0
85 to 119	5,888	321	400	3	742	4	0	21	62	2,932	1,223	0	180	0
50 to 84	5,298	189	776	11	442	6	0	89	6	2,358	1,199	0	221	0
20 to 49	4,573	83	829	95	66	85	0	607	0	1,866	732	16	194	0
0-19 (other forest)	8,559	7	29	6	17	19	0	51	0	1,680	5,820	794	135	4,677
Reserved	2,233	29	26	49	9	42	0	225	0	436	1,000	347	70	575
Total	32,986	1,126	2,344	171	1,889	202	0	1,024	762	11,972	11,410	1,158	926	5,253

Table 5. (cont.) Forest and woodland area in the Western United States by forest-type group, subregion, productivity class, and ownership group, 2017

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		Douglas fir	Ponderosa pine	Western white pine	Fir-spruce	Hem-lock-Sitka spruce	Larch	Lodge-pole pine	Red-wood	Other soft-woods	Western hard-woods	Pinyon-juniper	Non-stocked	Wood-land[b]
	Thousand acres													
West total														
120 +	28,254	12,063	782	50	2,931	3,600	182	222	700	2,726	4,217	2	781	0
85 to 119	21,505	5,649	1,951	15	5,036	1,770	433	441	62	3,032	2,617	9	489	0
50 to 84	42,620	8,762	6,499	28	11,088	3,601	855	2,426	6	2,862	4,878	30	1,584	0
20 to 49	79,968	11,946	13,325	113	15,930	4,518	283	10,437	0	4,528	13,108	582	5,199	0
0-19 (other forest)	137,336	378	326	9	30,130	3,726	4	1,155	0	49,347	17,948	28,964	5,350	22,185
Reserved	34,507	84	62	49	9,133	2,169	0	443	0	15,797	2,057	2,673	2,040	12,324
Total	344,191	38,882	22,945	264	74,247	19,385	1,756	15,124	768	78,292	44,824	32,260	15,443	34,509
						National forest								
Great Plains:														
120 +	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 to 119	12	0	8	0	0	0	0	0	0	0	0	0	4	0
50 to 84	137	0	105	0	21	0	0	0	0	0	6	0	5	0
20 to 49	942	0	707	0	33	0	0	0	0	7	77	21	97	0
0-19 (other forest)	68	0	0	0	0	0	0	0	0	0	7	50	11	16
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1,160	0	820	0	54	0	0	0	0	7	91	71	117	16
Intermountain														
120 +	1,468	532	79	6	629	147	48	6	0	5	0	0	15	0
85 to 119	4,525	1,323	269	3	2,129	249	180	182	0	5	86	0	100	0
50 to 84	15,858	3,605	1,284	0	6,997	361	416	1,283	0	83	1,226	0	602	0
20 to 49	32,396	6,175	4,456	9	7,960	194	128	6,533	0	1,087	3,428	0	2,427	0
0-19 (other forest)	13,928	165	49	0	125	0	0	532	0	1,125	2,874	8,407	652	3,345
Reserved	1,975	5	1	0	111	0	0	59	0	328	443	931	98	466
Total	70,151	11,804	6,137	17	17,951	951	772	8,595	0	2,633	8,057	9,338	3,894	3,811
Alaska														
120 +	273	0	0	0	0	260	0	0	0	0	13	0	0	0
85 to 119	441	0	0	0	5	363	0	0	0	0	72	0	0	0
50 to 84	2,008	0	0	0	14	1,945	0	6	0	0	43	0	0	0
20 to 49	3,016	0	0	0	12	2,929	0	44	0	0	31	0	0	0
0-19 (other forest)	3,369	0	0	0	18	3,004	0	341	0	0	6	0	0	0
Reserved	1,808	0	0	0	0	1,786	0	22	0	0	0	0	0	0
Total	10,914	0	0	0	49	10,287	0	413	0	0	166	0	0	0
Pacific Northwest														
120 +	5,101	2,513	167	3	790	917	75	126	0	7	317	0	186	0
85 to 119	3,916	1,605	380	7	1,086	349	102	128	0	13	179	0	67	0
50 to 84	6,289	1,595	1,592	9	1,491	360	155	553	0	59	158	0	317	0
20 to 49	5,475	1,166	1,455	9	700	425	63	995	0	194	130	0	336	0
0-19 (other forest)	850	108	61	3	116	67	4	56	0	267	107	8	52	3
Reserved	791	31	11	0	331	185	0	43	0	135	42	0	14	0
Total	22,422	7,020	3,665	33	4,514	2,303	399	1,901	0	675	931	9	972	3

Table 5. (cont.) Forest and woodland area in the Western United States by forest-type group, subregion, productivity class, and ownership group, 2017

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		Douglas fir	Ponderosa pine	Western white pine	Fir-spruce	Hemlock-Sitka spruce	Larch	Lodgepole pine	Redwood	Other softwoods	Western hardwoods	Pinyon-juniper	Nonstocked	Woodland[b]
	Thousand acres													
Pacific Southwest														
120 +	2,684	44	136	7	484	8	0	24	10	1,572	324	0	75	0
85 to 119	3,322	104	177	3	558	4	0	13	10	1,894	425	0	132	0
50 to 84	3,426	80	502	11	358	0	0	64	0	1,693	567	0	151	0
20 to 49	2,230	59	595	87	41	48	0	394	0	402	430	16	158	0
0-19 (other forest)	2,290	7	21	6	17	19	0	51	0	729	928	439	73	144
Reserved	1,214	29	26	44	7	35	0	164	0	240	493	140	37	14
Total	15,166	324	1,457	158	1,464	114	0	711	20	6,530	3,167	595	626	158
West total														
120 +	9,526	3,090	381	17	1,903	1,332	123	157	10	1,585	654	0	276	0
85 to 119	12,216	3,032	833	13	3,779	966	282	323	10	1,912	762	0	303	0
50 to 84	27,719	5,280	3,484	20	8,881	2,666	571	1,906	0	1,835	2,000	0	1,075	0
20 to 49	44,058	7,401	7,213	105	8,745	3,596	191	7,966	0	1,690	4,096	37	3,018	0
0-19 (other forest)	20,504	281	130	9	276	3,090	4	980	0	2,121	3,921	8,904	788	3,508
Reserved	5,789	65	37	44	449	2,005	0	288	0	703	978	1,071	149	479
Total	119,812	19,148	12,078	209	24,033	13,655	1,171	11,620	20	9,845	12,411	10,012	5,609	3,987
Other public														
Great Plains														
120 +	15	0	0	4	0	0	0	0	0	0	11	0	0	0
85 to 119	41	0	0	0	0	0	0	0	0	0	37	0	4	0
50 to 84	122	0	19	0	6	0	0	0	0	7	85	4	0	0
20 to 49	334	0	65	0	6	0	0	0	0	44	169	26	24	0
0-19 (other forest)	52	0	0	0	0	0	0	0	0	7	21	19	4	0
Reserved	20	0	0	0	0	0	0	0	0	4	9	7	0	0
Total	583	0	84	4	12	0	0	0	0	62	333	57	32	0
Intermountain														
120 +	294	76	12	6	152	32	7	8	0	0	0	0	0	0
85 to 119	683	173	60	0	316	29	36	12	0	0	33	0	23	0
50 to 84	1,793	408	184	2	717	54	104	132	0	36	111	0	46	0
20 to 49	6,088	1,294	1,059	0	805	36	37	1,367	0	272	608	0	610	0
0-19 (other forest)	14,712	32	36	0	28	0	0	37	0	839	1,034	10,548	2,157	12,953
Reserved	1,908	0	25	0	24	0	0	84	0	111	126	1,388	151	2,268
Total	25,477	1,984	1,375	7	2,042	151	185	1,640	0	1,258	1,911	11,936	2,987	15,221
Alaska														
120 +	87	0	0	0	0	57	0	0	0	0	30	0	0	0
85 to 119	153	0	0	0	0	109	0	0	0	0	43	0	0	0
50 to 84	768	0	0	0	103	276	0	0	0	80	295	0	14	0
20 to 49	8,932	0	0	0	4,340	327	0	15	0	177	3,925	0	149	0
0-19 (other forest)	46,222	0	0	0	7,657	251	0	15	0	34,128	3,397	0	775	0
Reserved	25,562	0	0	0	8,604	90	0	0	0	14,739	422	0	1,706	0
Total	81,724	0	0	0	20,704	1,110	0	30	0	49,124	8,112	0	2,643	0

Table 5. (cont.) Forest and woodland area in the Western United States by forest-type group, subregion, productivity class, and ownership group, 2017

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		Douglas fir	Ponderosa pine	Western white pine	Fir-spruce	Hemlock-Sitka spruce	Larch	Lodgepole pine	Redwood	Other softwoods	Western hardwoods	Pinyon-juniper	Nonstocked	Woodland[b]
	Thousand acres													
Pacific Northwest														
120 +	4,158	2,451	23	0	245	807	5	6	0	7	540	0	74	0
85 to 119	1,228	627	121	0	143	157	17	8	0	0	155	0	0	0
50 to 84	1,335	597	276	0	162	73	13	53	0	17	113	0	32	0
20 to 49	971	339	169	0	79	112	0	107	0	11	85	0	68	0
0-19 (other forest)	1,364	18	5	0	0	5	0	5	0	1,106	138	5	82	57
Reserved	210	19	0	0	53	67	0	11	0	44	16	0	0	0
Total	9,266	4,052	594	0	682	1,220	35	191	0	1,185	1,046	5	257	57
Pacific Southwest														
120 +	648	86	0	0	81	2	0	0	117	191	160	0	11	0
85 to 119	354	19	21	0	52	0	0	0	4	178	80	0	0	0
50 to 84	416	15	36	0	34	0	0	18	6	204	97	0	5	0
20 to 49	1,282	0	30	8	12	35	0	168	0	904	123	0	2	0
0-19 (other forest)	1,197	0	3	0	0	0	0	0	0	383	541	240	30	1,283
Reserved	1,020	0	0	5	2	7	0	61	0	196	507	208	34	556
Total	4,916	119	90	13	181	44	0	247	128	2,058	1,508	448	81	1,839
West total														
120 +	5,202	2,613	35	9	478	899	13	15	117	198	740	0	85	0
85 to 119	2,458	819	202	0	511	295	54	20	4	178	348	0	27	0
50 to 84	4,434	1,020	515	2	1,022	402	117	204	6	345	701	4	97	0
20 to 49	17,607	1,634	1,322	8	5,242	510	37	1,657	0	1,409	4,910	26	852	0
0-19 (other forest)	63,546	50	43	0	7,685	256	0	57	0	36,463	5,131	10,812	3,049	14,294
Reserved	28,719	19	25	5	8,684	164	0	155	0	15,094	1,080	1,602	1,891	2,824
Total	121,967	6,155	2,142	24	23,621	2,526	220	2,108	128	53,687	12,909	12,445	6,001	17,117
						Private corporate								
Great Plains														
120 +	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 to 119	8	0	0	0	0	0	0	0	0	7	2	0	0	0
50 to 84	80	0	8	0	5	0	0	0	0	17	48	0	1	0
20 to 49	114	0	31	0	0	0	0	0	0	14	52	6	10	0
0-19 (other forest)	15	0	0	0	0	0	0	0	0	0	3	6	6	0
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	217	0	39	0	5	0	0	0	0	38	105	12	18	0
Intermountain														
120 +	378	99	12	6	175	37	24	7	0	0	0	0	18	0
85 to 119	605	168	59	2	181	102	28	24	0	0	22	0	20	0
50 to 84	1,183	383	188	0	288	58	61	79	0	0	85	0	42	0
20 to 49	2,723	889	761	0	204	18	39	158	0	44	303	0	308	0
0-19 (other forest)	1,761	6	21	0	0	0	0	0	0	70	475	1,058	132	956
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	6,650	1,545	1,040	8	847	215	151	268	0	114	885	1,058	521	956

Table 5. (cont.) Forest and woodland area in the Western United States by forest-type group, subregion, productivity class, and ownership group, 2017

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		Douglas fir	Ponderosa pine	Western white pine	Fir-spruce	Hemlock-Sitka spruce	Larch	Lodgepole pine	Redwood	Other softwoods	Western hardwoods	Pinyon-juniper	Nonstocked	Woodland[b]
	Thousand acres													
Alaska														
120 +	57	0	0	0	0	53	0	0	0	0	4	0	0	0
85 to 119	196	0	0	0	0	161	0	0	0	0	35	0	0	0
50 to 84	384	0	0	0	18	314	0	0	0	0	44	0	8	0
20 to 49	2,190	0	0	0	1,099	332	0	0	0	92	632	0	34	0
0-19 (other forest)	29,875	0	0	0	20,031	300	0	16	0	8,548	714	0	266	0
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	32,702	0	0	0	21,148	1,160	0	16	0	8,640	1,430	0	308	0
Pacific Northwest														
120 +	7,006	4,636	67	0	194	932	6	1	6	0	924	0	240	0
85 to 119	1,420	709	154	0	179	104	18	15	0	4	194	0	44	0
50 to 84	1,549	479	512	0	230	51	6	63	0	13	144	0	50	0
20 to 49	927	205	327	0	61	5	1	218	0	36	35	0	40	0
0-19 (other forest)	350	13	19	0	11	16	0	13	0	139	121	0	18	64
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	11,253	6,042	1,079	0	676	1,108	30	310	6	193	1,417	0	391	64
Pacific Southwest														
120 +	1,871	208	68	0	36	28	0	7	371	702	412	0	39	0
85 to 119	1,322	87	113	0	105	0	0	7	19	610	333	0	48	0
50 to 84	812	45	129	0	36	0	0	0	0	341	211	0	50	0
20 to 49	630	8	123	0	13	2	0	16	0	349	92	0	27	0
0-19 (other forest)	760	0	4	0	0	0	0	0	0	101	616	32	7	210
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	5,394	347	437	0	190	30	0	31	389	2,103	1,663	32	171	216
West total														
120 +	9,312	4,942	147	6	405	1,050	30	16	377	702	1,340	0	297	0
85 to 119	3,552	964	326	2	464	367	45	46	19	621	586	0	112	0
50 to 84	4,007	907	837	0	577	423	67	142	0	372	532	0	152	0
20 to 49	6,584	1,102	1,242	0	1,378	357	40	391	0	534	1,114	6	419	0
0-19 (other forest)	32,761	19	44	0	20,042	316	0	29	0	8,858	1,929	1,095	428	1,230
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	56,216	7,934	2,595	8	22,866	2,513	182	625	396	11,088	5,501	1,102	1,408	1,235
		Private Non-corporate												
Great Plains														
120 +	31	0	0	0	0	0	0	0	0	0	29	2	0	0
85 to 119	267	0	0	0	0	0	0	0	0	54	200	9	3	0
50 to 84	1,021	0	28	0	0	0	0	0	0	167	777	26	22	0
20 to 49	3,082	0	419	0	6	0	0	0	0	492	1,518	512	135	0
0-19 (other forest)	438	0	2	0	0	0	0	0	0	47	255	100	34	0
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4,839	0	450	0	6	0	0	0	0	761	2,780	649	194	0

Table 5. (cont.) Forest and woodland area in the Western United States by forest-type group, subregion, productivity class, and ownership group, 2017

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		Douglas fir	Ponderosa pine	Western white pine	Fir-spruce	Hem-lock-Sitka spruce	Larch	Lodge-pole pine	Red-wood	Other soft-woods	Western hard-woods	Pinyon-juniper	Non-stocked	Wood-land[b]
	Thousand acres													
Intermountain														
120 +	216	59	48	18	47	21	8	0	0	0	2	0	13	0
85 to 119	647	208	135	0	153	39	36	6	0	0	45	0	25	0
50 to 84	2,391	726	631	6	480	14	45	74	0	0	317	0	97	0
20 to 49	6,604	1,453	2,597	0	398	0	14	355	0	144	972	0	671	0
0-19 (other forest)	11,707	16	96	0	0	0	0	70	0	342	2,367	7,956	860	0
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	9,015
Total	21,566	2,461	3,508	24	1,078	75	103	506	0	486	3,703	7,956	1,666	9,015
Alaska														
120 +	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 to 119	10	0	0	0	0	10	0	0	0	0	0	0	0	0
50 to 84	56	0	0	0	8	18	0	0	0	0	30	0	0	0
20 to 49	425	0	0	0	96	20	0	0	0	0	304	0	6	0
0-19 (other forest)	2,903	0	0	0	2,110	45	0	4	0	398	220	0	125	0
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,395	0	0	0	2,214	93	0	4	0	398	554	0	131	0
Pacific Northwest														
120 +	2,733	1,200	90	0	85	291	8	35	0	6	911	0	108	0
85 to 119	1,465	514	367	0	102	94	17	45	0	17	291	0	19	0
50 to 84	2,347	780	895	0	106	71	55	94	0	23	197	0	127	0
20 to 49	1,176	341	450	0	66	35	0	39	0	49	107	0	90	0
0-19 (other forest)	1,164	13	9	0	17	19	0	13	0	650	390	12	41	114
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	8,887	2,847	1,811	0	376	509	80	226	0	745	1,895	12	385	114
Pacific Southwest														
120 +	1,232	159	80	0	13	8	0	0	196	235	541	0	1	0
85 to 119	890	112	89	0	27	0	0	0	28	250	385	0	0	0
50 to 84	644	49	109	0	14	6	0	7	0	120	324	0	15	0
20 to 49	431	15	82	0	0	0	0	28	0	211	88	0	8	0
0-19 (other forest)	4,313	0	2	0	0	0	0	0	0	467	3,735	84	25	3,040
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	7,511	335	361	0	53	14	0	35	224	1,282	5,072	84	49	3,040
West total														
120 +	4,213	1,417	219	18	145	320	16	35	196	241	1,483	2	122	0
85 to 119	3,280	834	590	0	282	143	52	51	28	321	921	9	47	0
50 to 84	6,459	1,555	1,664	6	608	109	100	175	0	310	1,645	26	261	0
20 to 49	11,719	1,809	3,548	0	566	55	14	423	0	896	2,988	512	909	0
0-19 (other forest)	20,525	28	109	0	2,127	64	0	88	0	1,904	6,967	8,152	1,086	3,154
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	9,015
Total	46,196	5,644	6,130	24	3,728	691	183	772	224	3,672	14,004	8,700	2,425	12,170

[a] Productivity classes are displayed as cubic feet per acre per year.

[b] Woodland is a class of land which consists predominantly of stands of sparse woodland species such as juniper, pinyon juniper, mesquite and small stature hardwood species and are found in the arid to semi-arid regions of the interior western United States. These areas must span more than 1 acre (0.4 hectares, have sparse trees capable of achieving 16.4 feet (5 meters) in height in situ, and a tree canopy cover of 5 to 10 percent. When combined with shrubs and bushes these areas may achieve overall cover greater than 10 percent woody vegetation. Trees are defined as woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) in diameter at breast height, or 5 inches (12.7 cm) diameter at root collar, and a height of 16.4 feet (5 meters) at maturity in situ. These areas do not include land that is predominantly under agricultural or urban land use. For some local analysis these lands might be called scrub forest but the preferred terminology is "Forest and Woodland" when adding these areas to forest totals.

Note: Data may not add to totals because of rounding.

Table 6. Forest and woodlands area in the Eastern United States by forest-type group, subregion, productivity class, and ownership group, 2012

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		White-red-jack pine	Spruce-fir	Long-leaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Aspen-birch	Other forest types	Nonstocked	Woodland[b]
		Thousand acres												
All ownership groups														
Northeast														
120 +	2,456	281	248	0	36	144	564	2	258	772	109	32	12	0
85 to 119	11,031	927	1,329	0	152	513	3,054	22	453	3,831	515	153	82	0
50 to 84	31,039	2,009	3,583	0	279	1,218	8,815	116	1,114	12,040	1,312	465	87	0
20 to 49	34,494	978	1,876	0	816	931	10,762	292	2,014	14,759	1,061	738	268	0
0-19 (other forest)	327	7	138	0	6	10	49	2	65	6	7	9	28	0
Reserved	5,380	248	618	0	108	83	1,040	35	138	2,809	229	62	13	0
Total	84,727	4,450	7,792	0	1,397	2,898	24,285	468	4,041	34,216	3,233	1,459	489	0
North Central														
120 +	4,056	702	99	0	46	204	1,467	17	573	483	392	32	41	0
85 to 119	19,096	1,475	526	0	189	611	7,270	97	2,670	2,602	3,470	75	110	0
50 to 84	34,653	1,447	1,424	0	203	902	14,492	110	4,116	6,194	5,206	265	294	0
20 to 49	29,682	1,385	5,619	0	474	922	7,928	35	4,013	5,914	2,811	268	314	0
0-19 (other forest)	1,121	81	242	0	35	38	293	2	161	45	167	35	24	0
Reserved	2,454	170	220	0	22	61	803	35	410	390	306	17	21	0
Total	91,062	5,261	8,129	0	970	2,737	32,252	297	11,943	15,627	12,352	692	803	0
Southeast														
120 +	15,258	218	0	1,510	8,075	1,646	2,587	645	246	167	1	34	130	0
85 to 119	22,959	47	2	3,183	7,504	2,624	5,823	2,336	686	366	0	135	253	0
50 to 84	36,835	71	6	3,890	6,988	4,287	13,354	5,476	1,114	815	0	290	543	0
20 to 49	11,087	24	18	1,162	1,051	1,247	4,851	1,714	221	185	0	310	303	0
0-19 (other forest)	445	0	0	28	32	31	79	63	75	0	0	100	37	0
Reserved	3,108	9	6	448	173	175	670	1,020	120	75	0	295	117	0
Total	89,692	369	32	10,221	23,823	10,011	27,364	11,252	2,463	1,608	1	1,165	1,383	0
South Central														
120 +	22,736	41	0	451	12,000	2,210	4,389	2,226	862	237	0	148	173	0
85 to 119	33,877	23	0	983	12,020	3,475	8,907	4,705	2,564	600	0	294	306	0
50 to 84	48,055	50	0	1,126	10,926	4,740	20,391	4,664	3,963	1,369	0	405	420	0
20 to 49	17,670	3	0	196	1,276	1,232	11,070	667	2,520	397	0	163	147	0
0-19 (other forest)	31,149	0	0	4	3,564	436	11,150	604	2,527	66	0	8,723	4,073	22,484
Reserved	2,334	8	0	18	295	167	855	573	167	102	0	87	63	0
Total	155,821	125	0	2,779	40,081	12,260	56,763	13,439	12,603	2,770	0	9,820	5,182	0
East total														
120 +	44,507	1,241	347	1,961	20,157	4,203	9,007	2,890	1,938	1,659	502	246	355	0
85 to 119	86,963	2,472	1,857	4,166	19,865	7,224	25,054	7,160	6,373	7,399	3,986	657	750	0
50 to 84	150,582	3,578	5,013	5,016	18,397	11,147	57,052	10,366	10,308	20,417	6,517	1,424	1,345	0
20 to 49	92,933	2,390	7,513	1,358	3,617	4,332	34,611	2,708	8,768	21,254	3,872	1,479	1,031	0
0-19 (other forest)	33,041	88	380	32	3,637	515	11,571	671	2,828	117	174	8,868	4,161	0
Reserved	13,277	434	844	466	598	485	3,368	1,663	835	3,375	535	461	214	0
Total	421,303	10,204	15,953	12,999	66,271	27,906	140,663	25,457	31,050	54,222	15,587	13,135	7,857	22,497

Table 6. (cont.) Forest and woodlands area in the Eastern United States by forest-type group, subregion, productivity class, and ownership group, 2012

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		White-red-jack pine	Spruce-fir	Long-leaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Aspen-birch	Other forest types	Nonstocked	Woodland[b]
		Thousand acres												
National forest														
Northeast														
120 +	64	2	5	0	0	0	13	0	0	40	0	5	0	0
85 to 119	271	16	38	0	0	5	47	0	0	156	4	4	0	0
50 to 84	971	30	110	0	0	12	191	0	8	554	46	19	0	0
20 to 49	1,529	17	122	0	10	23	309	0	7	930	73	37	1	0
0-19 (other forest)	10	0	2	0	0	0	5	0	0	0	0	2	0	0
Reserved	6	0	6	0	0	0	0	0	0	0	0	0	0	0
Total	2,851	66	283	0	10	39	565	0	14	1,680	123	68	2	0
North Central														
120 +	441	101	15	0	28	49	123	0	22	37	57	1	8	0
85 to 119	2,123	338	94	0	95	158	624	2	48	234	528	0	1	0
50 to 84	3,035	302	249	0	50	115	830	8	91	659	705	16	7	0
20 to 49	3,325	370	938	0	16	109	439	0	200	688	517	17	32	0
0-19 (other forest)	130	36	26	0	0	7	11	0	19	2	25	5	0	0
Reserved	23	12	4	0	0	0	1	0	0	6	0	0	0	0
Total	9,077	1,158	1,327	0	189	438	2,028	10	380	1,626	1,832	39	48	0
Southeast														
120 +	515	50	0	8	193	94	148	7	5	5	0	5	0	0
85 to 119	808	15	0	105	204	116	321	32	3	2	0	10	0	0
50 to 84	2,222	29	0	323	244	205	1,126	186	17	68	0	10	14	0
20 to 49	1,900	6	6	144	167	212	1,206	77	5	55	0	10	12	0
0-19 (other forest)	105	0	0	0	10	23	56	3	6	0	0	6	1	0
Reserved	15	0	0	0	7	2	2	3	0	0	0	0	0	0
Total	5,565	99	6	580	826	652	2,859	308	36	130	0	42	27	0
South Central														
120 +	1,274	7	0	94	710	171	230	44	6	10	0	0	2	0
85 to 119	1,662	9	0	219	613	195	458	106	21	40	0	0	1	0
50 to 84	2,970	23	0	260	926	440	1,244	30	16	22	0	6	2	0
20 to 49	1,291	3	0	31	133	88	997	4	29	3	0	2	1	0
0-19 (other forest)	60	0	0	0	2	0	45	6	0	0	0	5	3	0
Reserved	308	0	0	8	99	17	155	7	0	21	0	0	0	0
Total	7,564	42	0	612	2,483	910	3,129	197	72	97	0	12	9	0
East total														
120 +	2,294	160	20	102	932	314	514	50	34	92	57	10	10	0
85 to 119	4,864	377	132	324	913	473	1,450	140	72	433	532	15	2	0
50 to 84	9,198	385	360	583	1,220	772	3,392	225	131	1,304	752	52	24	0
20 to 49	8,046	395	1,066	175	326	432	2,950	81	241	1,676	589	65	47	0
0-19 (other forest)	304	36	28	0	12	29	117	9	25	2	25	18	3	0
Reserved	351	12	10	8	106	19	158	10	0	27	0	0	0	0
Total	25,057	1,365	1,616	1,192	3,509	2,040	8,581	516	502	3,534	1,955	161	86	0

Table 6. (cont.) Forest and woodlands area in the Eastern United States by forest-type group, subregion, productivity class, and ownership group, 2012

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		White-red-jack pine	Spruce-fir	Long-leaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Aspen-birch	Other forest types	Nonstocked	Woodland[b]
		Thousand acres												
		Other public												
Northeast														
120 +	226	34	51	0	9	4	31	1	15	82	0	0	0	0
85 to 119	1,166	175	124	0	44	48	360	1	39	313	43	17	3	0
50 to 84	3,585	243	230	0	62	180	1,258	31	136	1,270	74	73	28	0
20 to 49	5,622	109	126	0	377	225	2,486	120	245	1,614	66	213	41	0
0-19 (other forest)	53	0	17	0	0	0	4	0	20	0	0	0	12	0
Reserved	5,375	248	612	0	108	83	1,040	35	138	2,809	229	62	13	0
Total	16,027	808	1,160	0	599	539	5,178	187	594	6,087	412	366	96	0
North Central														
120 +	508	130	34	0	4	15	101	5	45	36	131	3	5	0
85 to 119	3,237	437	115	0	12	105	703	14	266	342	1,196	21	24	0
50 to 84	5,802	414	432	0	8	132	1,540	18	527	892	1,722	58	60	0
20 to 49	6,706	473	2,576	0	16	132	731	3	778	922	893	92	89	0
0-19 (other forest)	334	28	164	0	3	0	20	2	42	6	51	7	13	0
Reserved	2,431	157	216	0	22	61	802	35	410	384	306	17	21	0
Total	19,018	1,640	3,537	0	65	444	3,897	77	2,067	2,582	4,299	198	211	0
Southeast														
120 +	740	12	0	111	354	80	122	17	33	5	0	6	0	0
85 to 119	1,582	2	0	399	448	195	283	160	60	8	0	12	15	0
50 to 84	3,387	6	0	716	448	404	809	777	76	22	0	72	57	0
20 to 49	1,864	0	12	410	184	216	419	445	23	12	0	97	44	0
0-19 (other forest)	149	0	0	28	12	3	11	29	13	0	0	36	18	0
Reserved	3,094	9	6	448	166	173	668	1,017	120	75	0	295	117	0
Total	10,816	28	18	2,111	1,612	1,071	2,312	2,446	325	123	0	519	251	
South Central														
120 +	869	0	0	10	257	117	199	179	89	9	0	9	0	0
85 to 119	1,488	3	0	31	252	126	315	525	197	9	0	14	17	0
50 to 84	2,657	3	0	90	251	155	948	598	456	81	0	27	47	0
20 to 49	1,112	0	0	30	85	63	569	95	254	4	0	7	6	0
0-19 (other forest)	1,163	0	0	0	244	41	324	26	146	0	0	229	154	1,483
Reserved	2,027	8	0	9	196	150	700	566	167	81	0	87	63	37
Total	9,315	14	0	171	1,284	652	3,054	1,988	1,308	185	0	373	286	1,328
East total														
120 +	2,343	176	85	121	624	215	452	202	182	132	131	18	5	0
85 to 119	7,473	618	239	430	756	474	1,661	700	561	672	1,240	64	59	0
50 to 84	15,432	666	663	806	768	871	4,555	1,424	1,195	2,266	1,796	231	192	0
20 to 49	15,303	582	2,714	440	663	637	4,205	663	1,299	2,552	959	410	179	0
0-19 (other forest)	1,699	28	182	28	258	44	358	56	221	6	51	272	196	0
Reserved	12,926	422	834	457	492	466	3,210	1,653	835	3,348	535	461	214	0
Total	55,176	2,491	4,716	2,282	3,561	2,706	14,440	4,698	4,293	8,977	4,711	1,456	844	1,328

Table 6. (cont.) Forest and woodlands area in the Eastern United States by forest-type group, subregion, productivity class, and ownership group, 2012

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		White-red-jack pine	Spruce-fir	Long-leaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Aspen-birch	Other forest types	Nonstocked	Woodland[b]
		Thousand acres												
Private corporate														
Northeast														
120 +	600	33	101	0	5	5	184	0	37	209	25	0	1	0
85 to 119	3,408	131	762	0	38	74	758	0	130	1,246	220	35	12	0
50 to 84	9,118	304	2,305	0	107	163	1,875	25	136	3,536	570	88	9	0
20 to 49	8,964	235	1,156	0	99	146	2,005	33	432	4,270	366	155	66	0
0-19 (other forest)	113	7	64	0	0	8	0	0	10	6	7	0	11	0
Reserved	0													
Total	22,203	710	4,388	0	249	395	4,823	58	746	9,268	1,188	278	99	0
North Central														
120 +	394	83	12	0	6	8	126	4	57	47	33	8	11	0
85 to 119	1,542	137	77	0	17	51	406	0	245	276	319	4	10	0
50 to 84	3,116	135	206	0	34	66	812	10	369	906	523	30	25	0
20 to 49	3,054	157	537	0	31	65	429	0	360	1,166	250	29	30	0
0-19 (other forest)	109	3	21	0	0	11	20	0	19	18	17	0	1	0
Reserved	0													
Total	8,216	515	854	0	88	200	1,792	14	1,050	2,412	1,141	71	78	0
Southeast														
120 +	5,616	27	0	646	3,507	452	526	254	95	27	0	4	77	0
85 to 119	7,656	6	0	1,368	3,016	756	1,221	881	207	31	0	40	131	0
50 to 84	11,219	16	0	1,988	2,507	1,109	2,604	2,178	348	112	0	71	287	0
20 to 49	2,791	3	0	362	273	249	951	582	81	22	0	102	165	0
0-19 (other forest)	129	0	0	0	11	0	0	10	42	0	0	54	13	0
Reserved	0													
Total	27,412	52	0	4,363	9,314	2,567	5,302	3,905	774	191	0	271	673	0
South Central														
120 +	8,759	9	0	256	5,456	682	980	813	308	76	0	74	107	0
85 to 119	11,999	0	0	398	5,838	1,013	1,885	1,617	960	87	0	104	97	0
50 to 84	12,712	5	0	366	4,812	1,158	3,409	1,586	903	225	0	84	164	0
20 to 49	2,751	0	0	40	317	212	1,428	229	383	55	0	41	46	0
0-19 (other forest)	5,481	0	0	0	387	109	1,619	109	415	8	0	1,657	1,177	5,268
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	41,702	13	0	1,060	16,809	3,174	9,320	4,354	2,969	451	0	1,960	1,591	4,074
East total														
120 +	15,369	151	113	901	8,974	1,147	1,816	1,071	498	358	58	86	196	0
85 to 119	24,605	274	839	1,766	8,909	1,893	4,269	2,498	1,543	1,641	538	183	250	0
50 to 84	36,165	459	2,511	2,354	7,460	2,496	8,699	3,799	1,757	4,779	1,093	273	486	0
20 to 49	17,560	396	1,693	402	719	672	4,813	844	1,256	5,513	616	327	307	0
0-19 (other forest)	5,833	10	85	0	398	127	1,639	119	486	32	24	1,711	1,201	0
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	99,532	1,291	5,242	5,423	26,460	6,336	21,237	8,331	5,539	12,323	2,329	2,581	2,441	4,074

Table 6. (cont.) Forest and woodlands area in the Eastern United States by forest-type group, subregion, productivity class, and ownership group, 2012

Subregion and productivity class[a]	All forest types	Forest-type group												All types
		White-red-jack pine	Spruce-fir	Long-leaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Aspen-birch	Other forest types	Nonstocked	Woodland[b]
		Thousand acres												
Private non-corporate														
Northeast														
120 +	1,567	212	91	0	22	135	336	1	205	441	84	27	10	0
85 to 119	6,186	603	405	0	70	386	1,889	21	284	2,115	249	97	67	0
50 to 84	17,364	1,433	938	0	111	864	5,491	59	834	6,679	622	283	50	0
20 to 49	18,379	617	472	0	330	537	5,962	139	1,330	7,945	556	333	159	0
0-19 (other forest)	151	0	54	0	6	2	40	2	35	0	0	6	5	0
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	43,647	2,865	1,961	0	539	1,925	13,719	222	2,687	17,180	1,511	747	292	0
North Central														
120 +	2,713	389	37	0	8	132	1,117	8	449	364	172	21	17	0
85 to 119	12,194	563	240	0	65	297	5,536	81	2,111	1,749	1,427	50	74	0
50 to 84	22,700	596	536	0	111	589	11,310	74	3,129	3,736	2,256	160	202	0
20 to 49	16,597	384	1,567	0	411	615	6,329	32	2,675	3,137	1,152	130	163	0
0-19 (other forest)	548	15	30	0	32	20	242	0	81	19	74	23	10	0
Reserved	0													
Total	54,752	1,947	2,411	0	627	1,654	24,535	196	8,446	9,006	5,080	384	465	0
Southeast														
120 +	8,386	128	0	745	4,021	1,020	1,790	367	112	130	1	19	53	0
85 to 119	12,912	25	2	1,312	3,835	1,558	3,999	1,262	416	325	0	72	107	0
50 to 84	20,006	20	6	863	3,788	2,569	8,815	2,335	674	613	0	137	185	0
20 to 49	4,532	15	0	246	426	569	2,275	610	112	96	0	100	83	0
0-19 (other forest)	62	0	0	0	0	6	12	20	14	0	0	4	6	0
Reserved	0													
Total	45,899	189	8	3,167	12,071	5,721	16,892	4,594	1,328	1,164	1	333	433	0
South Central														
120 +	11,834	25	0	91	5,576	1,240	2,980	1,191	459	142	0	65	65	0
85 to 119	18,728	11	0	334	5,317	2,142	6,250	2,458	1,386	463	0	176	191	0
50 to 84	29,716	19	0	410	4,938	2,986	14,790	2,450	2,588	1,040	0	288	207	0
20 to 49	12,517	0	0	95	742	869	8,076	338	1,855	334	0	114	93	0
0-19 (other forest)	24,445	0	0	4	2,932	286	9,163	464	1,966	57	0	6,832	2,740	15,733
Reserved	0													
Total	97,240	55	0	935	19,504	7,524	41,260	6,900	8,254	2,037	0	7,475	3,296	17,095
East total														
120 +	24,499	754	128	837	9,627	2,527	6,224	1,566	1,224	1,078	258	132	144	0
85 to 119	50,022	1,203	647	1,646	9,287	4,384	17,674	3,822	4,197	4,653	1,675	395	439	0
50 to 84	89,786	2,068	1,480	1,273	8,948	7,008	40,407	4,918	7,226	12,068	2,877	868	644	0
20 to 49	52,025	1,017	2,039	341	1,908	2,590	22,643	1,119	5,972	11,512	1,708	677	498	0
0-19 (other forest)	25,205	15	85	4	2,970	314	9,457	486	2,096	76	74	6,866	2,761	0
Reserved	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	241,537	5,057	4,379	4,102	32,741	16,823	96,405	11,911	20,715	29,387	6,592	8,938	4,486	17,095

[a] Productivity classes are displayed as cubic feet per acre per year.

[b] Woodland is a class of land which consists predominantly of stands of sparse woodland species such as juniper, pinyon juniper, mesquite and small stature hardwood species and are found in the arid to semi-arid regions of the interior western United States. These areas must span more than 1 acre (0.4 hectares, have sparse trees capable of achieving 16.4 feet (5 meters) in height in situ, and a tree canopy cover of 5 to 10 percent. When combined with shrubs and bushes these areas may achieve overall cover greater than 10 percent woody vegetation. Trees are defined as woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) in diameter at breast height, or 5 inches (12.7 cm) diameter at root collar, and a height of 16.4 feet (5 meters) at maturity in situ. These areas do not include land that is predominantly under agricultural or urban land use. For some local analysis these lands might be called scrub forest but the preferred terminology is "Forest and Woodland" when adding these areas to forest totals.

Note: Data may not add to totals because of rounding.

Table 7. Forest and woodland area in the Eastern and Western United States by rural-urban continuum class and forest type group, 2017

Forest type group	Total	Predominant county population continuum class				
		Major metro	Intermediate-small metro	Large town	Small town	Rural
	Thousand acres					
East						
White-red-jack pine	10,204	1,987	1,799	357	4,358	1,703
Spruce-fir	15,953	1,397	1,164	689	9,592	3,111
Longleaf-slash pine	12,999	3,863	3,057	492	4,632	955
Loblolly-shortleaf pine	66,271	16,607	11,675	1,774	25,758	10,457
Oak-pine	27,906	7,846	5,471	667	9,894	4,027
Oak-hickory	140,663	37,306	26,543	3,521	49,195	24,098
Oak-gum-cypress	25,457	7,333	5,208	719	9,268	2,929
Elm-ash-cottonwood	31,050	9,283	5,842	788	11,358	3,780
Maple-beech-birch	54,222	8,547	11,474	2,188	23,317	8,696
Aspen-birch	15,587	2,454	1,183	489	7,890	3,571
Other forest types	13,135	3,054	2,150	299	5,169	2,463
Nonstocked	7,857	1,712	1,268	256	3,072	1,548
East total	421,303	101,390	76,834	12,240	163,502	67,337
West						
Douglas-fir	38,882	7,287	10,269	3,494	11,563	6,269
Ponderosa pine	22,945	2,217	5,730	1,382	8,724	4,892
Western white pine	264	84	23	0	105	53
Fir-spruce	74,247	2,639	4,599	2,976	15,220	48,813
Hemlock-Sitka spruce	19,385	1,715	2,041	1,194	4,882	9,553
Larch	1,756	131	247	243	835	301
Lodgepole pine	15,124	1,144	1,534	2,010	7,301	3,136
Redwood	768	204	264	262	38	0
Other softwoods	78,292	2,869	3,951	1,456	8,446	61,571
Western hardwoods	44,824	7,106	10,024	2,598	10,666	14,430
Pinyon-juniper	32,260	2,011	9,075	2,017	13,390	5,767
Nonstocked	15,443	1,112	2,681	1,049	4,807	5,793
West total	344,190	28,518	50,439	18,680	85,976	160,578
United States	765,493	129,908	127,273	30,920	249,478	227,914
Woodland						
East total	22,521	1,952	2,531	709	10,097	7,232
West total	34,509	6,421	11,035	2,507	10,387	4,158
United States	57,030	8,373	13,566	3,216	20,484	11,390

[a] Some low productivity and reserved forest land has not been inventoried and its forest type group remains unclassified.
Note: Data may not add to totals because of rounding.

Table 8. Area of forest and woodlands by region, forest-type group, ownership class and stand origin, 2017

Region and forest-type group	All owners			National forest			Other public			Private corporate			Private noncorporate		
	Total	Planted	Natural origin	Total	Planted	Natural origin	Total	Planted	Natural origin	Total	Planted	Natural origin	Total	Planted	Natural origin
	Thousand acres														
North															
White-red-jack pine	9,710	3,148	6,562	1,224	583	641	2,448	919	1,529	1,225	441	784	4,812	1,205	3,608
Spruce-fir	15,921	745	15,176	1,610	65	1,545	4,698	161	4,537	5,242	219	5,023	4,371	300	4,072
Loblolly-shortleaf pine	2,367	393	1,974	199	85	114	664	71	593	337	105	232	1,166	132	1,034
Oak-pine	5,635	332	5,303	477	79	399	984	64	920	595	50	545	3,579	140	3,439
Oak-hickory	56,536	367	56,169	2,593	17	2,577	9,074	67	9,007	6,615	59	6,556	38,254	224	38,030
Oak-gum-cypress	765	9	756	10	-	10	264	5	259	72	2	71	418	2	416
Elm-ash-cottonwood	15,984	260	15,723	394	4	390	2,660	29	2,631	1,796	55	1,741	11,133	173	10,960
Maple-beech-birch	49,843	486	49,358	3,307	17	3,290	8,670	119	8,551	11,681	87	11,594	26,186	263	25,923
Aspen-birch	15,585	189	15,396	1,955	28	1,927	4,711	68	4,642	2,329	32	2,297	6,591	61	6,530
Other forest types	2,151	100	2,052	107	3	104	564	28	537	350	26	324	1,131	43	1,088
Nonstocked	1,291	56	1,236	50	0	50	307	9	298	177	8	169	757	39	719
North total	175,789	6,084	169,705	11,928	880	11,047	35,045	1,540	33,505	30,418	1,083	29,336	98,398	2,581	95,817
South															
White-red-jack pine	494	86	408	141	5	136	43	0	43	66	9	56	244	71	173
Spruce-fir	32	8	24	6	0	6	18	0	18	0	0	0	8	8	0
Longleaf-slash pine	12,999	7,200	5,799	1,192	258	934	2,282	650	1,632	5,423	3,891	1,532	4,102	2,401	1,700
Loblolly-shortleaf pine	63,904	34,202	29,702	3,309	514	2,795	2,896	708	2,188	26,123	19,674	6,448	31,575	13,305	18,270
Oak-pine	22,271	3,397	18,873	1,563	73	1,489	1,723	102	1,621	5,741	1,638	4,102	13,244	1,584	11,661
Oak-hickory	84,127	1,641	82,486	5,988	22	5,966	5,366	69	5,297	14,622	762	13,860	58,151	788	57,363
Oak-gum-cypress	24,692	796	23,896	505	4	501	4,434	143	4,291	8,259	279	7,979	11,494	368	11,125
Elm-ash-cottonwood	15,066	320	14,746	108	0	108	1,633	31	1,602	3,744	110	3,633	9,582	179	9,403
Maple-beech-birch	4,378	48	4,330	227	0	227	308	0	308	642	16	627	3,201	32	3,169
Aspen-birch	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
Other forest types	10,984	72	10,912	54	0	54	892	13	879	2,231	39	2,192	7,807	20	7,788
Nonstocked	6,565	467	6,098	36	2	34	537	33	504	2,264	310	1,954	3,728	121	3,607
South total	245,513	48,236	197,277	13,130	878	12,251	20,131	1,749	18,382	69,114	26,730	42,384	143,139	18,878	124,261
Rocky Mountain															
Douglas-fir	17,794	82	17,712	11,804	69	11,735	1,984	5	1,979	1,545	8	1,537	2,461	0	2,461
Ponderosa pine	13,453	207	13,246	6,957	114	6,843	1,459	6	1,453	1,079	33	1,046	3,957	54	3,904
Western white pine	60	10	50	17	3	15	11	2	9	8	0	8	24	6	18
Fir-spruce	21,996	84	21,912	18,006	26	17,980	2,054	11	2,043	852	40	813	1,084	7	1,077
Hemlock-Sitka spruce	1,392	0	1,392	951	0	951	151	0	151	215	0	215	75	0	75
Larch	1,211	59	1,153	772	20	752	185	11	174	151	21	130	103	6	97
Lodgepole pine	11,009	41	10,968	8,595	27	8,568	1,640	0	1,640	268	14	254	506	0	506
Redwood	0	0	0	0			0			0			0		
Other softwoods	5,359	25	5,334	2,640	0	2,640	1,320	0	1,320	151	0	151	1,247	25	1,222
Western hardwoods	17,864	118	17,746	8,147	20	8,126	2,243	19	2,225	990	7	984	6,483	72	6,411
Other forest types	31,076	54	31,022	9,409	6	9,403	11,993	7	11,986	1,070	0	1,070	8,604	41	8,563
Nonstocked	9,428	29	9,400	4,011	12	3,999	3,020	7	3,013	538	4	534	1,860	6	1,854
Rocky Mountain total	130,641	708	129,934	71,310	297	71,012	26,060	67	25,993	6,867	127	6,741	26,404	217	26,187

Table 8. (cont.) Area of forest and woodlands by region, forest-type group, ownership class and stand origin, 2017

Region and forest-type group	All owners			National forest			Other public			Private corporate			Private noncorporate		
	Total	Planted	Natural origin	Total	Planted	Natural origin	Total	Planted	Natural origin	Total	Planted	Natural origin	Total	Planted	Natural origin
	Thousand acres														
Pacific Coast															
Douglas-fir	21,087	8,130	12,957	7,344	1,304	6,040	4,171	1,425	2,746	6,390	4,630	1,759	3,183	771	2,412
Ponderosa pine	9,493	1,189	8,304	5,121	664	4,457	683	35	648	1,516	379	1,136	2,172	110	2,062
Western white pine	204	4	200	191	4	187	13	0	13	0	0	0	0	0	0
Fir-spruce	52,251	390	51,861	6,027	191	5,837	21,567	24	21,543	22,013	159	21,854	2,643	15	2,628
Hemlock-Sitka spruce	17,993	760	17,233	12,704	112	12,593	2,374	128	2,247	2,298	439	1,860	616	82	534
Larch	545	34	511	399	26	373	35	0	35	30	7	24	80	1	79
Lodgepole pine	4,116	162	3,954	3,025	146	2,879	468	2	466	357	10	347	266	4	262
Redwood	768	54	714	20	3	17	128	0	128	396	51	345	224	0	224
Other softwoods	72,933	451	72,482	7,205	174	7,031	52,367	32	52,335	10,936	241	10,696	2,425	4	2,420
Western hardwoods	26,961	1,328	25,633	4,263	241	4,023	10,666	170	10,496	4,511	639	3,872	7,521	279	7,242
Other forest types	1,184	0	1,184	603	0	603	453	0	453	32	0	32	96	0	96
Nonstocked	6,014	475	5,539	1,598	205	1,393	2,981	26	2,955	870	173	697	565	71	494
Pacific Coast total	213,549	12,977	200,572	48,502	3,070	45,431	95,907	1,841	94,066	49,349	6,727	42,622	19,792	1,339	18,453
United States	765,493	68,005	697,488	144,868	5,126	139,742	177,143	5,197	171,946	155,748	34,666	121,082	287,733	23,015	264,718
Woodland[a]															
North	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South	22,521	0	22,521	0	-	-	1,520	-	1,520	5,268	-	5,268	15,733	-	15,733
Rocky Mountain	29,019	0	29,019	3,826	-	3,826	15,221	-	15,221	956	-	956	9,015	-	9,015
Pacific Coast	5,490	2	5,488	160	2	158	1,896	-	1,896	280	-	280	3,154	-	3,154
United States	57,030	2	57,027	3,987	2	3,985	18,638	0	18,638	6,503	0	6,503	27,902	0	27,902

[a] Woodland is a class of land which consists predominantly of stands of sparse woodland species such as juniper, pinyon juniper, mesquite and small stature hardwood species and are found in the arid to semiarid regions of the interior western United States. These areas must span more than 1 acre (0.4 hectares, have sparse trees capable of achieving 16.4 feet (5 meters) in height in situ, and a tree canopy cover of 5 to 10 percent. When combined with shrubs and bushes these areas may achieve overall cover greater than 10 percent woody vegetation. Trees are defined as woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) in diameter at breast height, or 5 inches (12.7 cm) diameter at root collar, and a height of 16.4 feet (5 meters) at maturity in situ. These areas do not include land that is predominantly under agricultural or urban land use. For some local analysis these lands might be called scrub forest but the preferred terminology is "Forest and Woodland" when adding these areas to forest totals.

Note: Data may not add to totals because of rounding.

Table 9. Forest and woodland area in the East and West by forest-type group and average d.b.h. class, 2017

Forest-type group	Total	Average d.b.h class (inches)			
		1.0-4.9	5.0-9.9	10.0+	Undetermined[a]
	Thousand acres				
East					
White-red-jack pine	10,204	1,034	1,811	7,358	0
Spruce-fir	15,953	6,107	5,612	4,234	0
Longleaf-slash pine	12,999	2,691	4,342	5,967	0
Loblolly-shortleaf pine	66,271	11,853	20,876	33,542	0
Oak-pine	27,906	6,556	6,756	14,593	0
Oak-hickory	140,663	20,317	31,052	89,294	0
Oak-gum-cypress	25,457	4,998	4,610	15,849	0
Elm-ash-cottonwood	31,050	7,543	8,500	15,007	0
Maple-beech-birch	54,222	6,237	14,544	33,441	0
Aspen-birch	15,587	5,987	6,714	2,886	0
Other forest types	13,135	4,562	2,593	5,980	0
Nonstocked	7,857	7,857	0	0	0
East total	421,303	85,741	107,411	228,150	0
West					
Douglas-fir	38,882	4,796	4,122	29,963	0
Ponderosa pine	22,945	1,928	1,441	19,576	0
Western white pine	264	79	5	180	0
Fir-spruce	74,247	12,280	6,944	25,435	29,589
Hemlock-Sitka spruce	19,385	2,816	849	15,714	6
Larch	1,756	330	271	1,156	0
Lodgepole pine	15,124	4,727	4,864	5,533	0
Redwood	768	36	32	701	0
Other softwoods	78,292	4,507	2,203	15,041	56,542
Western hardwoods	44,824	12,362	13,396	15,163	3,903
Pinyon-juniper	32,260	1,137	2,860	28,263	0
Nonstocked	15,443	12,768	0	6	2,669
West total	344,190	57,766	36,987	156,729	92,709
United States	765,493	143,507	144,398	384,879	92,709
Woodland[b]					
East total	22,521	14,045	3,851	4,625	0
West total	34,509	10,238	2,176	22,096	0
United States	57,030	24,283	6,027	26,720	0

[a] Undetermined stands are predominantly in reserved and low productivity forests that currently do not have field data to establish average d.b.h.

[b] Woodland is a class of land which consists predominantly of stands of sparse woodland species such as juniper, pinyon juniper, mesquite and small stature hardwood species and are found in the arid to semiarid regions of the interior western United States. These areas must span more than 1 acre (0.4 hectares, have sparse trees capable of achieving 16.4 feet (5 meters) in height in situ, and a tree canopy cover of 5 to 10 percent. When combined with shrubs and bushes these areas may achieve overall cover greater than 10 percent woody vegetation. Trees are defined as woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) in diameter at breast height, or 5 inches (12.7 cm) diameter at root collar, and a height of 16.4 feet (5 meters) at maturity in situ. These areas do not include land that is predominantly under agricultural or urban land use. For some local analysis these lands might be called scrub forest but the preferred terminology is "Forest and Woodland" when adding these areas to forest totals.

Note: Data may not add to totals because of rounding.

Table 10. Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public						Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
Northeast												
Connecticut	2017	1,771	471	6	0	0	6	294	170	1,300	236	1,065
	2012	1,696	467	14	0	0	14	291	162	1,229	190	1,038
	2007	1,732	393	0	0	0	0	257	136	1,339	235	1,104
	1997	1,815	249	10	0	0	10	163	77	1,565	b	c
	1987	1,776	246	16	0	0	16	156	74	1,530	b	c
	1977	1,805	146	2	0	0	2	120	24	1,659	b	c
	1953	1,973	155	1	0	0	1	122	32	1,818	b	c
Delaware	2017	346	71	6	0	0	6	58	8	275	54	221
	2012	330	74	8	0	0	8	59	7	256	60	197
	2007	376	25	0	0	0	0	25	0	351	107	244
	1997	376	13	0	0	0	0	13	0	363	b	c
	1987	388	14	0	0	0	0	14	0	374	b	c
	1977	384	14	1	0	0	1	13	0	370	b	c
	1953	392	13	1	0	0	1	10	2	379	b	c
Maine	2017	16,778	970	69	51	0	19	699	202	15,807	9,903	5,904
	2012	17,192	960	125	51	0	73	643	192	16,232	10,077	6,155
	2007	17,163	758	109	47	0	62	491	158	16,405	10,199	6,207
	1997	16,952	629	51	32	0	20	469	109	16,323	b	c
	1987	17,174	495	76	46	0	30	331	88	16,679	b	c
	1977	16,864	541	73	38	0	36	354	114	16,323	b	c
	1953	16,609	182	90	39	0	51	41	51	16,427	b	c
Maryland	2017	2,180	404	18	0	0	18	299	87	1,776	425	1,351
	2012	2,329	555	38	0	0	38	399	119	1,773	408	1,366
	2007	2,372	422	26	0	0	26	310	86	1,950	493	1,457
	1997	2,423	281	22	0	0	22	236	23	2,143	b	c
	1987	2,462	280	22	0	0	22	236	22	2,182	b	c
	1977	2,523	243	25	0	0	25	185	33	2,280	b	c
	1953	2,855	214	54	0	0	54	128	32	2,641	b	c
Massachusetts	2017	2,884	940	29	0	0	29	518	393	1,944	359	1,585
	2012	2,936	970	57	0	0	57	560	354	1,965	309	1,657
	2007	2,947	832	60	0	0	60	546	226	2,114	167	1,947
	1997	2,965	480	48	0	0	48	275	157	2,486	b	c
	1987	3,010	474	40	0	0	40	292	142	2,536	b	c
	1977	2,798	366	10	0	0	10	240	116	2,432	b	c
	1953	3,259	399	29	0	0	29	280	90	2,860	b	c
New Hampshire	2017	4,474	1,018	660	610	0	50	127	230	3,457	813	2,644
	2012	4,641	1,113	677	625	0	52	210	226	3,527	778	2,749
	2007	4,674	1,086	680	626	0	54	249	156	3,588	803	2,786
	1997	4,551	793	440	417	0	22	228	125	3,758	b	c
	1987	4,803	788	536	506	0	30	133	119	4,015	b	c
	1977	4,692	580	472	459	0	13	79	29	4,112	b	c
	1953	4,819	682	585	580	0	5	45	52	4,137	b	c

Table 10. (cont.) Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public						Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
New Jersey	2017	1,740	787	69	0	0	69	520	199	953	302	651
	2012	1,845	894	75	0	0	75	598	221	951	251	700
	2007	1,876	588	54	0	0	54	475	59	1,288	497	792
	1997	1,864	500	49	0	0	49	351	100	1,364	b	c
	1987	1,914	533	246	0	0	246	224	63	1,381	b	c
	1977	1,857	319	28	0	0	28	246	45	1,538	b	c
	1953	2,050	181	1	0	0	1	130	50	1,869	b	c
New York	2017	15,703	1,725	114	15	0	99	1,082	528	13,978	2,828	11,150
	2012	15,920	1,789	126	16	0	111	1,152	511	14,130	2,585	11,545
	2007	16,015	1,722	129	11	0	118	1,134	458	14,293	2,214	12,079
	1997	15,406	1,154	86	9	0	77	852	215	14,252	b	c
	1987	15,798	1,215	123	6	0	117	899	193	14,583	b	c
	1977	15,405	979	95	6	0	89	721	163	14,426	b	c
	1953	11,952	895	98	0	0	98	714	83	11,057	b	c
Pennsylvania	2017	16,312	4,485	559	480	0	78	3,423	504	11,826	2,348	9,479
	2012	16,241	4,492	578	485	0	92	3,408	506	11,750	2,111	9,638
	2007	16,018	4,367	538	482	0	57	3,427	401	11,651	2,108	9,544
	1997	15,853	3,519	498	446	0	51	2,788	233	12,334	b	c
	1987	15,918	3,487	543	478	0	65	2,731	213	12,431	b	c
	1977	15,925	3,472	503	485	0	18	2,796	173	12,453	b	c
	1953	14,574	3,229	492	454	0	38	2,580	157	11,345	b	c
Rhode Island	2017	356	91	0	0	0	0	53	38	265	53	212
	2012	355	88	0	0	0	0	55	32	267	47	220
	2007	351	53	0	0	0	0	42	10	298	52	246
	1997	356	69	5	0	0	5	64	0	287	b	c
	1987	368	78	3	0	0	3	68	7	290	b	c
	1977	395	32	0	0	0	0	20	12	363	b	c
	1953	430	26	0	0	0	0	13	13	404	b	c
Vermont	2017	4,288	707	343	329	0	13	293	71	3,581	705	2,876
	2012	4,477	832	398	347	0	51	385	49	3,644	645	2,999
	2007	4,482	633	286	255	0	32	275	72	3,850	755	3,094
	1997	4,461	593	251	221	0	31	271	70	3,868	b	c
	1987	4,424	660	251	251	0	0	330	79	3,764	b	c
	1977	4,430	422	213	209	0	4	168	41	4,008	b	c
	1953	3,846	297	199	191	0	8	79	19	3,549	b	c
West Virginia	2017	11,707	1,285	980	869	0	110	251	55	10,422	4,064	6,358
	2012	11,862	1,342	1,026	919	0	106	257	60	10,520	3,828	6,692
	2007	11,797	1,402	1,087	980	0	107	238	77	10,395	3,230	7,165
	1997	11,900	1,324	1,033	904	0	128	253	38	10,576	b	c
	1987	11,799	1,320	1,070	916	0	154	250	0	10,479	b	c
	1977	11,484	1,121	892	853	0	39	229	0	10,363	b	c
	1953	10,276	982	895	881	0	14	83	4	9,294	b	c

Table 10. (cont.) Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public						Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
Northeast total	2017	78,539	12,954	2,852	2,355	0	498	7,617	2,485	65,586	22,090	43,496
	2012	79,822	13,576	3,122	2,443	0	679	8,016	2,438	66,246	21,290	44,956
	2007	79,803	12,280	2,971	2,401	0	570	7,470	1,838	67,523	20,860	46,663
	1997	78,923	9,603	2,491	2,029	0	462	5,966	1,146	69,320	b	c
	1987	79,834	9,590	2,926	2,203	0	723	5,664	1,000	70,244	b	c
	1977	78,562	8,235	2,314	2,050	0	265	5,171	750	70,327	b	c
	1953	73,035	7,255	2,445	2,145	0	300	4,225	585	65,780	b	c
North Central												
Illinois	2017	4,679	541	324	268	0	56	113	104	4,138	341	3,797
	2012	4,771	773	357	273	0	84	216	200	3,999	246	3,753
	2007	4,363	639	352	281	0	71	135	153	3,724	215	3,509
	1997	4,058	417	321	254	0	66	55	42	3,641	b	c
	1987	4,030	389	292	226	0	66	55	42	3,641	b	c
	1977	4,033	330	273	211	0	62	22	35	3,703	b	c
	1953	3,830	226	216	184	0	32	10	0	3,604	b	c
Indiana	2017	4,713	596	323	186	0	137	224	48	4,117	382	3,735
	2012	4,749	699	353	195	0	158	301	45	4,050	348	3,702
	2007	4,533	651	375	178	0	197	245	31	3,882	294	3,588
	1997	4,342	624	373	170	0	203	238	13	3,719	b	c
	1987	4,296	535	329	166	0	163	177	29	3,761	b	c
	1977	3,815	410	239	162	0	77	170	1	3,405	b	c
	1953	4,015	283	172	112	0	60	109	2	3,732	b	c
Iowa	2017	2,804	331	91	0	0	91	143	97	2,473	135	2,338
	2012	2,968	407	120	0	0	120	189	98	2,561	110	2,452
	2007	2,824	312	104	0	0	104	157	51	2,511	41	2,471
	1997	1,944	156	44	0	0	44	74	38	1,788	b	c
	1987	1,460	102	43	0	0	43	52	7	1,358	b	c
	1977	1,461	111	55	0	0	55	51	5	1,350	b	c
	1953	2,595	36	12	3	0	9	22	2	2,559	b	c
Michigan	2017	19,324	6,826	2,481	2,463	0	19	3,960	385	12,498	2,879	9,619
	2012	19,463	7,102	2,635	2,544	0	91	4,050	417	12,360	2,722	9,638
	2007	19,023	7,000	2,655	2,497	0	158	4,002	343	12,023	2,631	9,392
	1997	18,667	6,628	2,643	2,593	0	50	3,728	256	12,039	b	c
	1987	17,364	6,288	2,520	2,475	0	45	3,581	187	11,076	b	c
	1977	18,200	6,361	2,489	2,435	8	45	3,763	109	11,839	b	c
	1953	19,121	6,289	2,509	2,410	9	90	3,695	85	12,832	b	c
Minnesota	2017	15,703	7,725	1,852	1,807	6	40	3,435	2,438	7,977	1,190	6,787
	2012	15,929	8,386	2,046	1,850	20	177	3,683	2,656	7,544	1,054	6,490
	2007	15,113	8,134	2,012	1,761	1	250	4,116	2,005	6,979	1,164	5,814
	1997	14,819	7,680	2,115	1,917	26	172	3,063	2,503	7,139	b	c
	1987	13,572	6,814	1,826	1,670	44	112	2,654	2,334	6,758	b	c
	1977	13,697	6,863	1,870	1,715	10	145	2,651	2,342	6,834	b	c
	1953	16,580	8,407	2,338	2,195	49	94	2,450	3,619	8,173	b	c

Table 10. (cont.) Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public						Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
Missouri	2017	14,850	2,419	1,696	1,427	6	263	637	85	12,431	749	11,682
	2012	15,085	2,497	1,729	1,416	0	313	690	78	12,588	791	11,797
	2007	14,674	2,428	1,676	1,410	0	266	688	63	12,247	626	11,621
	1997	13,411	2,052	1,608	1,361	0	246	403	42	11,359	b	c
	1987	11,995	1,657	1,390	1,303	0	87	242	25	10,338	b	c
	1977	12,289	1,532	1,313	1,246	0	67	187	32	10,757	b	c
	1953	14,300	1,617	1,461	1,339	1	121	156	0	12,683	b	c
Ohio	2017	7,734	890	308	273	0	35	441	142	6,843	929	5,914
	2012	7,865	935	287	241	0	46	445	203	6,930	915	6,015
	2007	7,644	693	237	222	0	16	325	130	6,951	902	6,050
	1997	7,568	531	220	216	0	4	227	84	7,036	b	c
	1987	7,141	423	171	171	0	0	173	79	6,718	b	c
	1977	6,917	412	168	159	0	9	202	42	6,505	b	c
	1953	5,450	297	88	88	0	0	168	41	5,153	b	c
Wisconsin	2017	16,548	4,716	1,420	1,369	0	51	979	2,317	11,832	1,500	10,332
	2012	16,726	4,956	1,522	1,382	0	140	1,121	2,313	11,770	1,417	10,353
	2007	16,042	5,014	1,515	1,376	0	139	1,016	2,483	11,028	1,425	9,603
	1997	15,701	4,546	1,520	1,363	0	157	744	2,282	11,155	b	c
	1987	14,726	4,167	1,419	1,242	0	177	569	2,179	10,559	b	c
	1977	14,478	4,317	1,383	1,266	0	117	568	2,366	10,161	b	c
	1953	15,349	4,720	1,624	1,357	5	262	444	2,652	10,629	b	c
North Central total	2017	86,355	24,044	8,495	7,792	12	692	9,933	5,616	62,310	8,106	54,204
	2012	87,556	25,755	9,049	7,902	20	1,128	10,695	6,011	61,802	7,602	54,199
	2007	84,215	24,871	8,926	7,725	1	1,201	10,684	5,260	59,345	7,297	52,048
	1997	80,510	22,633	8,843	7,874	26	942	8,530	5,260	57,877	b	c
	1987	74,584	20,375	7,990	7,253	44	693	7,503	4,882	54,209	b	c
	1977	74,890	20,336	7,790	7,194	18	577	7,614	4,932	54,554	b	c
	1953	81,240	21,875	8,420	7,688	64	668	7,054	6,401	59,365	b	c
North total	2017	164,894	36,998	11,348	10,146	12	1,190	17,549	8,101	127,896	30,196	97,700
	2012	167,378	39,331	12,172	10,345	20	1,807	18,710	8,449	128,047	28,892	99,155
	2007	164,018	37,151	11,897	10,126	1	1,771	18,154	7,099	126,867	28,156	98,711
	1997	159,433	32,237	11,334	9,904	26	1,404	14,497	6,406	127,197	b	c
	1987	154,418	29,965	10,916	9,456	44	1,416	13,167	5,882	124,453	b	c
	1977	153,452	28,571	10,104	9,244	18	842	12,785	5,682	124,881	b	c
	1953	154,275	29,130	10,865	9,833	64	968	11,279	6,986	125,145	b	c
South												
Southeast												
Florida	2017	15,409	4,423	1,661	1,099	0	562	2,406	356	10,986	6,927	4,058
	2012	15,916	4,677	1,792	1,128	6	658	2,427	457	11,240	6,779	4,461
	2007	15,552	4,165	1,712	1,029	0	683	2,073	380	11,387	6,409	4,978
	1997	14,605	2,786	1,570	984	0	586	1,138	78	11,819	b	c
	1987	14,983	2,434	1,561	990	0	571	814	59	12,549	b	c
	1977	15,843	2,151	1,579	1,005	0	574	532	40	13,692	b	c
	1953	18,135	2,215	1,777	1,035	14	728	382	56	15,920	b	c

Table 10. (cont.) Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public						Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
Georgia	2017	24,061	2,082	1,253	711	0	543	476	353	21,979	8,377	13,602
	2012	24,352	2,136	1,393	669	0	724	426	318	22,216	8,436	13,779
	2007	24,247	1,820	1,285	612	0	674	305	230	22,427	7,959	14,468
	1997	23,796	1,751	1,380	711	0	669	260	111	22,045	b	c
	1987	23,660	1,609	1,421	790	0	631	118	70	22,051	b	c
	1977	24,106	1,589	1,453	813	0	640	100	36	22,517	b	c
	1953	23,969	1,685	1,560	644	0	916	102	23	22,284	b	c
North Carolina	2017	18,139	2,494	1,451	1,135	0	316	776	268	15,644	4,572	11,072
	2012	18,077	2,624	1,718	1,180	0	538	656	250	15,454	4,231	11,223
	2007	17,916	2,481	1,690	1,093	0	597	532	258	15,436	3,866	11,570
	1997	18,639	1,878	1,448	1,011	0	437	346	84	16,760	b	c
	1987	18,749	1,861	1,440	1,025	0	415	339	82	16,888	b	c
	1977	19,435	1,717	1,319	1,029	0	290	320	78	17,718	b	c
	1953	19,583	1,540	1,251	1,020	0	232	253	36	18,043	b	c
South Carolina	2017	12,756	1,444	902	589	0	313	406	136	11,312	4,165	7,147
	2012	13,025	1,518	982	593	0	390	381	154	11,507	3,994	7,514
	2007	12,641	1,457	1,014	619	0	394	303	140	11,184	3,569	7,615
	1997	12,419	1,078	867	524	0	343	177	33	11,341	b	c
	1987	12,179	1,173	913	577	0	336	233	27	11,006	b	c
	1977	12,496	1,085	895	573	0	322	167	23	11,411	b	c
	1953	11,884	955	802	563	0	239	128	25	10,929	b	c
Virginia	2017	15,389	2,191	1,749	1,528	0	222	271	171	13,198	3,241	9,957
	2012	15,385	2,371	1,878	1,660	0	218	277	216	13,014	3,060	9,954
	2007	15,309	2,325	1,858	1,616	0	242	273	194	12,984	2,908	10,076
	1997	15,345	1,880	1,586	1,365	0	221	211	83	13,465	b	c
	1987	15,570	1,993	1,707	1,486	0	221	209	77	13,577	b	c
	1977	15,939	1,921	1,669	1,424	0	245	183	69	14,018	b	c
	1953	15,497	1,493	1,355	1,198	0	157	86	52	14,004	b	c
Southeast total	2017	85,754	12,635	7,016	5,061	0	1,955	4,334	1,284	73,119	27,283	45,836
	2012	86,755	13,325	7,763	5,230	6	2,527	4,167	1,394	73,430	26,499	46,931
	2007	85,665	12,247	7,559	4,970	0	2,590	3,487	1,202	73,417	24,711	48,706
	1997	84,803	9,373	6,851	4,594	0	2,257	2,133	389	75,430	b	c
	1987	85,141	9,070	7,042	4,868	0	2,174	1,713	315	76,071	b	c
	1977	87,819	8,463	6,915	4,844	0	2,071	1,302	246	79,356	b	c
	1953	89,068	7,888	6,745	4,460	14	2,272	951	192	81,180	b	c
South Central												
Alabama	2017	23,029	1,411	844	620	0	224	399	168	21,618	7,974	13,644
	2012	22,800	1,429	964	709	0	255	316	149	21,372	7,205	14,166
	2007	22,580	1,323	910	687	0	223	301	113	21,256	6,311	14,946
	1997	21,911	1,130	823	573	0	250	212	95	20,781	b	c
	1987	21,659	1,161	951	689	5	257	147	63	20,498	b	c
	1977	21,498	1,091	860	659	0	201	172	59	20,407	b	c
	1953	20,756	968	791	616	10	165	150	27	19,788	b	c

Table 10. (cont.) Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public						Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
Arkansas	2017	18,492	3,172	2,699	2,429	0	270	396	76	15,321	5,643	9,678
	2012	18,543	3,446	2,913	2,376	0	538	442	91	15,097	5,650	9,447
	2007	18,480	3,425	2,943	2,440	0	503	417	65	15,055	5,447	9,607
	1997	18,392	3,275	2,813	2,350	0	463	394	67	15,118	b	c
	1987	16,673	3,011	2,659	2,329	0	330	311	41	13,662	b	c
	1977	16,793	2,918	2,658	2,350	1	307	240	20	13,875	b	c
	1953	19,627	2,916	2,799	2,292	122	385	115	2	16,711	b	c
Kentucky	2017	12,246	1,246	1,049	792	0	256	142	55	11,000	1,917	9,083
	2012	12,297	1,276	1,044	772	0	272	155	76	11,021	1,818	9,203
	2007	11,648	1,030	808	590	0	217	173	50	10,618	1,472	9,146
	1997	12,347	1,004	863	628	0	235	141	0	11,344	b	c
	1987	11,909	890	856	583	0	273	34	0	11,019	b	c
	1977	11,903	896	819	589	0	230	76	1	11,007	b	c
	1953	11,497	725	672	455	0	217	53	0	10,772	b	c
Louisiana	2017	14,707	1,638	789	567	0	222	601	248	13,069	7,452	5,616
	2012	14,646	1,814	1,057	690	0	367	515	242	12,831	6,974	5,858
	2007	14,116	1,625	905	672	0	233	523	197	12,491	6,477	6,014
	1997	13,693	1,214	707	477	0	230	300	207	12,479	b	c
	1987	13,872	1,331	833	621	0	212	330	168	12,541	b	c
	1977	14,292	1,024	715	581	1	133	299	10	13,268	b	c
	1953	16,039	848	666	535	4	127	177	5	15,191	b	c
Mississippi	2017	19,179	1,974	1,505	1,176	0	328	217	253	17,205	4,679	12,526
	2012	19,495	2,283	1,826	1,325	0	501	222	235	17,212	4,696	12,515
	2007	19,536	2,253	1,790	1,316	0	474	236	227	17,283	4,713	12,570
	1997	18,587	1,936	1,526	1,091	0	435	311	100	16,651	b	c
	1987	16,674	1,720	1,488	1,240	0	248	100	132	14,954	b	c
	1977	16,504	1,663	1,202	1,121	1	80	95	366	14,841	b	c
	1953	16,853	1,709	1,235	1,036	4	195	54	420	15,144	b	c
Oklahoma	2017	7,141	899	648	303	0	345	187	64	6,242	1,696	4,546
	2012	7,656	878	633	253	0	380	208	37	6,778	1,556	5,222
	2007	6,234	582	443	223	0	220	118	21	5,651	1,257	4,394
	1997	6,234	574	435	214	0	221	118	21	5,659	b	c
	1987	6,087	586	464	243	0	221	115	7	5,501	b	c
	1977	5,536	448	342	219	0	123	91	15	5,088	b	c
	1953	5,075	494	309	213	7	89	185	0	4,581	b	c
Tennessee	2017	13,407	1,764	959	654	0	305	694	110	11,643	2,268	9,375
	2012	13,500	1,836	992	682	0	310	740	104	11,663	2,249	9,414
	2007	13,913	1,603	1,015	666	0	350	502	86	12,310	2,209	10,101
	1997	13,265	1,509	1,027	556	0	471	422	59	11,757	b	c
	1987	12,840	1,360	958	581	6	371	373	29	11,480	b	c
	1977	12,862	1,161	856	558	0	298	283	22	11,701	b	c
	1953	12,551	1,114	806	564	0	242	298	10	11,437	b	c

Table 10. (cont.) Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public						Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
Texas	2017	14,137	1,218	888	656	0	233	171	159	12,918	4,591	8,327
	2012	14,356	1,131	876	660	0	215	156	99	13,226	4,564	8,662
	2007	11,859	955	791	662	0	129	109	54	10,904	4,404	6,500
	1997	11,766	776	661	569	0	92	68	47	10,990	b	c
	1987	12,414	795	708	610	0	98	75	12	11,619	b	c
	1977	12,426	773	717	576	0	141	49	7	11,653	b	c
	1953	13,081	782	745	654	0	91	35	2	12,299	b	c
South Central total	2017	122,338	13,323	9,380	7,197	0	2,183	2,807	1,135	109,016	36,220	72,795
	2012	123,292	14,092	10,304	7,466	0	2,838	2,754	1,034	109,200	34,712	74,488
	2007	118,365	12,796	9,605	7,255	0	2,350	2,378	813	105,569	32,291	73,278
	1997	116,196	11,417	8,855	6,457	0	2,397	1,966	597	104,778	b	c
	1987	112,128	10,854	8,917	6,896	11	2,010	1,485	452	101,274	b	c
	1977	111,814	9,974	8,169	6,653	3	1,513	1,305	500	101,840	b	c
	1953	115,479	9,556	8,023	6,365	147	1,511	1,067	466	105,923	b	c
South total	2017	208,092	25,957	16,397	12,258	0	4,138	7,142	2,419	182,135	63,504	118,632
	2012	210,048	27,417	18,067	12,696	6	5,365	6,922	2,429	182,631	61,212	121,419
	2007	204,029	25,043	17,164	12,225	0	4,939	5,864	2,015	178,986	57,002	121,985
	1997	200,999	20,791	15,706	11,052	0	4,654	4,099	986	180,208	b	c
	1987	197,269	19,924	15,959	11,764	11	4,184	3,198	767	177,345	b	c
	1977	199,633	18,437	15,084	11,497	3	3,584	2,607	746	181,196	b	c
	1953	204,547	17,444	14,768	10,825	161	3,783	2,018	658	187,103	b	c
Rocky Mountain												
Great Plains												
Kansas	2017	2,393	157	115	0	0	115	23	19	2,236	96	2,140
	2012	2,403	129	101	0	0	101	15	13	2,273	59	2,214
	2007	2,028	109	73	0	0	73	18	18	1,919	44	1,875
	1997	1,491	92	53	0	0	53	32	8	1,399	b	c
	1987	1,207	46	37	0	0	37	7	2	1,161	b	c
	1977	1,188	37	27	0	0	27	8	2	1,151	b	c
	1953	1,208	27	27	0	0	27	0	0	1,181	b	c
Nebraska	2017	1,403	144	64	39	0	25	66	14	1,258	38	1,220
	2012	1,470	157	80	46	0	34	61	16	1,313	48	1,265
	2007	1,174	144	75	42	0	33	52	16	1,030	7	1,023
	1997	898	108	48	47	0	2	50	10	790	b	c
	1987	537	55	29	29	0	0	22	4	482	b	c
	1977	593	54	43	29	0	14	10	1	539	b	c
	1953	735	57	45	28	0	17	11	1	678	b	c
North Dakota	2017	490	86	34	26	0	8	46	7	403	-	403
	2012	518	127	81	30	1	50	40	6	391	-	391
	2007	534	122	73	23	1	49	38	11	411	6	405
	1997	442	55	28	14	0	14	26	0	387	b	c
	1987	338	36	12	0	0	12	22	2	302	b	c
	1977	405	63	53	0	0	53	10	0	342	b	c
	1953	451	68	57	0	1	57	11	0	383	b	c

Table 10. (cont.) Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public						Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
South Dakota	2017	1,799	1,094	1,004	986	18	0	79	11	704	67	637
	2012	1,789	1,091	1,011	996	15	0	74	5	698	29	669
	2007	1,552	1,117	1,073	991	39	43	44	0	435	23	412
	1997	1,487	1,001	946	938	0	8	54	1	485	b	c
	1987	1,447	1,005	915	914	0	1	87	3	442	b	c
	1977	1,467	1,038	965	953	6	6	70	3	429	b	c
	1953	1,622	1,037	970	951	7	11	67	0	585	b	c
Great Plains total	2017	6,084	1,482	1,217	1,051	18	148	214	51	4,602	202	4,400
	2012	6,179	1,504	1,272	1,071	16	185	191	41	4,675	136	4,539
	2007	5,287	1,492	1,294	1,056	40	199	153	45	3,795	79	3,716
	1997	4,317	1,256	1,076	999	0	76	162	18	3,062	b	c
	1987	3,529	1,142	993	943	0	50	138	11	2,387	b	c
	1977	3,653	1,192	1,088	982	6	100	98	6	2,461	b	c
	1953	4,016	1,189	1,099	979	8	112	89	1	2,827	b	c
Intermountain												
Arizona	2017	3,012	2,201	2,192	2,160	6	27	7	1	812	18	794
	2012	3,001	2,228	2,222	2,189	6	27	6	0	773	-	773
	2007	3,361	2,426	2,416	2,394	0	22	10	0	935	10	925
	1997	4,073	2,775	2,763	2,720	20	23	12	0	1,297	b	c
	1987	3,789	2,527	2,515	2,471	20	24	12	0	1,262	b	c
	1977	3,896	2,514	2,480	2,462	18	0	32	2	1,382	b	c
	1953	3,622	2,305	2,271	2,269	2	0	32	2	1,317	b	c
Colorado	2017	10,598	8,426	8,152	7,490	654	8	191	83	2,172	409	1,763
	2012	10,937	8,630	8,286	7,597	678	11	278	65	2,307	217	2,090
	2007	11,541	9,128	8,794	8,053	714	28	284	50	2,413	309	2,103
	1997	11,555	8,331	7,968	6,885	1,069	14	311	52	3,224	b	c
	1987	11,740	8,464	8,144	7,062	1,074	8	274	46	3,276	b	c
	1977	11,315	8,167	7,933	7,506	422	5	189	45	3,148	b	c
	1953	12,282	9,037	8,802	8,382	416	5	190	45	3,245	b	c
Idaho	2017	16,532	13,676	12,553	11,951	577	25	1,123	0	2,856	1,510	1,346
	2012	16,772	13,975	12,859	12,210	617	32	1,116	0	2,797	1,319	1,478
	2007	16,203	13,900	12,545	11,995	550	0	1,355	0	2,303	1,230	1,073
	1997	17,123	13,901	12,896	12,354	512	29	980	25	3,222	b	c
	1987	14,534	11,397	10,310	9,705	558	47	1,036	51	3,137	b	c
	1977	13,541	10,450	9,570	9,153	409	8	861	19	3,091	b	c
	1953	15,539	12,444	11,558	11,046	505	8	867	19	3,095	b	c
Montana	2017	19,768	13,919	12,988	12,136	841	10	919	12	5,849	2,158	3,692
	2012	19,629	13,784	12,991	12,190	801	0	782	11	5,845	1,881	3,963
	2007	19,790	13,544	12,848	11,962	886	0	683	13	6,247	2,133	4,114
	1997	19,164	13,207	12,485	11,602	783	100	715	7	5,957	b	c
	1987	14,737	9,382	8,742	8,300	431	11	638	2	5,355	b	c
	1977	14,360	9,170	8,635	8,162	420	53	530	5	5,190	b	c
	1953	16,754	11,530	10,992	10,456	482	54	533	5	5,224	b	c

Table 10. (cont.) Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public							Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
Nevada	2017	250	219	218	144	73	0	1	0	30	10	21
	2012	416	379	358	253	105	0	21	0	37	-	37
	2007	417	379	358	253	105	0	21	0	38	-	38
	1997	169	86	70	57	5	8	16	0	82	b	c
	1987	221	109	106	99	6	1	3	0	112	b	c
	1977	134	65	61	61	0	0	3	1	69	b	c
	1953	141	72	68	68	0	0	3	1	69	b	c
New Mexico	2017	4,279	2,829	2,700	2,662	38	0	129	0	1,449	343	1,106
	2012	4,278	2,866	2,730	2,700	30	0	128	7	1,412	203	1,209
	2007	4,359	2,948	2,829	2,802	27	0	119	0	1,411	-	1,411
	1997	4,833	2,875	2,778	2,733	44	0	84	13	1,958	b	c
	1987	5,180	3,005	2,893	2,863	30	0	112	0	2,175	b	c
	1977	5,538	3,038	2,867	2,818	39	9	171	0	2,500	b	c
	1953	5,626	3,067	2,895	2,809	77	9	172	0	2,559	b	c
Utah	2017	3,749	3,129	2,918	2,799	120	0	190	21	620	176	444
	2012	3,809	3,163	2,959	2,849	110	0	190	14	646	151	495
	2007	4,014	3,314	3,148	2,995	153	0	154	11	700	187	512
	1997	4,700	3,822	3,603	3,265	338	0	212	7	878	b	c
	1987	3,078	2,481	2,314	2,108	175	31	150	17	597	b	c
	1977	3,405	2,670	2,431	2,277	154	0	239	0	735	b	c
	1953	3,882	3,058	2,817	2,662	155	0	241	0	824	b	c
Wyoming	2017	5,381	4,423	4,173	3,812	361	0	250	0	958	265	693
	2012	6,002	4,673	4,385	3,881	501	3	288	0	1,330	-	1,330
	2007	5,997	4,668	4,380	3,876	501	3	288	0	1,329	-	1,329
	1997	5,085	3,641	3,438	2,964	474	0	203	0	1,444	b	c
	1987	4,332	2,888	2,685	2,211	474	0	203	0	1,444	b	c
	1977	4,335	3,356	3,245	3,045	200	0	111	0	979	b	c
	1953	4,739	3,753	3,641	3,244	397	0	112	0	986	b	c
Intermountain total	2017	63,569	48,822	45,894	43,154	2,670	70	2,811	116	14,748	4,890	9,858
	2012	64,844	49,696	46,790	43,870	2,847	73	2,809	97	15,148	3,772	11,376
	2007	65,681	50,306	47,318	44,330	2,936	53	2,913	74	15,374	3,870	11,505
	1997	66,701	48,638	46,001	42,580	3,245	175	2,534	103	18,063	b	c
	1987	57,611	40,253	37,709	34,819	2,768	122	2,428	116	17,358	b	c
	1977	56,524	39,430	37,222	35,484	1,662	75	2,136	72	17,094	b	c
	1953	62,585	45,266	43,044	40,936	2,034	76	2,150	72	17,319	b	c
Rocky Mountain total	2017	69,654	50,304	47,111	44,206	2,688	217	3,026	167	19,350	5,091	14,259
	2012	71,023	51,200	48,062	44,941	2,863	258	3,000	138	19,823	3,908	15,915
	2007	70,968	51,799	48,613	45,385	2,976	251	3,066	119	19,169	3,949	15,221
	1997	71,018	49,893	47,076	43,579	3,246	252	2,696	121	21,125	b	c
	1987	61,140	41,395	38,702	35,762	2,768	172	2,566	127	19,745	b	c
	1977	60,177	40,622	38,310	36,466	1,668	175	2,234	78	19,555	b	c
	1953	66,601	46,455	44,143	41,915	2,042	188	2,239	73	20,146	b	c

Table 10. (cont.) Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public							Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
Pacific Coast												
Alaska												
Alaska	2017	12,996	9,683	4,874	3,848	812	213	4,627	183	3,313	2,827	486
	2012	12,817	9,521	4,699	3,677	821	201	4,667	155	3,297	2,776	521
	2007	11,865	9,094	4,750	3,772	805	173	4,282	62	2,771	2,022	749
	1997	12,395	8,605	4,306	3,780	407	119	4,279	20	3,790	b	c
	1987	15,763	9,578	4,936	4,476	336	124	4,622	20	6,185	b	c
	1977	19,722	19,164	15,751	6,529	9,096	126	3,396	17	558	b	c
	1953	20,343	20,086	20,007	6,873	13,008	126	75	4	257	b	c
Alaska total	2017	12,996	9,683	4,874	3,848	812	213	4,627	183	3,313	2,827	486
	2012	12,817	9,521	4,699	3,677	821	201	4,667	155	3,297	2,776	521
	2007	11,865	9,094	4,750	3,772	805	173	4,282	62	2,771	2,022	749
	1997	12,395	8,605	4,306	3,780	407	119	4,279	20	3,790	b	c
	1987	15,763	9,578	4,936	4,476	336	124	4,622	20	6,185	b	c
	1977	19,722	19,164	15,751	6,529	9,096	126	3,396	17	558	b	c
	1953	20,343	20,086	20,007	6,873	13,008	126	75	4	257	b	c
Pacific Northwest												
Oregon	2017	23,668	14,293	13,342	11,088	2,248	6	822	129	9,375	6,219	3,157
	2012	24,117	14,814	13,800	11,584	2,203	13	880	134	9,303	5,792	3,511
	2007	24,617	14,907	13,885	11,583	2,279	23	873	149	9,709	5,841	3,868
	1997	23,749	15,123	14,217	11,999	2,213	6	815	91	8,626	b	c
	1987	22,801	14,107	13,178	10,868	2,304	6	827	102	8,694	b	c
	1977	24,211	14,743	13,817	11,633	2,178	6	820	106	9,468	b	c
	1953	25,688	14,706	13,654	11,296	2,350	8	797	255	10,982	b	c
Washington	2017	17,794	8,544	5,857	5,715	51	92	2,311	375	9,250	4,684	4,566
	2012	18,081	8,745	6,060	5,928	45	87	2,326	359	9,335	4,636	4,699
	2007	18,873	9,199	6,518	6,355	54	110	2,378	302	9,674	4,840	4,834
	1997	17,418	8,464	6,209	6,036	33	139	2,035	220	8,954	b	c
	1987	17,514	7,941	5,691	5,524	37	130	2,025	225	9,573	b	c
	1977	17,922	7,648	5,382	5,167	47	168	2,084	182	10,274	b	c
	1953	19,188	8,191	5,882	5,595	174	113	2,095	214	10,997	b	c
Pacific Northwest total	2017	41,462	22,836	19,200	16,802	2,299	98	3,133	504	18,625	10,903	7,722
	2012	42,197	23,559	19,860	17,512	2,248	100	3,206	494	18,638	10,428	8,210
	2007	43,489	24,106	20,403	17,937	2,333	133	3,252	452	19,383	10,681	8,702
	1997	41,167	23,587	20,426	18,035	2,246	145	2,850	310	17,580	b	c
	1987	40,315	22,048	18,869	16,392	2,341	136	2,852	327	18,267	b	c
	1977	42,133	22,391	19,199	16,800	2,225	174	2,904	288	19,742	b	c
	1953	44,876	22,897	19,536	16,891	2,524	121	2,892	469	21,979	b	c
Pacific Southwest												
California	2017	16,583	9,331	9,187	8,877	297	13	95	49	7,252	4,249	3,003
	2012	16,991	9,612	9,451	9,137	305	8	106	55	7,379	4,038	3,341
	2007	19,144	10,198	9,907	9,275	589	43	186	105	8,946	4,294	4,652
	1997	17,952	10,516	10,319	10,086	218	15	159	38	7,437	b	c
	1987	16,712	9,158	9,051	8,742	300	9	95	12	7,554	b	c
	1977	16,303	8,540	8,434	8,168	226	40	79	27	7,763	b	c
	1953	17,127	8,931	8,730	8,372	318	40	193	8	8,196	b	c

Table 10. (cont.) Timberland area in the United States by ownership, region, subregion, and State, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Year	All ownerships	Public							Private[a]		
			Total public	Federal				State	County and municipal	Total private	Private corporate	Private non-corporate
				Total Federal	National forest	Bureau of Land Management	Other					
		Thousand acres										
Hawaii	2017	744	163	62	0	0	62	78	23	581	386	195
	2012	700	338	0	0	0	0	336	2	362	26	336
	2007	700	338	0	0	0	0	336	2	362	26	336
	1997	700	338	0	0	0	0	336	2	362	b	c
	1987	700	338	0	0	0	0	336	2	362	b	c
	1977	948	454	12	0	0	12	442	0	494	b	c
	1953	1,089	496	9	0	0	9	487	0	593	b	c
Pacific Southwest total	2017	17,326	9,494	9,249	8,877	297	75	172	73	7,833	4,634	3,198
	2012	17,690	9,950	9,451	9,137	305	8	443	57	7,740	4,064	3,677
	2007	19,843	10,536	9,907	9,275	589	43	522	107	9,308	4,320	4,988
	1997	18,652	10,854	10,319	10,086	218	15	495	40	7,798	b	c
	1987	17,412	9,496	9,051	8,742	300	9	431	14	7,916	b	c
	1977	17,251	8,994	8,446	8,168	226	52	521	27	8,257	b	c
	1953	18,216	9,427	8,739	8,372	318	49	680	8	8,789	b	c
Pacific Coast total	2017	71,784	42,014	33,323	29,527	3,409	386	7,932	759	29,771	18,364	11,406
	2012	72,705	43,030	34,010	30,326	3,374	310	8,315	705	29,675	17,268	12,407
	2007	75,198	43,736	35,060	30,984	3,726	349	8,055	620	31,462	17,023	14,439
	1997	72,214	43,046	35,052	31,901	2,871	279	7,624	370	29,168	b	c
	1987	73,490	41,122	32,856	29,610	2,977	269	7,905	361	32,368	b	c
	1977	79,106	50,549	43,396	31,497	11,547	352	6,821	332	28,557	b	c
	1953	83,435	52,410	48,282	32,136	15,850	296	3,647	481	31,025	b	c
United States	2017	514,425	155,273	108,178	96,138	6,109	5,931	35,648	11,447	359,152	117,155	241,997
	2012	521,154	160,979	112,310	98,308	6,262	7,740	36,947	11,721	360,175	111,279	248,896
	2007	514,213	157,728	112,734	98,721	6,703	7,311	35,141	9,853	356,485	106,130	250,355
	1997	503,664	145,967	109,168	96,435	6,143	6,590	28,915	7,883	357,698	b	c
	1987	486,317	132,406	98,433	86,592	5,800	6,041	26,836	7,137	353,911	b	c
	1977	492,368	138,179	106,894	88,704	13,236	4,953	24,447	6,838	354,189	b	c
	1953	508,858	145,439	118,058	94,709	18,117	5,235	19,183	8,198	363,419	b	c

[a] These ownership classes only apply to data after 1997. See footnotes b and c for further information.
[b] Historic data for corporate ownerships is unavailable.
[c] Historic data for noncorporate ownerships is unavailable.
Note: Data may not add to totals because of rounding.

Table 11. Timberland area in the United States by ownership group, region, subregion, and State, 2017

Region, subregion, and State	All ownerships	Ownership group			
		National forest	Other public	Private corporate	Private noncorporate
	Thousand acres				
North					
Northeast					
Connecticut	1,771	0	471	236	1,065
Delaware	346	0	71	54	221
Maine	16,778	51	920	9,903	5,904
Maryland	2,180	0	404	425	1,351
Massachusetts	2,884	0	940	359	1,585
New Hampshire	4,474	610	408	813	2,644
New Jersey	1,740	0	787	302	651
New York	15,703	15	1,709	2,828	11,150
Pennsylvania	16,312	480	4,005	2,348	9,479
Rhode Island	356	0	91	53	212
Vermont	4,288	329	378	705	2,876
West Virginia	11,707	869	416	4,064	6,358
Total	78,539	2,355	10,599	22,090	43,496
North Central					
Illinois	4,679	268	273	341	3,797
Indiana	4,713	186	410	382	3,735
Iowa	2,804	0	331	135	2,338
Michigan	19,324	2,463	4,364	2,879	9,619
Minnesota	15,703	1,807	5,918	1,190	6,787
Missouri	14,850	1,427	992	749	11,682
Ohio	7,734	273	618	929	5,914
Wisconsin	16,548	1,369	3,347	1,500	10,332
Total	86,355	7,792	16,253	8,106	54,204
North total	164,894	10,146	26,852	30,196	97,700
South					
Southeast					
Florida	15,409	1,099	3,324	6,927	4,058
Georgia	24,061	711	1,372	8,377	13,602
North Carolina	18,139	1,135	1,360	4,572	11,072
South Carolina	12,756	589	855	4,165	7,147
Virginia	15,389	1,528	663	3,241	9,957
Total	85,754	5,061	7,573	27,283	45,836
South Central					
Alabama	23,029	620	791	7,974	13,644
Arkansas	18,492	2,429	743	5,643	9,678
Kentucky	12,246	792	454	1,917	9,083
Louisiana	14,707	567	1,071	7,452	5,616
Mississippi	19,179	1,176	798	4,679	12,526
Oklahoma	7,141	303	597	1,696	4,546
Tennessee	13,407	654	1,110	2,268	9,375
Texas	14,137	656	563	4,591	8,327
Total	122,338	7,197	6,126	36,220	72,795
South total	208,092	12,258	13,699	63,504	118,632

Table 11. (cont.) Timberland area in the United States by ownership group, region, subregion, and State, 2017

Region, subregion, and State	All ownerships	Ownership group			
		National forest	Other public	Private corporate	Private noncorporate
	Thousand acres				
Rocky Mountain					
Great Plains					
Kansas	2,393	0	157	96	2,140
Nebraska	1,403	39	105	38	1,220
North Dakota	490	26	61	0	403
South Dakota	1,799	986	108	67	637
Total	6,084	1,051	431	202	4,400
Intermountain					
Arizona	3,012	2,160	40	18	794
Colorado	10,598	7,490	936	409	1,763
Idaho	16,532	11,951	1,725	1,510	1,346
Montana	19,768	12,136	1,782	2,158	3,692
Nevada	250	144	75	10	21
New Mexico	4,279	2,662	168	343	1,106
Utah	3,749	2,799	331	176	444
Wyoming	5,381	3,812	611	265	693
Total	63,569	43,154	5,667	4,890	9,858
RockyMountain Total	69,654	44,206	6,098	5,091	14,259
Pacific Coast					
Alaska					
Alaska	12,996	3,848	5,835	2,827	486
Total	12,996	3,848	5,835	2,827	486
Pacific Northwest					
Oregon	23,668	11,088	3,205	6,219	3,157
Washington	17,794	5,715	2,829	4,684	4,566
Total	41,462	16,802	6,034	10,903	7,722
Pacific Southwest					
California	16,583	8,877	454	4,249	3,003
Hawaii	744	0	163	386	195
Total	17,326	8,877	617	4,634	3,198
Pacific Coast total	71,784	29,527	12,486	18,364	11,406
United States	514,425	96,138	59,135	117,155	241,997

Note: Data may not add to totals because of rounding.

Table 12. Timberland area in the Eastern United States by forest-type group, subregion, and stand-age class, 2017

Subregion and stand-age class (Years)	All forest types	Forest-type group											
		White-red-jack pine	Spruce-fir	Longleaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cotton-wood	Maple-beech-birch	Aspen-birch	Other forest types	Non-stocked
	Thousand acres												
Northeast													
0 to 19	3,123	43	316	0	153	93	542	17	301	797	216	197	448
20 to 39	8,855	292	2,012	0	231	289	1,030	8	771	3,076	844	301	0
40 to 59	16,080	800	1,318	0	335	604	3,808	93	1,247	6,756	880	237	0
60 to 79	25,323	1,482	1,401	0	342	1,174	8,123	121	1,040	10,700	647	293	0
80 to 99	18,546	1,061	1,167	0	158	521	6,931	146	400	7,609	294	259	0
100 to 149	6,426	484	700	0	63	118	2,671	46	65	2,120	69	90	0
150 to 199	125	31	31	0	0	2	49	0	6	7	0	0	0
200 and older	7	1	0	0	0	0	0	0	0	6	0	0	0
Undetermined	55	0	0	0	0	0	2	0	7	45	0	2	0
Total	78,539	4,195	6,946	0	1,283	2,801	23,154	431	3,839	31,116	2,949	1,378	448
North Central													
0 to 19	7,574	644	436	0	101	255	1,023	5	788	755	2,616	214	737
20 to 39	11,107	1,088	788	0	200	401	2,287	45	1,684	1,238	3,172	203	0
40 to 59	21,177	1,515	1,464	0	330	747	7,228	73	3,928	2,911	2,885	96	0
60 to 79	26,017	931	1,984	0	196	791	10,948	84	3,259	5,576	2,168	79	0
80 to 99	14,778	400	1,426	0	68	321	6,854	43	1,257	3,752	637	20	0
100 to 149	5,429	238	1,112	0	14	71	2,651	10	414	811	83	24	0
150 to 199	238	30	140	0	0	0	45	0	13	8	2	0	0
200 and older	28	10	5	0	0	0	10	0	0	3	0	0	0
Undetermined	6	0	0	0	0	0	0	0	0	6	0	0	0
Total	86,355	4,856	7,355	0	908	2,587	31,047	261	11,343	15,061	11,564	636	737
Southeast													
0 to 19	23,951	38	6	3,743	8,358	2,670	4,742	1,745	731	491	0	198	1,229
20 to 39	23,164	123	0	3,298	10,674	2,615	3,875	1,723	370	319	1	165	0
40 to 59	14,309	83	2	1,352	2,713	2,050	4,990	2,175	484	279	0	181	0
60 to 79	14,420	52	12	991	1,482	1,683	6,889	2,505	445	225	0	135	0
80 to 99	7,576	42	6	306	311	591	4,398	1,520	199	126	0	77	0
100 to 149	2,315	12	0	46	53	152	1,468	466	36	78	0	3	0
150 to 199	20	0	0	0	6	0	8	7	0	0	0	0	0
200 and older	0	0	0	0	0	0	0	0	0	0	0	0	0
Undetermined	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	85,754	350	26	9,736	23,597	9,761	26,370	10,141	2,264	1,518	1	760	1,229
South Central													
0 to 19	32,488	0	0	817	15,714	3,381	6,846	1,784	2,044	342	0	514	1,046
20 to 39	27,144	25	0	759	13,008	2,469	6,133	1,887	2,262	335	0	264	0
40 to 59	28,055	41	0	598	4,529	3,279	12,209	3,473	3,059	747	0	120	0
60 to 79	27,134	35	0	490	2,435	2,104	14,795	4,106	2,168	904	0	97	0
80 to 99	6,697	13	0	88	496	392	4,237	883	329	246	0	12	0
100 to 149	796	3	0	5	28	32	536	116	46	29	0	2	0
150 to 199	25	0	0	0	12	0	1	12	0	0	0	0	0
200 and older	0	0	0	0	0	0	0	0	0	0	0	0	0
Undetermined	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	122,338	117	0	2,756	36,221	11,657	44,758	12,262	9,909	2,603	0	1,009	1,046

Table 12. (cont.) Timberland area in the Eastern United States by forest-type group, subregion, and stand-age class, 2017

Subregion and stand-age class (Years)	All forest types	Forest-type group											
		White-red-jack pine	Spruce-fir	Longleaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cotton-wood	Maple-beech-birch	Aspen-birch	Other forest types	Non-stocked
	Thousand acres												
East total													
0 to 19	67,136	725	758	4,559	24,325	6,399	13,153	3,552	3,864	2,385	2,832	1,122	3,460
20 to 39	70,270	1,529	2,800	4,057	24,115	5,774	13,325	3,663	5,088	4,969	4,018	933	0
40 to 59	79,620	2,440	2,784	1,950	7,907	6,680	28,234	5,815	8,718	10,693	3,765	634	0
60 to 79	92,894	2,500	3,397	1,481	4,455	5,752	40,756	6,816	6,913	17,405	2,815	605	0
80 to 99	47,597	1,515	2,600	394	1,033	1,826	22,420	2,593	2,185	11,732	931	368	0
100 to 149	14,965	738	1,812	51	157	373	7,326	637	561	3,038	153	119	0
150 to 199	408	61	171	0	17	2	102	19	19	15	2	0	0
200 and older	35	10	5	0	0	0	10	0	0	9	0	0	0
Undetermined	61	0	0	0	0	0	2	0	7	51	0	2	0
Total	372,987	9,518	14,326	12,492	62,010	26,806	125,329	23,095	27,355	50,297	14,515	3,783	3,460

Note: Data may not add to totals because of rounding.

Table 13. Timberland area in the Western United States by forest-type group, subregion, and stand age class, 2017

Subregion and stand-age class (Years)	All forest types	Forest-type group											
		Douglas-fir	Ponderosa pine	Western white pine	Fir-spruce	Hemlock-Sitka spruce	Larch	Lodge-pole pine	Redwood	Other softwoods	Western hard-woods	Other forest types	Non-stocked
	Thousand acres												
Great Plains													
0 to 19	607	0	39	0	0	0	0	0	0	109	133	33	293
20 to 39	994	0	75	4	7	0	0	0	0	239	480	190	0
40 to 59	1,779	0	94	0	6	0	0	0	0	310	1,173	195	0
60 to 79	1,222	0	262	0	23	0	0	0	0	85	743	109	0
80 to 99	920	0	465	0	16	0	0	0	0	49	328	62	0
100 to 149	490	0	350	0	12	0	0	0	0	6	117	6	0
150 to 199	64	0	51	0	13	0	0	0	0	0	0	0	0
200 and older	7	0	7	0	0	0	0	0	0	0	0	0	0
Undetermined	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	6,084	0	1,343	4	77	0	0	0	0	797	2,975	595	293
Intermountain													
0 to 19	10,620	1,400	626	16	1,561	84	199	1,411	0	148	1,530	0	3,643
20 to 39	3,123	676	327	23	842	46	104	569	0	110	426	0	0
40 to 59	3,380	812	622	0	631	85	141	516	0	14	559	0	0
60 to 79	7,094	1,803	1,572	9	1,388	204	117	768	0	40	1,189	0	6
80 to 99	11,962	3,248	2,993	0	2,407	239	192	1,350	0	107	1,427	0	0
100 to 149	19,426	5,115	4,094	3	5,695	467	227	2,157	0	268	1,399	0	0
150 to 199	5,391	1,646	641	0	2,126	187	73	419	0	245	55	0	0
200 and older	2,573	869	181	0	1,024	40	67	163	0	229	0	0	0
Undetermined	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	63,569	15,570	11,055	51	15,674	1,351	1,120	7,352	0	1,160	6,586	0	3,649
Alaska													
0 to 19	543	0	0	0	52	265	0	9	0	0	164	0	52
20 to 39	1,421	0	0	0	188	424	0	6	0	3	761	0	39
40 to 59	1,380	0	0	0	359	165	0	1	0	79	776	0	0
60 to 79	1,132	0	0	0	383	122	0	2	0	12	606	0	7
80 to 99	1,460	0	0	0	525	224	0	4	0	7	700	0	0
100 to 149	2,336	0	0	0	1,043	725	0	15	0	38	483	0	33
150 to 199	1,746	0	0	0	421	852	0	6	0	3	463	0	0
200 and older	2,764	0	0	0	245	2,486	0	21	0	0	11	0	0
Undetermined	214	0	0	0	92	12	0	0	0	8	94	0	8
Total	12,996	0	0	0	3,308	5,275	0	65	0	149	4,060	0	139
Pacific Northwest													
0 to 19	6,645	3,011	323	3	202	424	41	266	6	5	854	0	1,511
20 to 39	7,116	4,060	517	2	518	602	48	481	0	33	855	0	0
40 to 59	5,655	2,669	730	2	335	631	24	323	0	61	881	0	0
60 to 79	6,234	2,168	1,575	14	531	491	117	434	0	80	824	0	0
80 to 99	5,453	2,005	1,639	1	663	235	92	276	0	109	434	0	0
100 to 149	5,662	2,298	1,416	4	962	283	90	272	0	93	245	0	0
150 to 199	1,926	850	343	0	425	182	25	21	0	27	53	0	0
200 and older	2,756	1,293	249	4	458	657	27	4	0	13	51	0	0
Undetermined	14	4	0	0	0	0	0	0	0	0	11	0	0
Total	41,462	18,357	6,792	29	4,094	3,503	463	2,077	6	421	4,208	0	1,511

Table 13. (cont.) Timberland area in the Western United States by forest-type group, subregion, and stand age class, 2017

Subregion and stand-age class (Years)	All forest types	Forest-type group											
		Douglas-fir	Ponderosa pine	Western white pine	Fir-spruce	Hemlock-Sitka spruce	Larch	Lodge-pole pine	Redwood	Other softwoods	Western hard-woods	Other forest types	Non-stocked
	Thousand acres												
Pacific Southwest													
0 to 19	1,382	45	168	0	28	0	0	1	35	243	269	0	593
20 to 39	1,233	178	343	0	9	6	0	18	92	238	348	0	0
40 to 59	1,982	236	141	0	108	25	0	15	111	541	806	0	0
60 to 79	2,690	135	347	0	243	0	0	64	131	1,093	671	6	0
80 to 99	3,030	88	506	12	263	1	0	39	131	1,488	503	0	0
100 to 149	3,606	63	464	0	390	7	0	89	103	1,889	597	5	0
150 to 199	1,228	62	69	6	164	11	0	58	20	685	154	0	0
200 and older	1,115	64	44	0	134	25	0	23	28	680	117	0	0
Undetermined	1,060	10	0	0	0	0	0	0	0	672	378	0	0
Total	17,326	880	2,083	18	1,339	75	0	306	651	7,529	3,842	11	593
West total													
0 to 19	19,798	4,456	1,157	19	1,843	774	241	1,687	41	505	2,950	33	6,093
20 to 39	13,888	4,914	1,263	29	1,564	1,079	152	1,074	92	622	2,871	190	39
40 to 59	14,176	3,716	1,587	2	1,439	905	165	855	111	1,004	4,195	195	0
60 to 79	18,372	4,105	3,756	23	2,568	816	233	1,267	131	1,310	4,034	115	13
80 to 99	22,825	5,341	5,603	12	3,874	698	284	1,670	131	1,759	3,392	62	0
100 to 149	31,520	7,476	6,324	7	8,102	1,481	317	2,532	103	2,294	2,842	10	33
150 to 199	10,355	2,558	1,103	6	3,149	1,231	98	503	20	960	726	0	0
200 and older	9,216	2,227	481	4	1,861	3,209	94	211	28	922	179	0	0
Undetermined	1,289	14	0	0	92	12	0	0	0	680	483	0	8
Total	141,438	34,807	21,273	102	24,492	10,205	1,583	9,800	657	10,057	21,671	605	6,186

Note: Data may not add to totals because of rounding.

Table 14. Timberland area in the United States by forest-type group, subregion, and stand-size class, 2017

Subregion and stand-size class (Years)	All forest types	Forest-type group											
		White-red-jack pine	Spruce-fir	Longleaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cotton-wood	Maple-beech-birch	Aspen-birch	Other forest types	Non-stocked
	Thousand acres												
Northeast													
Nonstocked	448	0	0	0	0	0	0	0	0	0	0	0	448
Seedling-sapling	9,961	129	2,432	0	156	192	915	19	938	3,597	1,095	488	0
Poletimber	19,209	406	2,326	0	366	561	4,152	112	1,096	8,490	1,267	435	0
Sawtimber	48,921	3,660	2,187	0	762	2,048	18,086	300	1,806	19,029	588	455	0
Total	78,539	4,195	6,946	0	1,283	2,801	23,154	431	3,839	31,116	2,949	1,378	448
North Central													
Nonstocked	737	0	0	0	0	0	0	0	0	0	0	0	737
Seedling-sapling	15,065	770	2,960	0	201	450	2,184	12	1,938	1,531	4,517	501	0
Poletimber	25,527	1,276	2,786	0	331	790	6,960	68	3,719	4,474	5,040	83	0
Sawtimber	45,026	2,810	1,609	0	377	1,347	21,903	180	5,686	9,055	2,007	52	0
Total	86,355	4,856	7,355	0	908	2,587	31,047	261	11,343	15,061	11,564	636	737
Southeast													
Nonstocked	1,229	0	0	0	0	0	0	0	0	0	0	0	1,229
Seedling-sapling	17,337	18	3	2,049	4,032	2,626	5,106	2,154	700	427	0	224	0
Poletimber	20,977	37	3	3,599	7,552	2,235	4,570	2,118	343	349	1	169	0
Sawtimber	46,210	295	20	4,088	12,014	4,900	16,694	5,869	1,221	742	0	367	0
Total	85,754	350	26	9,736	23,597	9,761	26,370	10,141	2,264	1,518	1	760	1,229
South Central													
Nonstocked	1,046	0	0	0	0	0	0	0	0	0	0	0	1,046
Seedling-sapling	23,619	5	0	543	6,676	3,042	7,924	1,843	2,447	508	0	632	0
Poletimber	30,163	3	0	665	11,624	2,816	9,850	2,032	2,379	533	0	261	0
Sawtimber	67,510	109	0	1,548	17,921	5,800	26,984	8,387	5,083	1,563	0	116	0
Total	122,338	117	0	2,756	36,221	11,657	44,758	12,262	9,909	2,603	0	1,009	1,046
East total													
Nonstocked	3,460	0	0	0	0	0	0	0	0	0	0	0	3,460
Seedling-sapling	65,982	922	5,395	2,592	11,064	6,309	16,130	4,028	6,022	6,063	5,612	1,845	0
Poletimber	95,876	1,722	5,115	4,264	19,872	6,402	25,532	4,331	7,537	13,845	6,309	948	0
Sawtimber	207,668	6,874	3,817	5,636	31,074	14,095	83,667	14,736	13,796	30,389	2,595	990	0
Total	372,987	9,518	14,326	12,492	62,010	26,806	125,329	23,095	27,355	50,297	14,515	3,783	3,460
Great Plains													
Nonstocked	293	0	0	0	0	0	0	0	0	0	0	0	293
Seedling-sapling	1,019	0	163	0	13	0	0	0	0	210	432	200	0
Poletimber	1,367	0	122	0	0	0	0	0	0	316	741	188	0
Sawtimber	3,405	0	1,057	4	64	0	0	0	0	271	1,802	207	0
Total	6,084	0	1,343	4	77	0	0	0	0	797	2,975	595	293
Intermountain													
Nonstocked	3,643	0	0	0	0	0	0	0	0	0	0	0	3,643
Seedling-sapling	9,623	1,876	783	23	2,370	123	228	1,974	0	280	1,961	0	6
Poletimber	10,837	1,699	697	3	2,153	86	216	3,051	0	128	2,804	0	0
Sawtimber	39,466	11,995	9,576	25	11,151	1,142	676	2,327	0	753	1,821	0	0
Total	63,569	15,570	11,055	51	15,674	1,351	1,120	7,352	0	1,160	6,586	0	3,649

Table 14. (cont.) Timberland area in the United States by forest-type group, subregion, and stand-size class, 2017

Subregion and stand-size class (Years)	All forest types	Forest-type group											
		White-red-jack pine	Spruce-fir	Longleaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cotton-wood	Maple-beech-birch	Aspen-birch	Other forest types	Non-stocked
	Thousand acres												
Alaska													
Nonstocked	139	0	0	0	0	0	0	0	0	0	0	0	139
Seedling-sapling	3,036	0	0	0	1,074	630	0	48	0	78	1,205	0	0
Poletimber	3,394	0	0	0	1,130	189	0	9	0	68	1,998	0	0
Sawtimber	6,426	0	0	0	1,104	4,455	0	7	0	3	856	0	0
Total	12,996	0	0	0	3,308	5,275	0	65	0	149	4,060	0	139
Pacific Northwest													
Nonstocked	1,511	0	0	0	0	0	0	0	0	0	0	0	1,511
Seedling-sapling	6,237	2,481	685	13	627	450	72	882	0	70	957	0	0
Poletimber	4,677	2,104	351	1	320	244	49	538	6	18	1,048	0	0
Sawtimber	29,037	13,771	5,756	16	3,147	2,810	342	657	0	333	2,203	0	0
Total	41,462	18,357	6,792	29	4,094	3,503	463	2,077	6	421	4,208	0	1,511
Pacific Southwest													
Nonstocked	630	0	0	0	0	0	0	0	0	36	0	0	593
Seedling-sapling	1,498	47	166	0	45	3	0	25	36	649	527	0	0
Poletimber	1,485	67	161	0	20	0	0	14	25	309	889	0	0
Sawtimber	13,714	766	1,755	18	1,274	72	0	267	589	6,536	2,426	11	0
Total	17,326	880	2,083	18	1,339	75	0	306	651	7,529	3,842	11	593
West total													
Nonstocked	6,216	0	0	0	0	0	0	0	0	36	0	0	6,180
Seedling-sapling	21,413	4,405	1,797	36	4,129	1,206	300	2,929	36	1,286	5,083	200	6
Poletimber	21,761	3,870	1,332	4	3,623	519	265	3,612	32	839	7,479	188	0
Sawtimber	92,048	26,533	18,145	62	16,740	8,479	1,018	3,259	589	7,897	9,109	217	0
Total	141,438	34,807	21,273	102	24,492	10,205	1,583	9,800	657	10,057	21,671	605	6,186

Note: Data may not add to totals because of rounding.

Table 15. Timberland area in the United States by stand-size class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region and subregion	Year	Total	Stand-size class			
			Sawtimber	Poletimber	Seedling/ sapling	Nonstocked
		Thousand acres				
North						
Northeast	2017	78,539	48,921	19,209	9,961	448
	2012	79,822	47,535	20,704	11,073	510
	2007	79,803	44,242	23,500	11,554	507
	1997	78,923	40,513	26,022	12,285	104
	1987	79,835	41,299	27,588	10,676	271
	1977	78,561	33,801	21,614	21,071	2,075
	1953	73,035	27,639	30,287	12,631	2,478
North Central	2017	86,355	45,026	25,527	15,065	737
	2012	87,556	43,933	26,787	15,959	878
	2007	84,215	39,356	28,460	15,664	735
	1997	80,510	35,545	25,025	19,640	300
	1987	74,583	26,015	28,018	19,022	1,528
	1977	74,885	21,971	29,774	20,811	2,329
	1953	81,240	15,414	26,712	26,524	12,590
North total	2017	164,894	93,948	44,736	25,026	1,185
	2012	167,378	91,467	47,490	27,032	1,388
	2007	164,018	83,598	51,960	27,218	1,242
	1997	159,433	76,058	51,047	31,925	403
	1987	154,417	67,314	55,606	29,698	1,799
	1977	153,446	55,772	51,388	41,882	4,404
	1953	154,275	43,053	56,999	39,155	15,068
South						
Southeast	2017	85,754	46,210	20,977	17,337	1,229
	2012	86,755	44,085	22,517	18,859	1,294
	2007	85,665	40,230	22,826	21,466	1,143
	1997	84,803	35,742	22,385	25,511	1,165
	1987	85,141	36,415	25,189	20,273	3,264
	1977	87,818	32,878	28,619	22,162	4,159
	1953	89,067	25,669	29,709	21,804	11,885
South Central	2017	122,338	67,510	30,163	23,619	1,046
	2012	123,292	65,824	30,398	26,033	1,038
	2007	118,365	60,982	30,252	25,955	1,176
	1997	116,196	52,801	30,018	33,111	266
	1987	112,127	48,622	34,688	28,677	140
	1977	111,812	43,789	32,611	34,331	1,081
	1953	115,479	39,736	53,172	18,051	4,520
South total	2017	208,092	113,720	51,141	40,956	2,275
	2012	210,048	109,909	52,915	44,893	2,332
	2007	204,029	101,211	53,078	47,421	2,319
	1997	200,999	88,543	52,403	58,622	1,431
	1987	197,268	85,037	59,877	48,950	3,404
	1977	199,630	76,667	61,230	56,493	5,240
	1953	204,546	65,405	82,881	39,855	16,405
East total	2017	372,987	207,668	95,876	65,982	3,460
	2012	377,426	201,376	100,405	71,925	3,720
	2007	368,047	184,810	105,038	74,639	3,561
	1997	360,432	164,601	103,450	90,547	1,834
	1987	351,686	152,351	115,483	78,648	5,204
	1977	353,076	132,439	112,618	98,375	9,644
	1953	358,821	108,458	139,880	79,010	31,473

Table 15. (cont.) Timberland area in the United States by stand-size class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region and subregion	Year	Total	Stand-size class			
			Sawtimber	Poletimber	Seedling/ sapling	Nonstocked
		Thousand acres				
Rocky Mountain						
Great Plains	2017	6,084	3,405	1,367	1,019	293
	2012	6,179	3,378	1,459	1,024	317
	2007	5,287	2,904	1,451	712	220
	1997	4,317	2,250	1,254	761	53
	1987	3,529	1,993	758	675	102
	1977	3,652	2,003	756	396	497
	1953	4,014	1,341	1,302	850	521
Intermountain	2017	63,569	39,466	10,837	9,623	3,643
	2012	64,844	40,988	11,545	8,891	3,420
	2007	65,681	42,281	11,686	8,902	2,812
	1997	66,701	45,416	12,078	6,543	2,664
	1987	57,610	40,526	9,453	6,308	1,324
	1977	56,521	35,880	12,197	5,873	2,571
	1953	62,585	29,613	19,412	8,823	4,737
Rocky Mountain total	2017	69,654	42,871	12,204	10,642	3,937
	2012	71,023	44,366	13,004	9,915	3,737
	2007	70,968	45,185	13,136	9,614	3,032
	1997	71,018	47,666	13,332	7,304	2,717
	1987	61,139	42,519	10,211	6,983	1,426
	1977	60,173	37,883	12,953	6,269	3,068
	1953	66,599	30,954	20,714	9,673	5,258
Pacific Coast						
Alaska	2017	12,996	6,426	3,394	3,036	139
	2012	12,817	6,251	3,359	3,056	152
	2007	11,865	5,945	3,135	2,550	234
	1997	12,395	7,282	2,764	2,186	163
	1987	15,763	10,155	3,018	2,423	168
	1977	19,720	14,592	2,487	2,492	149
	1953	20,342	19,499	357	357	129
Pacific Northwest	2017	41,462	29,037	4,677	6,237	1,511
	2012	42,197	29,123	4,854	6,784	1,436
	2007	43,489	29,416	5,212	7,640	1,222
	1997	41,167	25,744	5,421	8,955	1,047
	1987	40,315	24,093	7,672	7,403	1,147
	1977	42,133	26,230	7,196	6,711	1,996
	1953	44,876	28,367	8,418	5,428	2,663
Pacific Southwest	2017	17,326	13,714	1,485	1,498	630
	2012	17,690	13,848	1,522	1,459	861
	2007	19,843	14,908	2,375	1,734	826
	1997	18,652	13,387	2,203	1,291	1,772
	1987	17,412	13,747	1,597	1,956	112
	1977	17,251	12,066	1,440	1,995	1,750
	1953	18,216	14,213	1,319	97	2,587

Table 15. (cont.) Timberland area in the United States by stand-size class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region and subregion	Year	Total	Stand-size class			
			Sawtimber	Poletimber	Seedling/ sapling	Nonstocked
		Thousand acres				
Pacific Coast total	2017	71,784	49,177	9,557	10,771	2,280
	2012	72,705	49,222	9,735	11,299	2,449
	2007	75,198	50,270	10,722	11,924	2,282
	1997	72,214	46,413	10,387	12,431	2,982
	1987	73,490	47,994	12,286	11,782	1,427
	1977	79,104	52,888	11,123	11,198	3,895
	1953	83,434	62,079	10,094	5,882	5,379
West total	2017	141,438	92,048	21,761	21,413	6,216
	2012	143,728	93,588	22,739	21,215	6,186
	2007	146,166	95,455	23,858	21,538	5,314
	1997	143,232	94,079	23,719	19,735	5,699
	1987	134,629	90,513	22,498	18,765	2,853
	1977	139,277	90,771	24,076	17,467	6,963
	1953	150,033	93,033	30,808	15,555	10,637
United States	2017	514,425	299,716	117,637	87,395	9,676
	2012	521,154	294,964	123,144	93,140	9,906
	2007	514,213	280,265	128,896	96,177	8,875
	1997	503,665	258,680	127,169	110,283	7,533
	1987	486,315	242,864	137,981	97,413	8,057
	1977	492,353	223,210	136,694	115,842	16,607
	1953	508,854	201,491	170,688	94,565	42,110

Note: Data may not add to totals because of rounding.

Table 16. Timberland area in the East and West by forest-type group, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Major region	Year	All eastern types	White-red-jack pine	Spruce-fir	Longleaf-slash pine	Loblolly-shortleaf-pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Aspen-birch	Other forest types	Non-stocked
		Thousand acres												
East														
North	2017	164,894	9,050	14,300	0	2,192	5,388	54,201	692	15,182	46,177	14,514	2,014	1,185
	2012	167,378	8,665	14,350	0	1,582	5,524	54,592	672	15,666	46,840	15,631	2,467	1,388
	2007	164,018	9,491	13,911	0	1,436	5,668	53,287	624	11,203	49,661	16,476	1,233	1,027
	1997	159,433	10,512	15,185	0	2,263	3,595	49,678	770	10,000	50,210	16,818	0	404
	1987	154,418	13,030	16,421	0	2,294	3,457	45,945	778	11,009	42,263	17,346	0	1,876
	1977	153,446	11,362	17,468	0	2,468	3,115	42,262	518	18,050	34,300	19,149	0	4,754
	1953	154,275	8,940	18,887	0	3,569	1,022	46,455	1,212	19,673	23,248	24,637	0	6,633
South	2017	208,092	467	26	12,492	59,818	21,418	71,128	22,403	12,173	4,121	1	1,769	2,275
	2012	210,048	476	20	12,828	56,404	22,124	73,272	22,860	12,398	4,212	2	2,332	3,121
	2007	204,029	763	16	12,878	54,570	22,989	78,289	20,403	8,054	1,262	4	2,320	2,479
	1997	200,999	645	11	13,129	49,719	29,809	74,315	28,495	2,299	1,146	0	0	1,431
	1987	197,269	519	18	15,640	46,694	28,043	71,239	27,596	3,036	884	0	0	3,599
	1977	199,630	407	8	16,725	47,433	31,453	66,307	26,116	4,171	1,776	0	0	5,234
	1953	204,546	329	12	26,926	51,792	23,970	54,872	34,498	4,051	750	0	0	7346
East total	2017	372,987	9,518	14,326	12,492	62,010	26,806	125,329	23,095	27,355	50,297	14,515	3,783	3,460
	2012	377,426	9,141	14,370	12,828	57,986	27,648	127,863	23,533	28,064	51,052	15,632	4,799	4,509
	2007	368,047	10,255	13,928	12,878	56,007	28,658	131,576	21,027	19,257	50,923	16,480	3,553	3,507
	1997	360,432	11,157	15,196	13,129	51,982	33,404	123,992	29,265	12,299	51,356	16,818	0	1,835
	1987	351,687	13,549	16,439	15,640	48,988	31,500	117,184	28,373	14,045	43,148	17,346	0	5,475
	1977	353,076	11,769	17,476	16,725	49,901	34,568	108,569	26,635	22,222	36,076	19,149	0	9,988
	1953	358,821	9,269	18,899	26,926	55,360	24,992	101,326	35,710	23,724	23,998	24,637	0	13,979

Table 16. (cont.) Timberland area in the East and West by forest-type group, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Major region	Year	All western types	Douglas-fir	Ponderosa-Jeffrey pine	Western white pine	Fir-spruce	Hemlock-Sitka spruce	Larch	Lodgepole pine	Redwood	Other western softwood types	Western hardwood types	Other forest types	Non-stocked
		Thousand acres												
West														
Rocky Mountain	2017	69,654	15,570	12,399	54	15,751	1,351	1,120	7,352	0	1,958	9,561	595	3,942
	2012	71,023	15,519	12,706	46	15,624	1,362	1,095	8,057	0	2,425	9,840	611	3,737
	2007	70,968	16,006	13,833	66	15,156	1,166	1,063	8,290	0	1,604	10,185	568	3,032
	1997	71,018	17,645	15,752	131	14,236	1,510	873	9,696	0	1,906	8,796	365	108
	1987	62,716	14,119	14,555	276	11,684	1,580	1,856	9,973	0	319	5,105	1,673	1,576
	1977	62,729	12,729	15,285	333	10,545	1,298	1,822	10,225	0	528	4,745	2,663	2,556
	1953	69,840	11,923	18,800	2,670	7,529	99	2,677	13,326	0	0	5,600	3,973	3,241
Alaska	2017	12,996	0	0	0	3,308	5,275	0	65	0	149	4,060	0	139
	2012	12,817	0	0	0	3,265	5,104	0	82	0	149	4,066	0	152
	2007	11,865	0	0	0	3,625	4,156	0	39	0	149	3,661	0	234
	1997	12,395	0	0	0	3,107	4,818	0	0	0	155	4,165	0	150
	1987	15,767	0	0	0	5,661	5,560	0	0	0	181	4,358	4	4
	1977	19,771	0	0	0	2,715	12,063	0	0	0	0	4,857	87	49
	1953	20,532	0	0	0	0	19,438	0	0	0	0	0	904	190
West total	2017	141,438	34,807	21,273	102	24,492	10,205	1,583	9,800	657	10,057	21,671	605	6,186
	2012	143,728	34,718	21,565	121	24,514	10,174	1,544	10,707	596	9,862	23,109	631	6,186
	2007	146,166	35,109	22,828	159	24,789	9,217	1,532	10,922	553	8,479	25,713	1,552	5,314
	1997	143,232	36,534	29,305	278	24,557	11,411	1,161	12,269	738	3,671	21,210	638	1,460
	1987	137,024	33,887	25,791	290	27,783	11,174	2,729	12,205	1,129	819	16,312	2,511	2,394
	1977	145,666	31,395	27,253	459	21,457	18,180	2,504	13,142	662	528	17,168	6,529	6,387
	1953	157,833	32,570	35,081	5,467	11,970	24,419	3,565	16,030	1,283	0	10,373	9,275	7,800

Note: Data may not add to totals because of rounding.

Table 17. Net volume of timber on timberland in the United States by class of timber, species group, region, subregion, and State, 2017

Region, subregion, and State	Class of timber											
	Alltimber			Growing stock			Live cull			Sound dead		
	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
	Million cubic feet											
North												
Northeast												
Connecticut	4,624	595	4,029	4,178	514	3,663	389	60	330	57	21	36
Delaware	914	129	785	818	122	696	76	3	73	20	4	16
Maine	26,154	14,365	11,789	23,356	13,109	10,247	2,112	813	1,299	686	443	243
Maryland	6,153	971	5,183	5,595	929	4,666	429	16	413	129	25	104
Massachusetts	8,318	3,210	5,108	7,331	2,902	4,429	818	229	588	169	79	90
New Hampshire	10,666	4,399	6,268	9,353	3,999	5,354	1,036	282	754	277	118	159
New Jersey	3,787	1,007	2,781	3,347	885	2,462	331	77	254	109	45	64
New York	34,994	8,166	26,828	30,158	7,069	23,089	3,752	801	2,952	1,083	296	787
Pennsylvania	37,751	3,756	33,995	33,674	3,314	30,359	3,233	306	2,927	845	135	709
Rhode Island	886	210	676	771	200	571	106	7	99	9	3	6
Vermont	10,142	3,224	6,919	8,639	2,809	5,830	1,237	309	927	266	105	161
West Virginia	28,166	1,435	26,732	25,560	1,254	24,306	2,048	112	1,936	558	69	490
Total	172,556	41,465	131,091	152,780	37,108	115,672	15,567	3,015	12,552	4,209	1,343	2,867
North Central												
Illinois	9,165	285	8,880	7,046	222	6,824	1,681	42	1,639	438	21	417
Indiana	10,643	340	10,303	9,325	273	9,052	911	36	875	407	31	376
Iowa	4,593	60	4,532	3,061	15	3,046	1,279	43	1,237	252	3	249
Michigan	34,717	10,870	23,847	30,338	9,660	20,678	2,780	718	2,062	1,599	492	1,107
Minnesota	19,049	6,147	12,902	15,615	5,411	10,204	2,374	419	1,955	1,061	317	743
Missouri	21,415	1,730	19,686	16,399	1,236	15,162	4,106	467	3,638	911	26	885
Ohio	16,451	605	15,846	13,676	533	13,143	2,290	38	2,252	485	34	451
Wisconsin	25,614	6,776	18,839	21,802	6,143	15,659	2,781	404	2,378	1,031	229	802
Total	141,647	26,813	114,834	117,261	23,494	93,768	18,202	2,166	16,036	6,184	1,154	5,030
North total	314,204	68,278	245,926	270,041	60,601	209,440	33,769	5,180	28,588	10,394	2,497	7,897
South												
Southeast												
Florida	22,022	12,591	9,431	16,084	11,661	4,423	5,823	868	4,955	114	61	53
Georgia	43,697	22,142	21,555	36,461	20,894	15,567	6,793	987	5,807	442	261	182
North Carolina	40,734	14,635	26,100	36,735	14,067	22,668	3,561	327	3,234	438	240	198
South Carolina	25,391	13,259	12,132	21,669	12,415	9,254	3,533	716	2,817	190	129	61
Virginia	36,050	8,913	27,137	31,654	8,502	23,152	3,895	218	3,677	501	193	308
Total	167,894	71,539	96,355	142,603	67,540	75,063	23,605	3,115	20,490	1,685	884	802
South Central												
Alabama	38,610	18,308	20,302	32,746	17,322	15,424	5,500	759	4,742	363	227	136
Arkansas	30,606	12,714	17,892	27,235	12,226	15,009	3,076	427	2,649	295	60	234
Kentucky	25,351	1,680	23,671	20,682	1,358	19,325	4,281	258	4,023	388	65	323
Louisiana	24,892	12,419	12,473	21,428	11,965	9,463	3,210	341	2,869	254	113	141
Mississippi	34,005	16,890	17,116	28,657	15,934	12,724	5,177	873	4,305	171	83	88
Oklahoma	7,488	2,006	5,482	4,707	1,768	2,938	2,553	204	2,349	228	34	194
Tennessee	29,041	3,805	25,236	24,361	3,201	21,160	3,998	386	3,612	682	218	464
Texas	19,894	10,439	9,455	16,667	9,993	6,675	2,885	306	2,579	341	140	202
Total	209,887	78,261	131,626	176,485	73,767	102,717	30,681	3,554	27,127	2,722	940	1,782
South total	377,781	149,800	227,981	319,088	141,307	177,781	54,286	6,669	47,617	4,407	1,824	2,584

Table 17. (cont.) Net volume of timber on timberland in the United States by class of timber, species group, region, subregion, and State, 2017

Region, subregion, and State	Alltimber			Class of timber: Growing stock			Live cull			Sound dead		
	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
	Million cubic feet											
Rocky Mountain												
Great Plains												
Kansas	3,454	126	3,328	1,436	24	1,412	1,865	90	1,775	153	12	141
Nebraska	2,115	546	1,569	926	250	676	1,076	242	834	113	53	60
North Dakota	638	7	631	359	2	357	249	2	247	30	3	27
South Dakota	2,269	1,859	410	1,765	1,609	156	344	112	233	160	138	21
Total	8,476	2,537	5,938	4,487	1,885	2,601	3,534	446	3,088	456	206	249
Intermountain												
Arizona	6,699	6,061	639	5,977	5,638	339	340	116	223	383	307	76
Colorado	24,380	19,661	4,719	22,093	17,850	4,243	403	226	177	1,883	1,585	299
Idaho	43,499	42,877	622	40,866	40,318	547	253	222	31	2,380	2,337	44
Montana	37,136	36,621	515	34,069	33,592	477	320	292	28	2,747	2,737	11
Nevada	283	244	39	270	235	36	13	10	3	0	0	0
New Mexico	7,722	6,837	886	7,279	6,575	705	364	194	170	78	68	11
Utah	7,164	5,514	1,650	6,230	4,723	1,507	142	92	51	792	699	92
Wyoming	8,864	8,399	465	8,735	8,287	448	129	112	17	0	0	0
Total	135,747	126,213	9,534	125,518	117,217	8,301	1,964	1,263	701	8,264	7,732	532
Rocky Mountain total	144,222	128,750	15,472	130,005	119,102	10,903	5,498	1,709	3,789	8,720	7,939	781
Pacific Coast												
Alaska												
Alaska	39,229	35,639	3,590	37,140	33,761	3,379	326	156	170	1,763	1,722	41
Total	39,229	35,639	3,590	37,140	33,761	3,379	326	156	170	1,763	1,722	41
Pacific Northwest												
Oregon	94,897	87,494	7,403	90,882	83,744	7,138	90	59	31	3,925	3,691	234
Washington	71,946	66,186	5,760	68,356	62,736	5,619	63	32	31	3,528	3,418	110
Total	166,844	153,680	13,163	159,238	146,480	12,758	152	91	62	7,453	7,109	344
Pacific Southwest												
California	72,535	62,690	9,845	68,579	59,239	9,339	86	40	47	3,870	3,411	459
Hawaii	1,197	34	1,163	1,147	34	1,113	0	0	0	50	0	49
Total	73,732	62,725	11,007	69,726	59,273	10,452	86	40	47	3,920	3,412	508
Pacific Coast total	279,805	252,044	27,760	266,104	239,515	26,589	565	287	278	13,136	12,243	893
United States	1,116,012	598,873	517,139	985,238	560,526	424,712	94,117	13,845	80,272	36,657	24,502	12,155

Note: Data may not add to totals because of rounding.

Table 18. Net volume of softwood growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	All owners						National forest					
	2017	2007	1997	1987	1977	1953	2017	2007	1997	1987	1977	1953
	Million cubic feet											
North												
Northeast												
Connecticut	514	457	441	414	425	158	-	0	0	0	0	0
Delaware	122	114	169	173	168	236	-	0	0	0	0	0
Maine	13,109	12,570	11,682	14,510	16,060	10,093	60	49	48	24	22	15
Maryland	929	801	816	805	793	717	-	0	0	0	0	0
Massachusetts	2,902	2,605	1,608	1,689	1,439	631	-	0	0	0	0	0
New Hampshire	3,999	3,976	3,819	3,408	3,526	2,208	477	504	332	360	276	253
New Jersey	885	582	523	563	252	250	-	0	0	0	0	0
New York	7,069	6,070	5,400	4,935	3,524	2,748	4	0	6	1	0	0
Pennsylvania	3,314	2,865	2,329	1,983	1,778	1,229	130	78	63	68	60	38
Rhode Island	200	142	44	59	108	15	-	0	0	0	0	0
Vermont	2,809	2,841	2,863	2,010	1,826	1,251	159	71	66	45	39	35
West Virginia	1,254	1,228	1,250	1,060	1,092	492	303	311	267	180	239	118
Total	37,108	34,251	30,946	31,609	30,991	20,028	1,133	1,013	782	678	636	459
North Central												
Illinois	222	229	118	118	81	17	89	70	47	47	35	5
Indiana	273	275	277	201	88	27	45	46	29	22	14	3
Iowa	15	29	18	7	6	4	0	0	0	0	0	0
Michigan	9,660	8,903	7,600	6,558	5,201	2,370	2,109	1,943	1,504	1,337	954	271
Minnesota	5,411	4,855	4,703	4,086	3,477	2,698	1,208	1,002	1,030	919	871	780
Missouri	1,236	1,337	862	601	392	264	486	448	311	273	177	134
Ohio	533	610	401	326	274	96	27	41	29	20	16	7
Wisconsin	6,143	5,375	4,450	4,112	3,340	1,549	706	652	627	652	475	136
Total	23,494	21,613	18,429	16,009	12,859	7,025	4,669	4,202	3,577	3,270	2,542	1,336
North total	60,601	55,864	49,374	47,618	43,850	27,053	5,803	5,215	4,359	3,948	3,178	1,795
South												
Southeast												
Florida	11,661	10,333	9,424	9,305	8,750	5,384	1,185	894	995	873	912	549
Georgia	20,894	17,320	15,224	15,870	16,096	10,751	715	467	506	377	468	366
North Carolina	14,067	12,461	12,531	12,286	11,526	9,097	611	503	546	523	496	337
South Carolina	12,415	9,785	8,033	8,835	8,708	4,800	1,077	807	582	744	758	582
Virginia	8,502	6,824	6,648	6,323	5,928	5,516	466	400	362	331	312	240
Total	67,540	56,723	51,861	52,619	51,008	35,548	4,053	3,071	2,991	2,848	2,946	2,074
South Central												
Alabama	17,322	13,460	11,101	11,328	11,469	5,875	757	714	562	659	561	278
Arkansas	12,226	10,267	9,342	8,586	7,973	4,640	2,288	1,916	1,895	1,677	1,520	886
Kentucky	1,358	1,183	1,212	1,110	916	493	167	151	158	164	153	139
Louisiana	11,965	10,421	9,928	10,552	9,342	4,253	1,272	1,269	732	775	724	268
Mississippi	15,934	12,622	9,209	9,746	8,930	3,674	2,065	1,916	1,374	1,474	1,253	579
Oklahoma	1,768	1,421	1,421	998	1,011	541	457	228	228	169	127	73
Tennessee	3,201	3,161	2,893	2,710	2,203	1,227	427	405	303	346	274	220
Texas	9,993	9,214	7,878	7,964	8,356	4,211	1,844	1,742	1,143	1,202	1,058	680
Total	73,767	61,749	52,985	52,994	50,200	24,914	9,277	8,341	6,395	6,466	5,670	3,123
South total	141,307	118,472	104,846	105,613	101,208	60,462	13,330	11,412	9,386	9,314	8,616	5,197

Table 18. (cont.) Net volume of softwood growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	All owners						National forest					
	2017	2007	1997	1987	1977	1953	2017	2007	1997	1987	1977	1953
	Million cubic feet											
Rocky Mountain												
Great Plains												
Kansas	24	57	17	6	1	0	0	0	0	0	0	0
Nebraska	250	325	211	177	148	73	36	39	54	31	28	19
North Dakota	2	0	3	3	0	0	0	0	1	0	0	0
South Dakota	1,609	1,257	1,331	1,726	1,650	1,236	1,159	977	1,090	1,270	1,345	1,046
Total	1,885	1,639	1,563	1,912	1,799	1,309	1,194	1,016	1,145	1,301	1,373	1,065
Intermountain												
Arizona	5,638	5,835	5,609	5,980	4,763	4,600	3,985	4,175	3,931	4,176	3,208	2,888
Colorado	17,850	21,085	16,164	16,226	12,624	10,926	13,670	16,426	11,792	11,811	9,486	8,205
Idaho	40,318	36,561	38,473	32,088	31,662	28,677	31,304	29,457	29,580	23,440	21,589	18,894
Montana	33,592	36,756	34,254	27,611	27,691	27,367	25,681	28,178	25,148	18,595	18,090	17,444
Nevada	235	596	306	390	250	235	168	310	127	206	86	79
New Mexico	6,575	6,384	5,029	5,628	5,797	5,514	4,280	4,337	3,126	3,730	2,872	2,578
Utah	4,723	5,244	5,708	3,913	3,562	3,657	3,896	4,395	4,575	3,031	2,808	2,785
Wyoming	8,287	10,704	7,578	6,550	6,963	5,261	6,815	8,618	5,570	4,542	5,569	4,075
Total	117,217	123,165	113,121	98,386	93,312	86,237	89,799	95,896	83,849	69,531	63,708	56,948
Rocky Mountain total	119,102	124,804	114,684	100,298	95,111	87,546	90,993	96,912	84,994	70,832	65,081	58,013
Pacific Coast												
Alaska												
Alaska	33,761	29,124	29,810	37,051	48,277	49,149	22,895	19,757	18,733	24,068	35,414	38,850
Total	33,761	29,124	29,810	37,051	48,277	49,149	22,895	19,757	18,733	24,068	35,414	38,850
Pacific Northwest												
Oregon	83,744	81,183	76,770	70,554	74,735	87,580	44,851	44,325	47,993	42,102	44,904	45,488
Washington	62,736	64,823	59,187	60,130	57,800	61,994	27,411	29,573	27,321	23,497	22,833	25,504
Total	146,480	146,006	135,957	130,684	132,535	149,574	72,262	73,898	75,314	65,599	67,737	70,992
Pacific Southwest												
California	59,239	54,921	49,167	46,307	45,975	58,006	35,513	33,358	29,539	27,213	28,073	29,590
Hawaii	34	4	4	4	4	4	0	0	0	0	0	0
Total	59,273	57,330	49,171	46,311	45,979	58,010	35,513	33,358	29,539	27,213	28,073	29,590
Pacific Coast total	239,515	232,460	214,938	214,046	226,791	256,733	130,670	127,013	123,586	116,880	131,224	139,432
United States	560,526	531,600	483,842	467,575	466,960	431,794	240,796	240,552	222,325	200,974	208,099	204,437

Table 18. (cont.) Net volume of softwood growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Other public						2017 Private corporate	2017 Private noncorporate	Total Private					
	2017	2007	1997	1987	1977	1953			2017	2007	1997	1987	1977	1953
	Million cubic feet													
North														
Northeast														
Connecticut	176	131	42	69	50	16	60	278	338	326	399	345	375	142
Delaware	32	4	7	8	9	5	26	65	90	110	162	165	159	231
Maine	992	700	508	527	265	112	6,949	5,108	12,057	11,821	11,126	13,959	15,773	9,966
Maryland	175	113	79	78	82	28	290	465	755	688	737	727	711	689
Massachusetts	918	712	223	270	263	78	233	1,750	1,984	1,893	1,385	1,419	1,176	553
New Hampshire	410	474	357	227	59	62	451	2,662	3,113	2,998	3,130	2,821	3,191	1,893
New Jersey	582	253	221	256	58	26	139	164	303	329	302	307	194	224
New York	1,274	1,156	734	648	442	344	969	4,823	5,791	4,914	4,660	4,286	3,082	2,404
Pennsylvania	661	569	390	230	213	147	329	2,194	2,523	2,218	1,876	1,685	1,505	1,044
Rhode Island	87	45	12	26	4	1	20	93	113	97	32	33	104	14
Vermont	177	154	152	130	92	38	295	2,179	2,473	2,616	2,645	1,835	1,695	1,178
West Virginia	48	64	73	27	18	28	234	669	903	853	910	853	835	346
Total	5,530	4,375	2,798	2,496	1,555	885	9,995	20,449	30,444	28,863	27,366	28,435	28,800	18,684
North Central														
Illinois	36	43	25	25	15	0	6	91	97	116	46	46	31	12
Indiana	43	45	34	17	20	14	36	149	185	184	214	162	54	10
Iowa	4	4	0	0	0	0	0	11	11	25	18	7	6	4
Michigan	2,406	2,388	2,031	1,745	1,307	534	1,363	3,782	5,145	4,572	4,065	3,476	2,940	1,565
Minnesota	2,219	2,298	2,072	1,875	1,565	1,115	389	1,596	1,985	1,555	1,601	1,292	1,041	803
Missouri	71	85	68	22	12	5	60	618	679	804	483	306	203	125
Ohio	85	79	46	26	25	9	96	325	421	490	326	280	233	80
Wisconsin	1,410	1,406	994	1,130	784	485	505	3,521	4,027	3,317	2,829	2,330	2,081	928
Total	6,275	6,348	5,270	4,840	3,728	2,162	2,455	10,094	12,549	11,063	9,582	7,899	6,589	3,527
North total	11,805	10,723	8,068	7,336	5,283	3,047	12,450	30,543	42,993	39,926	36,947	36,334	35,389	22,211
South														
Southeast														
Florida	2,785	2,398	1,542	1,155	752	312	4,882	2,811	7,692	7,041	6,887	7,277	7,086	4,523
Georgia	1,617	1,326	1,202	969	856	656	7,256	11,306	18,563	15,527	13,516	14,524	14,772	9,729
North Carolina	1,299	1,245	745	579	404	273	4,369	7,789	12,157	10,713	11,240	11,184	10,626	8,487
South Carolina	1,041	822	604	585	462	112	4,298	5,998	10,296	8,156	6,847	7,506	7,488	4,106
Virginia	467	506	359	351	296	231	2,342	5,228	7,570	5,918	5,927	5,641	5,320	5,045
Total	7,208	6,297	4,452	3,639	2,770	1,584	23,146	33,133	56,279	47,355	44,418	46,132	45,292	31,890
South Central														
Alabama	579	426	270	229	216	98	6,948	9,039	15,987	12,320	10,269	10,440	10,692	5,499
Arkansas	464	481	284	224	155	41	4,748	4,726	9,474	7,870	7,163	6,685	6,298	3,713
Kentucky	61	94	35	4	4	63	186	943	1,129	938	1,019	942	759	291
Louisiana	653	554	351	277	206	83	6,027	4,013	10,040	8,598	8,845	9,500	8,412	3,902
Mississippi	622	617	508	268	376	342	3,973	9,274	13,247	10,089	7,327	8,004	7,301	2,753
Oklahoma	95	73	73	58	50	2	795	421	1,216	1,120	1,120	771	834	466
Tennessee	306	257	302	241	189	102	689	1,779	2,468	2,499	2,288	2,123	1,740	905
Texas	326	222	128	157	144	49	3,505	4,318	7,823	7,250	6,607	6,605	7,154	3,482
Total	3,107	2,724	1,951	1,458	1,340	780	26,872	34,512	61,384	50,684	44,639	45,070	43,190	21,011
South total	10,315	9,021	6,403	5,097	4,110	2,364	50,018	67,645	117,662	98,039	89,057	91,202	88,482	52,901

Table 18. (cont.) Net volume of softwood growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Other public						2017 Private corporate	2017 Private noncorporate	Total Private					
	2017	2007	1997	1987	1977	1953			2017	2007	1997	1987	1977	1953
	Million cubic feet													
Rocky Mountain														
Great Plains														
Kansas	3	8	1	0	0	0	0	21	21	49	16	6	1	0
Nebraska	14	15	22	17	13	4	2	199	201	271	135	129	107	50
North Dakota	0	0	0	0	0	0	0	2	2	0	2	3	0	0
South Dakota	99	85	47	118	100	51	58	293	351	195	194	338	205	139
Total	116	108	70	135	113	55	60	515	575	515	348	476	313	189
Intermountain														
Arizona	61	33	47	1,753	1,449	1,596	50	1,542	1,592	1,627	1,631	51	106	116
Colorado	1,307	1,618	1,362	1,365	713	618	510	2,363	2,873	3,041	3,010	3,050	2,425	2,103
Idaho	3,971	4,031	3,353	3,480	3,267	2,992	2,833	2,211	5,043	3,073	5,540	5,168	6,806	6,791
Montana	2,313	2,889	2,318	2,458	2,543	2,335	1,883	3,715	5,598	5,689	6,788	6,558	7,058	7,588
Nevada	40	262	56	12	9	9	5	21	27	24	123	172	155	147
New Mexico	205	181	124	676	1,347	1,352	428	1,661	2,089	1,866	1,779	1,222	1,578	1,584
Utah	350	277	374	345	412	476	145	332	477	572	759	537	342	396
Wyoming	612	853	724	870	576	490	152	708	860	1,233	1,284	1,138	818	696
Total	8,860	10,144	8,358	10,959	10,316	9,868	6,006	12,553	18,559	17,125	20,914	17,896	19,288	19,421
Rocky Mountain total	8,976	10,252	8,428	11,094	10,429	9,923	6,066	13,068	19,134	17,640	21,262	18,372	19,601	19,610
Pacific Coast														
Alaska														
Alaska	6,624	5,190	5,090	5,880	12,200	10,081	3,814	428	4,242	4,177	5,987	7,103	663	218
Total	6,624	5,190	5,090	5,880	12,200	10,081	3,814	428	4,242	4,177	5,987	7,103	663	218
Pacific Northwest														
Oregon	17,982	15,943	12,058	12,805	12,709	15,272	14,012	6,899	20,911	20,915	16,719	15,647	17,122	26,820
Washington	12,321	13,405	9,723	13,798	13,200	12,605	12,186	10,818	23,004	21,845	22,143	22,835	21,767	23,885
Total	30,303	29,348	21,781	26,603	25,909	27,877	26,199	17,717	43,915	42,760	38,862	38,482	38,889	50,705
Pacific Southwest														
California	1,762	1,989	1,320	1,245	1,108	1,892	12,332	9,633	21,965	19,574	18,308	17,849	16,794	26,524
Hawaii	18	3	3	3	3	3	16	0	16	1	1	1	1	1
Total	1,781	1,992	1,323	1,248	1,111	1,895	12,348	9,633	21,980	19,575	18,309	17,850	16,795	26,525
Pacific Coast total	38,707	36,530	28,194	33,731	39,220	39,853	42,360	27,778	70,138	66,512	63,158	63,435	56,347	77,448
United States	69,803	66,526	51,093	57,258	59,042	55,187	110,894	139,033	249,927	222,117	210,424	209,343	199,819	172,170

Note: Data may not add to totals because of rounding.

Table 19. Net volume of hardwood growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	All owners						National forest					
	2017	2007	1997	1987	1977	1953	2017	2007	1997	1987	1977	1953
	Million cubic feet											
North												
Northeast												
Connecticut	3,663	2,855	2,314	2,293	2,237	1,146	0	0	0	0	0	0
Delaware	696	581	471	469	457	219	0	0	0	0	0	0
Maine	10,247	9,832	9,208	7,938	6,543	5,378	60	68	45	27	46	18
Maryland	4,666	4,291	3,695	3,685	2,699	2,053	0	0	0	0	0	0
Massachusetts	4,429	3,925	3,253	3,040	2,454	1,240	0	0	0	0	0	0
New Hampshire	5,354	5,180	5,220	4,471	3,760	1,757	800	795	597	727	623	483
New Jersey	2,462	2,237	1,855	1,332	1,282	917	0	0	0	0	0	0
New York	23,089	19,792	16,426	15,154	9,732	7,775	30	12	18	6	0	0
Pennsylvania	30,359	26,994	22,575	22,763	21,625	11,716	1,230	1,188	983	1,184	1,184	444
Rhode Island	571	495	349	369	305	146	0	0	0	0	0	0
Vermont	5,830	5,855	5,812	4,233	3,164	2,228	573	417	339	331	155	152
West Virginia	24,306	21,296	19,054	14,777	13,062	8,622	2,226	2,101	1,715	1,799	1,741	886
Total	115,672	103,333	90,231	80,524	67,320	43,197	4,919	4,581	3,696	4,074	3,749	1,983
North Central												
Illinois	6,824	6,646	4,717	4,717	4,185	2,387	466	508	257	257	198	69
Indiana	9,052	8,006	6,623	5,015	3,671	2,876	378	330	280	217	156	50
Iowa	3,046	3,085	1,650	1,244	1,032	1,357	0	0	0	0	0	1
Michigan	20,678	19,126	19,134	14,414	13,103	7,610	2,656	2,405	2,100	1,689	1,392	578
Minnesota	10,204	10,076	10,564	9,645	7,978	4,253	1,081	948	1,193	1,045	1,000	570
Missouri	15,162	15,259	8,135	7,334	5,631	5,450	1,491	1,509	872	899	665	578
Ohio	13,143	11,714	9,758	7,227	6,121	3,153	547	396	302	202	190	72
Wisconsin	15,659	14,896	14,058	12,300	10,117	6,412	1,569	1,430	1,277	1,161	882	564
Total	93,768	88,808	74,639	61,896	51,838	33,498	8,189	7,526	6,281	5,470	4,483	2,482
North total	209,440	192,141	164,870	142,420	119,158	76,695	13,107	12,107	9,977	9,544	8,232	4,465
South												
Southeast												
Florida	4,423	4,490	5,942	5,664	4,700	3,517	213	132	269	214	187	103
Georgia	15,567	15,745	16,481	14,917	13,322	8,600	1,045	834	922	874	841	611
North Carolina	22,668	20,677	20,212	19,778	17,705	12,323	2,385	2,350	1,913	1,929	1,462	936
South Carolina	9,254	9,057	8,651	8,898	8,089	5,412	461	480	369	407	385	195
Virginia	23,152	20,054	19,839	18,896	16,875	11,681	2,682	2,420	2,300	2,079	1,804	939
Total	75,063	70,023	71,124	68,153	60,691	41,533	6,786	6,216	5,773	5,503	4,679	2,784
South Central												
Alabama	15,424	14,839	11,974	10,484	9,489	6,477	574	618	369	326	259	147
Arkansas	15,009	15,147	12,344	10,655	9,048	9,469	2,174	2,147	1,942	1,529	1,247	656
Kentucky	19,325	17,035	14,739	13,500	11,052	5,858	1,811	1,146	883	799	627	314
Louisiana	9,463	10,093	8,916	8,440	7,813	6,756	438	541	293	290	214	89
Mississippi	12,724	13,427	11,403	10,069	8,305	6,370	927	1,204	760	662	502	144
Oklahoma	2,938	2,202	2,203	1,221	1,051	840	125	66	66	80	75	43
Tennessee	21,160	20,688	13,754	11,582	9,798	7,023	1,336	1,315	701	626	503	276
Texas	6,675	6,595	5,061	4,923	4,918	3,682	323	327	236	190	149	116
Total	102,717	100,026	80,392	70,874	61,474	46,475	7,708	7,364	5,249	4,502	3,576	1,785
South total	177,781	170,049	151,516	139,027	122,165	88,008	14,494	13,580	11,022	10,005	8,255	4,569

Table 19. (cont.) Net volume of hardwood growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	All owners						National forest					
	2017	2007	1997	1987	1977	1953	2017	2007	1997	1987	1977	1953
	Million cubic feet											
Rocky Mountain												
Great Plains												
Kansas	1,412	1,400	1,238	847	584	477	0	0	0	0	0	0
Nebraska	676	927	643	312	304	285	0	0	0	1	1	0
North Dakota	357	366	327	239	257	257	10	8	1	0	0	0
South Dakota	156	204	161	70	128	79	15	24	9	9	9	2
Total	2,601	2,897	2,369	1,468	1,273	1,098	24	32	10	10	10	2
Intermountain												
Arizona	339	394	368	336	220	174	124	156	164	151	133	103
Colorado	4,243	4,766	3,865	3,222	2,413	1,787	3,269	3,620	2,531	1,876	1,638	1,147
Idaho	547	600	784	503	223	213	225	268	268	152	67	77
Montana	477	662	562	405	287	248	109	168	108	40	46	28
Nevada	36	41	33	29	13	12	27	39	27	27	13	12
New Mexico	705	628	549	496	599	457	492	464	371	308	240	178
Utah	1,507	1,766	1,656	881	878	898	1,129	1,207	1,146	572	444	546
Wyoming	448	700	434	341	232	187	240	325	169	76	81	61
Total	8,301	9,557	8,251	6,213	4,865	3,976	5,614	6,247	4,784	3,202	2,662	2,152
Rocky Mountain total	10,903	12,454	10,620	7,681	6,138	5,074	5,639	6,279	4,794	3,212	2,672	2,154
Pacific Coast												
Alaska												
Alaska	3,379	2,874	3,145	4,209	4,222	4,189	171	99	176	146	237	248
Total	3,379	2,874	3,145	4,209	4,222	4,189	171	99	176	146	237	248
Pacific Northwest												
Oregon	7,138	6,723	6,525	6,066	4,819	4,217	1,453	1,120	1,185	1,135	897	723
Washington	5,619	6,169	6,537	6,937	5,703	2,859	542	575	372	335	141	121
Total	12,758	12,892	13,062	13,003	10,522	7,076	1,995	1,695	1,557	1,470	1,038	844
Pacific Southwest												
California	9,339	12,207	8,337	7,464	3,693	2,828	3,132	3,778	2,264	2,184	1,133	1,276
Hawaii	1,113	277	277	276	198	220	0	0	0	0	0	0
Total	10,452	12,484	8,614	7,740	3,891	3,048	3,132	3,778	2,264	2,184	1,133	1,276
Pacific Coast total	26,589	28,250	24,821	24,952	18,635	14,313	5,297	5,572	3,997	3,800	2,408	2,368
United States	424,712	402,894	351,828	314,080	266,096	184,090	38,537	37,538	29,790	26,561	21,567	13,556

Table 19. (cont.) Net volume of hardwood growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Other public						2017 Private corporate	2017 Private noncorporate	Total Private					
	2017	2007	1997	1987	1977	1953			2017	2007	1997	1987	1977	1953
	Million cubic feet													
North														
Northeast														
Connecticut	943	681	370	343	190	121	451	2,269	2,720	2,174	1,944	1,950	2,047	1,025
Delaware	139	48	40	17	18	4	77	480	557	533	431	452	439	215
Maine	690	463	367	253	87	51	4,845	4,652	9,498	9,301	8,796	7,658	6,410	5,309
Maryland	788	778	432	437	260	142	690	3,188	3,878	3,513	3,263	3,248	2,439	1,911
Massachusetts	1,392	1,200	597	504	326	164	619	2,418	3,037	2,725	2,656	2,536	2,128	1,076
New Hampshire	492	460	426	226	128	38	751	3,311	4,062	3,925	4,197	3,518	3,009	1,236
New Jersey	782	525	382	315	182	47	426	1,255	1,681	1,712	1,473	1,017	1,100	870
New York	2,673	2,302	1,327	1,245	647	517	4,151	16,234	20,386	17,478	15,081	13,903	9,085	7,258
Pennsylvania	8,340	7,387	4,766	4,645	4,175	2,262	4,126	16,664	20,790	18,419	16,826	16,934	16,266	9,010
Rhode Island	141	60	56	84	17	11	90	340	430	435	293	285	288	135
Vermont	588	599	590	507	157	109	1,057	3,612	4,669	4,839	4,884	3,395	2,852	1,967
West Virginia	857	819	806	534	291	337	8,475	12,748	21,223	18,376	16,533	12,444	11,030	7,399
Total	17,825	15,322	10,158	9,110	6,478	3,803	25,759	67,170	92,929	83,430	76,377	67,340	57,093	37,411
North Central														
Illinois	431	612	250	250	174	36	457	5,470	5,927	5,526	4,210	4,210	3,813	2,282
Indiana	844	876	717	511	250	186	641	7,189	7,830	6,800	5,626	4,287	3,265	2,640
Iowa	436	462	164	145	118	19	179	2,431	2,610	2,623	1,486	1,099	914	1,337
Michigan	3,540	3,523	3,332	2,587	2,524	1,419	2,878	11,603	14,482	13,198	13,702	10,138	9,187	5,613
Minnesota	2,769	3,529	3,619	3,543	2,899	1,434	485	5,869	6,354	5,599	5,752	5,057	4,079	2,249
Missouri	1,102	1,173	437	265	153	109	691	11,878	12,569	12,577	6,826	6,170	4,813	4,763
Ohio	1,234	774	531	321	312	187	1,378	9,985	11,363	10,544	8,926	6,704	5,619	2,894
Wisconsin	2,608	2,805	2,381	2,490	1,913	1,193	1,359	10,123	11,482	10,661	10,400	8,649	7,322	4,655
Total	12,963	13,754	11,430	10,112	8,343	4,583	8,069	64,547	72,616	67,528	56,928	46,314	39,012	26,433
North total	30,788	29,076	21,588	19,222	14,821	8,386	33,828	131,717	165,545	150,958	133,305	113,654	96,105	63,844
South														
Southeast														
Florida	1,166	1,198	1,065	741	238	76	1,516	1,528	3,044	3,160	4,608	4,709	4,275	3,338
Georgia	1,061	883	927	588	443	250	3,740	9,720	13,460	14,028	14,632	13,455	12,038	7,739
North Carolina	1,432	1,542	767	574	382	197	4,089	14,761	18,851	16,785	17,532	17,275	15,861	11,190
South Carolina	911	824	362	336	278	76	2,661	5,220	7,881	7,753	7,920	8,155	7,426	5,141
Virginia	1,188	1,123	942	767	651	246	3,902	15,380	19,282	16,511	16,597	16,050	14,420	10,496
Total	5,759	5,570	4,062	3,006	1,992	845	15,909	46,610	62,519	58,237	61,289	59,644	54,020	37,904
South Central														
Alabama	926	715	464	330	203	83	3,970	9,954	13,924	13,506	11,141	9,828	9,027	6,247
Arkansas	1,226	1,705	1,156	639	475	360	3,056	8,553	11,609	11,295	9,246	8,487	7,326	8,453
Kentucky	812	755	501	393	351	181	3,003	13,699	16,702	15,134	13,355	12,308	10,074	5,363
Louisiana	1,068	1,317	674	617	306	114	3,867	4,089	7,957	8,235	7,949	7,533	7,293	6,553
Mississippi	753	931	804	363	366	199	2,669	8,375	11,043	11,292	9,839	9,044	7,437	6,027
Oklahoma	358	152	152	130	97	31	494	1,961	2,455	1,984	1,985	1,011	879	766
Tennessee	2,266	1,716	1,087	716	510	378	3,076	14,482	17,558	17,657	11,965	10,240	8,785	6,369
Texas	343	254	118	119	93	19	1,608	4,401	6,009	6,014	4,707	4,614	4,676	3,547
Total	7,752	7,545	4,956	3,307	2,401	1,365	21,743	65,514	87,257	85,117	70,187	63,065	55,497	43,325
South total	13,511	13,115	9,018	6,313	4,393	2,210	37,652	112,124	149,776	143,354	131,476	122,709	109,517	81,229

Table 19. (cont.) Net volume of hardwood growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Other public						2017 Private corporate	2017 Private noncorporate	Total Private					
	2017	2007	1997	1987	1977	1953			2017	2007	1997	1987	1977	1953
	Million cubic feet													
Rocky Mountain														
Great Plains														
Kansas	113	106	67	46	24	16	30	1,269	1,299	1,294	1,171	801	560	461
Nebraska	86	156	53	16	13	7	3	587	590	771	590	295	290	278
North Dakota	42	49	32	39	79	79	0	306	306	309	294	200	178	178
South Dakota	23	21	7	11	22	13	6	113	119	159	145	50	97	64
Total	263	332	159	112	138	115	38	2,276	2,314	2,533	2,200	1,346	1,125	981
Intermountain														
Arizona	26	0	0	185	48	39	0	189	189	238	204	0	39	32
Colorado	271	404	285	304	150	124	144	559	703	742	1,049	1,042	625	516
Idaho	134	137	116	149	49	42	49	139	188	195	400	202	107	94
Montana	74	12	37	33	62	55	42	251	293	482	417	332	179	165
Nevada	3	0	5	1	0	0	1	5	6	2	1	1	0	0
New Mexico	30	17	16	41	32	25	52	131	183	147	162	147	327	254
Utah	113	123	127	68	145	118	66	200	266	436	383	241	289	234
Wyoming	66	110	79	81	58	48	77	65	142	265	186	184	93	78
Total	717	803	665	862	544	451	431	1,539	1,969	2,507	2,802	2,149	1,659	1,373
Rocky Mountain total	980	1,135	824	974	682	566	469	3,814	4,283	5,040	5,002	3,495	2,784	2,354
Pacific Coast														
Alaska														
Alaska	2,525	2,260	1,930	1,751	3,864	3,902	417	267	684	515	1,040	2,312	121	39
Total	2,525	2,260	1,930	1,751	3,864	3,902	417	267	684	515	1,040	2,312	121	39
Pacific Northwest														
Oregon	1,785	1,739	1,535	1,124	1,198	628	2,149	1,752	3,901	3,864	3,805	3,807	2,724	2,866
Washington	1,670	1,507	1,311	1,319	1,124	507	1,359	2,048	3,407	4,087	4,854	5,283	4,438	2,231
Total	3,455	3,246	2,846	2,443	2,322	1,135	3,508	3,800	7,308	7,951	8,659	9,090	7,162	5,097
Pacific Southwest														
California	410	774	319	554	283	218	2,332	3,466	5,798	7,655	5,755	4,726	2,277	1,334
Hawaii	100	122	122	122	95	99	672	341	1,013	155	155	154	103	121
Total	509	896	440	676	378	317	3,004	3,808	6,811	7,810	5,910	4,880	2,380	1,455
Pacific Coast total	6,489	6,402	5,216	4,870	6,564	5,354	6,929	7,874	14,803	16,276	15,609	16,282	9,663	6,591
United States	51,768	49,728	36,646	31,379	26,460	16,516	78,878	255,530	334,407	315,628	285,392	256,140	218,069	154,018

Note: Data may not add to totals because of rounding.

Table 20. Net volume of growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	All owners						National forest					
	2017	2007	1997	1987	1977	1953	2017	2007	1997	1987	1977	1953
	Million cubic feet											
North												
Northeast												
Connecticut	4,178	3,312	2,756	2,707	2,662	1,304	0	0	0	0	0	0
Delaware	818	695	639	642	625	455	0	0	0	0	0	0
Maine	23,356	22,402	20,891	22,448	22,603	15,471	119	117	93	51	68	33
Maryland	5,595	5,092	4,511	4,490	3,492	2,770	0	0	0	0	0	0
Massachusetts	7,331	6,530	4,861	4,729	3,893	1,871	0	0	0	0	0	0
New Hampshire	9,353	9,156	9,039	7,879	7,286	3,965	1,276	1,299	929	1,087	899	736
New Jersey	3,347	2,819	2,378	1,895	1,534	1,167	0	0	0	0	0	0
New York	30,158	25,862	21,825	20,089	13,256	10,523	34	12	24	7	0	0
Pennsylvania	33,674	29,859	24,904	24,746	23,403	12,945	1,360	1,266	1,046	1,252	1,244	482
Rhode Island	771	637	394	428	413	161	0	0	0	0	0	0
Vermont	8,639	8,696	8,675	6,243	4,990	3,479	733	488	405	376	194	187
West Virginia	25,560	22,524	20,304	15,837	14,154	9,114	2,530	2,412	1,982	1,979	1,980	1,004
Total	152,780	137,584	121,176	112,133	98,311	63,225	6,052	5,594	4,478	4,752	4,385	2,442
North Central												
Illinois	7,046	6,875	4,835	4,835	4,266	2,404	555	578	304	304	233	74
Indiana	9,325	8,281	6,900	5,216	3,759	2,903	423	376	309	239	170	53
Iowa	3,061	3,114	1,668	1,251	1,038	1,361	0	0	0	0	0	1
Michigan	30,338	28,029	26,734	20,972	18,304	9,980	4,765	4,348	3,604	3,026	2,346	849
Minnesota	15,615	14,931	15,266	13,731	11,455	6,951	2,288	1,950	2,223	1,964	1,871	1,350
Missouri	16,399	16,596	8,997	7,935	6,023	5,714	1,977	1,957	1,183	1,172	842	712
Ohio	13,676	12,324	10,158	7,553	6,395	3,249	573	437	331	222	206	79
Wisconsin	21,802	20,271	18,508	16,412	13,457	7,961	2,275	2,082	1,904	1,813	1,357	700
Total	117,261	110,421	93,066	77,905	64,697	40,523	12,858	11,728	9,858	8,740	7,025	3,818
North total	270,041	248,005	214,242	190,038	163,008	103,748	18,910	17,322	14,336	13,492	11,410	6,260
South												
Southeast												
Florida	16,084	14,823	15,366	14,969	13,450	8,901	1,397	1,026	1,264	1,087	1,099	652
Georgia	36,461	33,065	31,705	30,787	29,418	19,351	1,760	1,301	1,428	1,251	1,309	977
North Carolina	36,735	33,138	32,743	32,064	29,231	21,420	2,996	2,853	2,459	2,452	1,958	1,273
South Carolina	21,669	18,842	16,684	17,733	16,797	10,212	1,538	1,287	951	1,151	1,143	777
Virginia	31,654	26,878	26,487	25,219	22,803	17,197	3,147	2,820	2,662	2,410	2,116	1,179
Total	142,603	126,746	122,984	120,772	111,699	77,081	10,839	9,287	8,764	8,351	7,625	4,858
South Central												
Alabama	32,746	28,299	23,076	21,812	20,958	12,352	1,331	1,332	931	985	820	425
Arkansas	27,235	25,414	21,685	19,241	17,021	14,109	4,462	4,063	3,837	3,206	2,767	1,542
Kentucky	20,682	18,218	15,951	14,610	11,968	6,351	1,978	1,297	1,041	963	780	453
Louisiana	21,428	20,514	18,844	18,992	17,155	11,009	1,710	1,810	1,025	1,065	938	357
Mississippi	28,657	26,049	20,612	19,815	17,235	10,044	2,992	3,120	2,134	2,136	1,755	723
Oklahoma	4,707	3,623	3,624	2,219	2,062	1,381	582	294	294	249	202	116
Tennessee	24,361	23,849	16,647	14,292	12,001	8,250	1,762	1,720	1,004	972	777	496
Texas	16,667	15,809	12,939	12,887	13,274	7,893	2,167	2,069	1,379	1,392	1,207	796
Total	176,485	161,775	133,376	123,868	111,674	71,389	16,985	15,705	11,644	10,968	9,246	4,908
South total	319,088	288,521	256,360	244,640	223,373	148,470	27,824	24,992	20,408	19,319	16,871	9,766

Table 20. (cont.) Net volume of growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	All owners						National forest					
	2017	2007	1997	1987	1977	1953	2017	2007	1997	1987	1977	1953
	Million cubic feet											
Rocky Mountain												
Great Plains												
Kansas	1,436	1,457	1,255	853	585	477	0	0	0	0	0	0
Nebraska	926	1,252	854	489	452	358	36	39	54	32	29	19
North Dakota	359	366	330	242	257	257	10	8	2	0	0	0
South Dakota	1,765	1,461	1,492	1,796	1,778	1,315	1,174	1,001	1,099	1,279	1,354	1,048
Total	4,487	4,536	3,931	3,380	3,072	2,407	1,219	1,048	1,155	1,311	1,383	1,067
Intermountain												
Arizona	5,977	6,229	5,977	6,316	4,983	4,774	4,109	4,331	4,095	4,327	3,341	2,991
Colorado	22,093	25,851	20,029	19,448	15,037	12,713	16,939	20,046	14,323	13,687	11,124	9,352
Idaho	40,866	37,161	39,257	32,591	31,885	28,890	31,529	29,725	29,848	23,592	21,656	18,971
Montana	34,069	37,418	34,816	28,016	27,978	27,615	25,790	28,346	25,256	18,635	18,136	17,472
Nevada	270	637	339	419	263	247	195	349	154	233	99	91
New Mexico	7,279	7,012	5,578	6,124	6,396	5,971	4,772	4,801	3,497	4,038	3,112	2,756
Utah	6,230	7,010	7,364	4,794	4,440	4,555	5,024	5,602	5,721	3,603	3,252	3,331
Wyoming	8,735	11,404	8,012	6,891	7,195	5,448	7,055	8,943	5,739	4,618	5,650	4,136
Total	125,518	132,722	121,372	104,599	98,177	90,213	95,413	102,143	88,633	72,733	66,370	59,100
Rocky Mountain total	130,005	137,258	125,303	107,979	101,249	92,620	96,632	103,191	89,788	74,044	67,753	60,167
Pacific Coast												
Alaska												
Alaska	37,140	31,998	32,955	41,260	52,499	53,338	23,066	19,856	18,909	24,214	35,651	39,098
Total	37,140	31,998	32,955	41,260	52,499	53,338	23,066	19,856	18,909	24,214	35,651	39,098
Pacific Northwest												
Oregon	90,882	87,906	83,295	76,620	79,554	91,797	46,304	45,445	49,178	43,237	45,801	46,211
Washington	68,356	70,992	65,724	67,067	63,503	64,853	27,953	30,148	27,693	23,832	22,974	25,625
Total	159,238	158,898	149,019	143,687	143,057	156,650	74,257	75,593	76,871	67,069	68,775	71,836
Pacific Southwest												
California	68,579	67,128	57,504	53,771	49,668	60,834	38,644	37,136	31,803	29,397	29,206	30,866
Hawaii	1,147	281	281	280	202	224	0	0	0	0	0	0
Total	69,726	67,409	57,785	54,051	49,870	61,058	38,644	37,136	31,803	29,397	29,206	30,866
Pacific Coast total	266,104	258,305	239,759	238,998	245,426	271,046	135,967	132,585	127,583	120,680	133,632	141,800
United States	985,238	932,089	835,665	781,655	733,056	615,884	279,333	278,090	252,115	227,535	229,666	217,993

Table 20. (cont.) Net volume of growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Other public						2017 Private corporate	2017 Private noncorporate	Total Private					
	2017	2007	1997	1987	1977	1953			2017	2007	1997	1987	1977	1953
	Million cubic feet													
North														
Northeast														
Connecticut	1,119	812	412	412	240	137	512	2,547	3,059	2,500	2,344	2,295	2,422	1,167
Delaware	171	52	47	25	27	9	102	545	647	643	592	617	598	446
Maine	1,682	1,163	875	780	352	163	11,794	9,760	21,554	21,122	19,923	21,617	22,183	15,275
Maryland	963	891	511	515	342	170	980	3,652	4,633	4,201	4,000	3,975	3,150	2,600
Massachusetts	2,311	1,912	820	774	589	242	852	4,168	5,020	4,618	4,041	3,955	3,304	1,629
New Hampshire	902	934	783	453	187	100	1,203	5,973	7,175	6,923	7,327	6,339	6,200	3,129
New Jersey	1,363	778	603	571	240	73	565	1,419	1,984	2,041	1,775	1,324	1,294	1,094
New York	3,947	3,458	2,061	1,893	1,089	861	5,120	21,057	26,177	22,392	19,740	18,189	12,167	9,662
Pennsylvania	9,001	7,956	5,156	4,875	4,388	2,409	4,455	18,859	23,313	20,637	18,702	18,619	17,771	10,054
Rhode Island	228	105	68	110	21	12	110	433	543	532	326	318	392	149
Vermont	764	753	742	637	249	147	1,352	5,790	7,143	7,455	7,529	5,230	4,547	3,145
West Virginia	905	883	879	561	309	365	8,709	13,417	22,126	19,229	17,443	13,297	11,865	7,745
Total	23,355	19,697	12,956	11,606	8,033	4,688	35,754	87,619	123,373	112,293	103,742	95,775	85,893	56,095
North Central														
Illinois	467	655	275	275	189	36	463	5,561	6,024	5,642	4,256	4,256	3,844	2,294
Indiana	887	921	751	528	270	200	677	7,337	8,014	6,984	5,840	4,449	3,319	2,650
Iowa	440	466	164	145	118	19	179	2,442	2,621	2,648	1,504	1,106	920	1,341
Michigan	5,946	5,911	5,363	4,332	3,831	1,953	4,241	15,386	19,627	17,770	17,767	13,614	12,127	7,178
Minnesota	4,988	5,827	5,691	5,418	4,464	2,549	875	7,464	8,339	7,154	7,352	6,349	5,120	3,052
Missouri	1,173	1,258	505	287	165	114	751	12,497	13,248	13,381	7,309	6,476	5,016	4,888
Ohio	1,319	853	577	347	337	196	1,474	10,310	11,784	11,034	9,251	6,984	5,852	2,974
Wisconsin	4,018	4,211	3,375	3,620	2,697	1,678	1,865	13,644	15,509	13,978	13,229	10,979	9,403	5,583
Total	19,238	20,102	16,700	14,952	12,071	6,745	10,524	74,641	85,165	78,591	66,508	54,213	45,601	29,960
North total	42,593	39,799	29,656	26,558	20,104	11,433	46,278	162,260	208,539	190,884	170,250	149,988	131,494	86,055
South														
Southeast														
Florida	3,950	3,596	2,607	1,896	990	388	6,397	4,339	10,736	10,201	11,495	11,986	11,361	7,861
Georgia	2,678	2,209	2,129	1,557	1,299	906	10,997	21,027	32,023	29,555	28,148	27,979	26,810	17,468
North Carolina	2,731	2,787	1,512	1,153	786	470	8,458	22,550	31,008	27,498	28,772	28,459	26,487	19,677
South Carolina	1,953	1,646	966	921	740	188	6,959	11,218	18,178	15,909	14,767	15,661	14,914	9,247
Virginia	1,655	1,629	1,301	1,118	947	477	6,244	20,609	26,852	22,429	22,524	21,691	19,740	15,541
Total	12,967	11,867	8,514	6,645	4,762	2,429	39,055	79,742	118,797	105,592	105,706	105,776	99,312	69,794
South Central														
Alabama	1,505	1,141	734	559	419	181	10,918	18,992	29,911	25,826	21,411	20,268	19,719	11,746
Arkansas	1,690	2,186	1,440	863	630	401	7,804	13,279	21,083	19,165	16,408	15,172	13,624	12,166
Kentucky	873	849	536	397	355	244	3,189	14,642	17,831	16,072	14,374	13,250	10,833	5,654
Louisiana	1,722	1,871	1,025	894	512	197	9,895	8,102	17,997	16,833	16,794	17,033	15,705	10,455
Mississippi	1,375	1,548	1,312	631	742	541	6,642	17,648	24,290	21,381	17,166	17,048	14,738	8,780
Oklahoma	453	225	225	188	147	33	1,290	2,382	3,671	3,104	3,105	1,782	1,713	1,232
Tennessee	2,572	1,973	1,389	957	699	480	3,765	16,262	20,027	20,156	14,253	12,363	10,525	7,274
Texas	669	476	246	276	237	68	5,113	8,719	13,831	13,264	11,314	11,219	11,830	7,029
Total	10,859	10,269	6,907	4,765	3,741	2,145	48,615	100,026	148,641	135,801	114,825	108,135	98,687	64,336
South total	23,826	22,136	15,421	11,410	8,503	4,574	87,670	179,768	267,439	241,393	220,531	213,911	197,999	134,130

Table 20. (cont.) Net volume of growing stock on timberland in the United States by ownership group, region, subregion, and State, 2017, 2007, 1997, 1987, 1977, and 1953

Region, subregion, and State	Other public						2017 Private corporate	2017 Private noncorporate	Total Private					
	2017	2007	1997	1987	1977	1953			2017	2007	1997	1987	1977	1953
	Million cubic feet													
Rocky Mountain														
Great Plains														
Kansas	116	114	68	46	24	16	30	1,290	1,320	1,343	1,187	807	561	461
Nebraska	100	171	75	33	26	11	4	787	791	1,042	725	424	397	328
North Dakota	42	49	32	39	79	79	0	308	308	309	296	203	178	178
South Dakota	121	106	54	129	122	64	64	406	470	354	339	388	302	203
Total	379	440	229	247	251	170	98	2,791	2,889	3,048	2,548	1,822	1,438	1,170
Intermountain														
Arizona	87	33	47	1,938	1,497	1,635	50	1,731	1,781	1,865	1,835	51	145	148
Colorado	1,578	2,022	1,647	1,669	863	742	654	2,922	3,576	3,783	4,059	4,092	3,050	2,619
Idaho	4,106	4,168	3,469	3,629	3,316	3,034	2,882	2,349	5,231	3,268	5,940	5,370	6,913	6,885
Montana	2,388	2,901	2,355	2,491	2,605	2,390	1,925	3,965	5,891	6,171	7,205	6,890	7,237	7,753
Nevada	43	262	61	13	9	9	6	26	33	26	124	173	155	147
New Mexico	235	198	140	717	1,379	1,377	480	1,792	2,272	2,013	1,941	1,369	1,905	1,838
Utah	463	400	501	413	557	594	211	532	743	1,008	1,142	778	631	630
Wyoming	678	963	803	951	634	538	229	773	1,002	1,498	1,470	1,322	911	774
Total	9,577	10,947	9,023	11,821	10,860	10,319	6,437	14,091	20,528	19,632	23,716	20,045	20,947	20,794
Rocky Mountain total	9,956	11,387	9,252	12,068	11,111	10,489	6,535	16,882	23,417	22,680	26,264	21,867	22,385	21,964
Pacific Coast														
Alaska														
Alaska	9,148	7,450	7,020	7,631	16,064	13,983	4,231	695	4,925	4,692	7,027	9,415	784	257
Total	9,148	7,450	7,020	7,631	16,064	13,983	4,231	695	4,925	4,692	7,027	9,415	784	257
Pacific Northwest														
Oregon	19,767	17,682	13,593	13,929	13,907	15,900	16,161	8,651	24,812	24,779	20,524	19,454	19,846	29,686
Washington	13,991	14,912	11,034	15,117	14,324	13,112	13,545	12,866	26,411	25,932	26,997	28,118	26,205	26,116
Total	33,758	32,594	24,627	29,046	28,231	29,012	29,706	21,517	51,223	50,711	47,521	47,572	46,051	55,802
Pacific Southwest														
California	2,172	2,763	1,639	1,799	1,391	2,110	14,664	13,099	27,763	27,229	24,063	22,575	19,071	27,858
Hawaii	118	125	125	125	98	102	688	341	1,029	156	156	155	104	122
Total	2,290	2,888	1,763	1,924	1,489	2,212	15,351	13,440	28,792	27,385	24,219	22,730	19,175	27,980
Pacific Coast total:	45,196	42,932	33,410	38,601	45,784	45,207	49,289	35,652	84,940	82,788	78,767	79,717	66,010	84,039
United States	121,571	116,254	87,739	88,637	85,502	71,703	189,772	394,562	584,334	537,745	495,812	465,483	417,888	326,188

Note: Data may not add to totals because of rounding.

Table 21. Net volume of growing stock on timberland in the Eastern United States by species, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1963[a]

Region and subregion	Year	Total all species	Softwoods									
			Total softwoods	Longleaf and slash pines	Loblolly and shortleaf pines	Other yellow pines	White and red pines	Jack pine	Spruce and balsam fir	Eastern hemlock	Cypress	Other softwoods
		Million cubic feet										
North												
Northeast	2017	152,780	37,108	0	882	1,784	12,945	6	9,202	9,005	11	3,273
	2012	152,096	36,463	0	813	1,827	12,567	8	8,904	8,919	14	3,410
	2007	137,581	34,252	0	658	1,604	11,091	3	9,414	8,282	6	3,194
	1997	121,179	30,945	0	652	1,717	9,460	14	9,184	6,949	3	2,965
	1987	112,133	31,609	0	658	1,573	7,977	0	12,977	5,878	0	2,547
	1977	98,311	30,991	0	656	1,368	7,123	0	14,895	5,006	0	1,943
	1963	76,869	24,034	0	701	1,119	4,958	46	11,042	4,113	0	2,056
North Central	2017	117,261	23,494	0	1,093	358	9,620	906	4,374	1,342	11	5,789
	2012	115,707	22,298	0	1,024	372	8,782	980	4,244	1,325	9	5,562
	2007	110,422	21,614	0	926	379	7,666	1,169	4,141	1,277	7	6,048
	1997	93,072	18,431	0	737	373	5,597	1,550	4,579	1,082	22	4,491
	1987	77,905	16,009	0	561	158	4,396	1,646	4,711	876	31	3,630
	1977	64,697	12,859	0	402	214	2,411	1,851	4,038	1,260	31	2,652
	1963	51,419	9,627	0	307	110	1,794	1,520	2,954	1,040	15	1,888
North total	2017	270,041	60,601	0	1,975	2,142	22,566	912	13,576	10,347	22	9,062
	2012	267,803	58,761	0	1,837	2,199	21,349	988	13,148	10,244	23	8,972
	2007	248,003	55,866	0	1,584	1,983	18,757	1,172	13,555	9,559	13	9,242
	1997	214,251	49,376	0	1,389	2,090	15,057	1,564	13,763	8,031	25	7,456
	1987	190,038	47,618	0	1,219	1,731	12,373	1,646	17,688	6,754	31	6,177
	1977	163,008	43,850	0	1,058	1,582	9,534	1,851	18,933	6,266	31	4,595
	1963	128,288	33,661	0	1,008	1,229	6,752	1,566	13,996	5,153	15	3,944
South												
Southeast	2017	142,603	67,540	13,320	42,253	4,690	2,350	0	70	413	3,969	474
	2012	134,872	62,061	12,729	37,343	4,785	2,284	0	73	460	3,917	470
	2007	126,747	56,722	12,211	32,873	4,907	2,180	0	45	503	3,530	474
	1997	122,985	51,861	11,044	27,248	6,855	1,733	0	24	413	4,066	478
	1987	120,773	52,619	12,598	26,441	6,989	1,457	0	24	396	4,306	408
	1977	111,699	51,008	12,284	25,910	6,897	1,068	0	25	324	4,101	400
	1963	87,172	40,174	9,477	21,877	4,121	480	0	33	242	3,677	267
South Central	2017	176,485	73,767	4,500	61,520	1,752	592	0	0	493	3,318	1,592
	2012	171,751	66,895	4,400	54,757	1,760	563	0	0	496	3,346	1,574
	2007	161,765	61,749	4,619	49,857	2,088	517	0	0	449	3,003	1,215
	1997	133,377	52,985	4,886	41,517	2,774	281	0	0	213	2,317	997
	1987	123,868	52,994	5,039	42,006	2,670	207	0	1	115	2,225	732
	1977	111,674	50,200	5,114	40,108	2,375	185	0	0	67	1,829	522
	1963	86,900	34,913	3,806	27,874	1,341	146	0	0	182	1,332	231
South total	2017	319,088	141,307	17,820	103,773	6,443	2,943	0	70	905	7,287	2,066
	2012	306,623	128,956	17,129	92,100	6,545	2,847	0	73	956	7,263	2,044
	2007	288,512	118,471	16,830	82,730	6,995	2,697	0	45	952	6,533	1,689
	1997	256,362	104,846	15,930	68,765	9,629	2,014	0	24	626	6,383	1,475
	1987	244,641	105,613	17,637	68,447	9,659	1,664	0	25	511	6,531	1,140
	1977	223,373	101,208	17,398	66,018	9,272	1,253	0	25	391	5,930	922
	1963	174,072	75,087	13,283	49,751	5,462	626	0	33	424	5,009	498
East total	2017	589,129	201,909	17,820	105,748	8,585	25,508	912	13,646	11,252	7,309	11,128
	2012	574,426	187,717	17,129	93,937	8,744	24,196	988	13,221	11,200	7,286	11,016
	2007	536,515	174,337	16,830	84,314	8,978	21,454	1,172	13,600	10,511	6,546	10,931
	1997	470,613	154,222	15,930	70,154	11,719	17,071	1,564	13,787	8,657	6,408	8,931
	1987	434,679	153,231	17,637	69,666	11,390	14,037	1,646	17,713	7,265	6,562	7,317
	1977	386,381	145,058	17,398	67,076	10,854	10,787	1,851	18,958	6,657	5,961	5,517
	1963	302,360	108,748	13,283	50,759	6,691	7,378	1,566	14,029	5,577	5,024	4,442

Table 21. (cont.) Net volume of growing stock on timberland in the Eastern United States by species, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1963[a]

Region and subregion	Year	Hardwoods									
		Total hardwoods	Select white oaks	Select red oaks	Other white oaks	Other red oaks	Hickory	Yellow birch	Hard maple	Soft maple	Beech
		Million cubic feet									
North											
Northeast	2017	115,672	5,885	12,064	5,670	6,047	4,146	3,778	13,899	22,095	4,921
	2012	115,634	5,962	11,591	5,461	6,051	4,029	3,910	14,029	22,220	5,376
	2007	103,329	5,396	9,775	4,786	5,142	3,501	3,354	12,697	20,418	4,922
	1997	90,234	4,437	8,625	4,271	4,932	2,846	3,062	11,533	16,741	5,466
	1987	80,524	4,384	8,137	4,928	5,405	2,791	2,987	10,104	13,544	4,685
	1977	67,320	4,721	7,616	4,589	4,890	2,563	2,452	7,755	10,645	3,807
	1963	52,835	3,402	6,536	3,709	2,550	1,810	3,791	5,883	6,515	3,973
North Central	2017	93,768	10,132	7,007	2,187	8,109	5,533	731	10,409	11,229	1,059
	2012	93,409	10,163	6,911	2,222	8,235	5,362	749	10,098	11,047	1,069
	2007	88,808	9,981	6,461	2,289	8,007	4,835	807	9,405	9,822	1,154
	1997	74,640	7,550	5,983	1,474	5,682	3,572	786	8,369	7,662	1,122
	1987	61,896	6,001	4,774	1,528	5,077	2,912	674	6,335	5,542	854
	1977	51,838	5,277	4,006	1,365	4,579	2,605	807	4,814	3,302	896
	1963	41,792	3,730	3,373	405	2,340	1,449	872	4,025	2,572	835
North total	2017	209,440	16,017	19,071	7,857	14,156	9,679	4,509	24,308	33,324	5,980
	2012	209,043	16,125	18,502	7,683	14,286	9,391	4,659	24,127	33,267	6,445
	2007	192,137	15,377	16,236	7,075	13,149	8,336	4,161	22,102	30,240	6,076
	1997	164,874	11,987	14,608	5,745	10,614	6,418	3,848	19,902	24,403	6,588
	1987	142,420	10,385	12,911	6,456	10,482	5,703	3,661	16,439	19,086	5,539
	1977	119,158	9,998	11,622	5,954	9,469	5,168	3,259	12,569	13,947	4,703
	1963	94,627	7,132	9,909	4,114	4,890	3,259	4,663	9,908	9,087	4,808
South											
Southeast	2017	75,063	7,680	3,489	5,659	11,746	3,896	72	531	5,266	922
	2012	72,812	7,417	3,362	5,704	11,792	3,765	81	504	5,148	888
	2007	70,025	7,056	3,191	5,300	11,338	3,591	57	471	5,149	770
	1997	71,124	7,167	3,126	6,008	12,307	3,593	83	467	5,712	1,000
	1987	68,154	6,639	3,074	5,563	11,826	3,641	62	402	5,221	942
	1977	60,691	6,152	2,650	5,009	10,841	3,680	61	299	3,845	805
	1963	46,998	4,753	1,966	3,886	7,837	3,314	39	158	2,555	561
South Central	2017	102,717	12,172	6,204	9,520	19,421	9,529	3	2,097	3,360	1,668
	2012	104,855	12,154	6,122	9,969	20,079	9,880	8	2,118	3,454	1,736
	2007	100,016	11,619	5,814	9,384	19,541	9,097	11	1,838	3,092	1,504
	1997	80,392	9,194	4,620	7,186	15,900	7,625	5	1,411	2,283	1,458
	1987	70,874	7,974	3,969	6,722	15,062	7,254	6	933	1,719	1,193
	1977	61,474	6,623	3,071	6,362	12,584	6,816	0	758	1,319	1,054
	1963	51,987	5,262	2,053	5,607	9,652	5,799	11	428	898	1,116
South total	2017	177,781	19,852	9,693	15,180	31,167	13,426	75	2,629	8,626	2,590
	2012	177,667	19,571	9,484	15,673	31,871	13,645	89	2,622	8,602	2,624
	2007	170,041	18,675	9,005	14,684	30,879	12,688	68	2,309	8,241	2,274
	1997	151,516	16,361	7,746	13,194	28,207	11,218	88	1,878	7,995	2,458
	1987	139,028	14,613	7,043	12,285	26,888	10,895	68	1,335	6,940	2,135
	1977	122,165	12,775	5,721	11,371	23,425	10,496	61	1,057	5,164	1,859
	1963	98,985	10,015	4,019	9,493	17,489	9,113	50	586	3,453	1,677
East total	2017	387,221	35,869	28,764	23,036	45,323	23,104	4,585	26,937	41,951	8,570
	2012	386,710	35,696	27,986	23,356	46,157	23,036	4,748	26,749	41,869	9,069
	2007	362,178	34,052	25,241	21,759	44,028	21,024	4,229	24,411	38,481	8,350
	1997	316,390	28,348	22,354	18,939	38,821	17,636	3,936	21,780	32,398	9,046
	1987	281,448	24,998	19,954	18,741	37,370	16,598	3,729	17,774	26,026	7,674
	1977	241,323	22,773	17,343	17,325	32,894	15,664	3,320	13,626	19,111	6,562
	1963	193,612	17,147	13,928	13,607	22,379	12,372	4,713	10,494	12,540	6,485

Table 21. (cont.) Net volume of growing stock on timberland in the Eastern United States by species, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1963[a]

Region and subregion	Year	Hardwoods								
		Sweet-gum	Tupelo and black gum	Ash	Basswood	Yellow poplar	Cottonwood and aspen	Black walnut	Black cherry[b]	Other hardwoods
		Million cubic feet								
North										
Northeast	2017	686	829	6,941	2,012	7,554	3,756	479	6,752	8,157
	2012	658	833	6,886	1,975	7,246	3,881	459	6,635	8,433
	2007	658	696	5,880	1,846	5,780	3,740	358	5,687	8,694
	1997	556	588	4,748	1,476	4,740	3,611	295	4,683	7,623
	1987	486	491	3,656	1,162	2,925	3,219	211	3,738	7,671
	1977	418	409	2,656	1,073	2,630	2,145	192	3,000	5,760
	1963	460	333	1,898	1,221	1,968	1,719	154	0	6,915
North Central	2017	251	337	6,310	3,527	3,046	11,125	1,859	2,593	8,325
	2012	286	307	6,691	3,432	2,895	11,052	1,845	2,362	8,685
	2007	219	288	6,205	3,183	2,438	11,004	1,555	2,192	8,963
	1997	148	199	4,798	3,098	1,686	12,061	804	1,639	8,007
	1987	122	79	3,657	2,476	1,073	10,521	612	1,144	8,516
	1977	153	89	2,818	1,861	641	9,669	459	530	7,967
	1963	168	63	2,127	1,505	441	8,807	340	0	8,740
North total	2017	938	1,166	13,251	5,538	10,600	14,881	2,337	9,345	16,483
	2012	944	1,140	13,577	5,407	10,141	14,933	2,304	8,997	17,118
	2007	877	984	12,085	5,029	8,218	14,744	1,913	7,879	17,657
	1997	704	787	9,546	4,574	6,426	15,672	1,099	6,322	15,630
	1987	608	570	7,313	3,638	3,998	13,740	823	4,882	16,187
	1977	571	498	5,474	2,934	3,271	11,814	651	3,530	13,727
	1963	628	396	4,025	2,726	2,409	10,526	494	0	15,655
South										
Southeast	2017	8,407	5,846	1,823	361	14,594	121	253	509	3,888
	2012	7,914	6,243	1,782	333	13,364	113	213	429	3,758
	2007	7,638	6,005	1,544	316	12,009	99	197	427	4,865
	1997	7,573	7,248	1,752	334	9,538	92	197	311	4,618
	1987	7,487	7,854	1,735	314	8,392	107	181	222	4,491
	1977	6,850	7,462	1,492	259	6,732	117	138	155	4,143
	1963	5,582	7,106	1,348	247	3,845	53	160	0	3,588
South Central	2017	11,086	4,732	3,874	449	8,804	537	540	800	7,921
	2012	11,323	4,844	3,993	438	8,436	561	547	772	8,419
	2007	10,847	4,595	3,627	395	7,599	610	455	655	9,334
	1997	9,058	4,106	2,689	275	5,283	621	362	452	7,862
	1987	8,244	3,962	2,219	257	3,845	580	281	0	6,653
	1977	6,826	3,921	1,967	246	2,847	504	271	195	6,110
	1963	6,059	4,057	1,757	277	1,823	469	296	0	6,423
South total	2017	19,493	10,577	5,698	810	23,397	658	792	1,309	11,809
	2012	19,237	11,087	5,775	771	21,800	674	760	1,201	12,177
	2007	18,485	10,600	5,171	711	19,608	709	652	1,082	14,199
	1997	16,631	11,354	4,441	609	14,821	713	559	763	12,480
	1987	15,731	11,816	3,954	571	12,237	687	462	222	11,144
	1977	13,676	11,383	3,459	505	9,579	621	409	350	10,253
	1963	11,641	11,163	3,105	524	5,668	522	456	0	10,011
East total	2017	20,431	11,743	18,948	6,349	33,998	15,539	3,130	10,655	28,292
	2012	20,181	12,227	19,352	6,178	31,941	15,607	3,064	10,198	29,295
	2007	19,362	11,584	17,256	5,740	27,826	15,453	2,565	8,961	31,856
	1997	17,335	12,141	13,987	5,183	21,247	16,385	1,658	7,085	28,110
	1987	16,339	12,386	11,267	4,209	16,235	14,427	1,285	5,104	27,331
	1977	14,247	11,881	8,933	3,439	12,850	12,435	1,060	3,880	23,980
	1963	12,269	11,559	7,130	3,250	8,077	11,048	950	0	25,666

[a] Data for 1953 unavailable for this table, data for 1963 provided.

[b] Separate black cherry data not available for 1963, included in other hardwoods category.

Note: Data may not add to totals because of rounding.

Table 22. Net volume of growing stock on timberland in the Western United States by species, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1963[a]

Region and subregion	Year	All species	Softwoods								
			Total softwoods	Douglas-fir	Ponderosa and Jeffrey pines	True fir	Western hemlock	Sugar pine	Western white pine	Redwood	Sitka spruce
		Million cubic feet									
Rocky Mountain											
Great Plains	2017	4,487	1,885	0	1,739	0	0	0	0	0	0
	2012	4,760	2,021	0	1,875	0	0	0	0	0	0
	2007	4,539	1,641	0	1,407	0	0	0	0	0	0
	1997	3,930	1,563	0	1,028	0	0	0	0	0	0
	1987	3,394	1,912	0	1,834	0	0	0	0	0	0
	1977	3,072	1,799	0	1,707	0	0	0	0	0	0
	1963	2,574	1,472	0	1,388	0	0	0	0	0	0
Intermountain	2017	125,518	117,217	30,003	17,118	23,272	1,486	0	418	0	0
	2012	131,145	122,068	30,129	16,938	22,885	1,397	0	400	0	0
	2007	123,847	114,919	28,967	14,449	22,053	941	0	443	0	0
	1997	121,368	113,118	29,052	16,426	18,912	1,063	1	534	0	0
	1987	104,603	98,386	22,560	15,544	14,861	971	2	1,578	0	0
	1977	98,177	93,312	20,475	14,762	13,591	1,462	1	2,184	0	0
	1963	96,245	91,751	19,913	15,650	12,984	1,694	4	3,069	0	0
Rocky Mountain total	2017	130,005	119,102	30,003	18,856	23,272	1,486	0	418	0	0
	2012	135,905	124,089	30,129	18,813	22,885	1,397	0	400	0	0
	2007	128,386	116,560	28,967	15,856	22,053	941	0	443	0	0
	1997	125,299	114,681	29,052	17,454	18,912	1,063	1	534	0	0
	1987	107,997	100,298	22,560	17,378	14,861	971	2	1,578	0	0
	1977	101,249	95,111	20,475	16,469	13,591	1,462	1	2,184	0	0
	1963	98,819	93,223	19,913	17,038	12,984	1,694	4	3,069	0	0
Pacific Coast											
Alaska[b]	2017	37,140	33,761	0	0	17	13,009	0	0	0	10,536
	2012	35,762	32,453	0	0	19	12,785	0	0	0	10,372
	2007	30,785	27,912	0	0	6	11,224	0	0	0	8,641
	1997	32,562	29,417	0	0	2	11,425	0	0	0	8,519
	1987	41,262	37,051	0	0	15	15,873	0	0	0	10,145
	1977	52,499	48,277	0	0	179	30,259	0	0	0	10,500
	1963	53,617	49,426	0	0	97	30,083	0	0	0	16,111
Pacific Northwest	2017	159,238	146,480	79,650	12,389	16,791	20,175	675	318	21	1,405
	2012	158,206	145,473	77,829	12,221	16,531	20,885	704	380	19	1,422
	2007	153,304	140,415	75,516	12,420	17,213	21,697	677	436	1	1,486
	1997	149,018	135,969	69,559	11,564	16,332	19,806	689	386	32	328
	1987	143,700	130,711	63,660	11,094	17,060	20,049	588	343	45	1,771
	1977	143,057	132,535	60,076	12,634	16,926	24,266	761	888	91	1,466
	1963	154,241	144,994	64,250	15,613	19,816	24,892	900	1,231	46	1,601
Pacific Southwest	2017	69,726	59,273	18,582	11,143	14,624	101	3,009	321	5,883	208
	2012	68,096	57,887	19,117	10,390	14,227	123	2,974	305	5,347	201
	2007	67,408	54,926	18,608	10,379	12,803	78	2,717	283	4,710	106
	1997	57,785	49,172	13,898	9,722	13,346	31	2,960	276	4,610	0
	1987	54,055	46,311	12,700	8,695	12,689	42	3,031	319	5,114	36
	1977	49,870	45,979	12,786	9,124	12,804	129	3,355	231	4,302	48
	1963	56,559	53,365	17,277	10,210	13,428	69	3,694	305	5,352	33

Table 22. (cont.) Net volume of growing stock on timberland in the Western United States by species, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1963[a]

Region and subregion	Year	All species	Softwoods								
			Total softwoods	Douglas-fir	Ponderosa and Jeffrey pines	True fir	Western hemlock	Sugar pine	Western white pine	Redwood	Sitka spruce
		Million cubic feet									
Pacific Coast total	2017	266,104	239,515	98,232	23,532	31,431	33,284	3,684	639	5,904	12,149
	2012	262,064	235,813	96,946	22,611	30,777	33,793	3,678	685	5,366	11,995
	2007	251,496	223,253	94,124	22,799	30,021	32,999	3,394	719	4,711	10,232
	1997	239,365	214,558	83,457	21,286	29,680	31,262	3,649	662	4,642	8,848
	1987	239,017	214,073	76,361	19,789	29,765	35,964	3,619	662	5,159	11,952
	1977	245,426	226,791	72,862	21,758	29,909	54,654	4,116	1,119	4,393	12,014
	1963	264,417	247,785	81,526	25,823	33,340	55,044	4,594	1,537	5,398	17,745
West total	2017	396,109	358,617	128,235	42,389	54,703	34,770	3,684	1,057	5,904	12,149
	2012	397,969	359,902	127,075	41,424	53,662	35,190	3,678	1,085	5,366	11,995
	2007	379,882	339,813	123,091	38,655	52,074	33,940	3,394	1,162	4,711	10,232
	1997	364,664	329,238	112,509	38,741	48,592	32,324	3,650	1,196	4,642	8,848
	1987	347,014	314,371	98,921	37,166	44,626	36,935	3,621	2,240	5,159	11,952
	1977	346,675	321,902	93,337	38,226	43,500	56,116	4,117	3,303	4,393	12,014
	1963	363,236	341,008	101,439	42,861	46,324	56,739	4,598	4,606	5,398	17,745

Table 22. (cont.) Net volume of growing stock on timberland in the Western United States by species, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1963[a]

Region and subregion	Year	Softwoods					Hardwoods				
		Engelmann and other spruces	Western larch	Incense-cedar	Lodgepole pine	Other softwoods	Total hardwoods	Cottonwood and aspen	Red alder	Oak	Other hardwoods
		Million cubic feet									
Rocky Mountain											
Great Plains	2017	0	0	0	0	146	2,601	988	0	453	1,160
	2012	0	0	0	0	145	2,739	956	0	483	1,300
	2007	0	0	0	0	234	2,898	1,029	0	564	1,305
	1997	48	0	0	0	486	2,368	9	0	0	2,359
	1987	61	0	0	0	17	1,482	463	0	314	705
	1977	62	0	0	0	30	1,273	424	0	197	651
	1963	63	0	0	0	21	1,102	387	0	217	499
Intermountain	2017	18,601	4,117	0	15,661	6,544	8,301	8,082	20	0	199
	2012	19,283	4,013	0	19,569	7,453	9,077	8,844	20	0	213
	2007	18,220	3,961	0	21,855	4,030	8,928	8,569	68	18	272
	1997	15,260	3,704	3	22,269	5,896	8,250	7,808	0	0	442
	1987	13,515	4,816	3	21,131	3,405	6,217	6,172	0	0	45
	1977	12,932	3,876	1	19,857	4,171	4,865	4,758	0	0	107
	1963	12,689	6,153	4	16,806	2,785	4,494	4,421	6	0	67
Rocky Mountain total	2017	18,601	4,117	0	15,661	6,690	10,903	9,070	20	453	1,359
	2012	19,283	4,013	0	19,569	7,598	11,816	9,800	20	483	1,513
	2007	18,220	3,961	0	21,855	4,264	11,826	9,598	68	582	1,578
	1997	15,308	3,704	3	22,269	6,382	10,618	7,817	0	0	2,801
	1987	13,576	4,816	3	21,131	3,422	7,699	6,635	0	314	750
	1977	12,994	3,876	1	19,857	4,201	6,138	5,182	0	197	759
	1963	12,752	6,153	4	16,806	2,806	5,596	4,808	6	217	565
Pacific Coast											
Alaska	2017	4,302	3	0	84	5,811	3,379	1,126	140	0	2,114
	2012	4,282	3	0	86	4,906	3,309	1,079	130	0	2,100
	2007	4,287	3	0	81	3,671	2,873	843	73	0	1,957
	1997	4,605	0	0	38	4,827	3,145	1,555	33	0	1,557
	1987	6,052	0	0	39	4,927	4,211	1,827	62	0	2,322
	1977	2,889	0	0	57	4,392	4,222	1,863	214	0	2,145
	1963	6	0	0	28	3,101	4,191	3,706	436	0	48
Pacific Northwest	2017	1,505	2,122	873	2,960	7,596	12,758	748	6,220	608	5,181
	2012	1,601	2,110	810	3,390	7,573	12,732	776	6,348	605	5,002
	2007	1,889	2,135	695	3,678	2,573	12,889	969	6,317	777	4,826
	1997	2,825	2,254	723	4,012	7,459	13,049	740	7,535	484	4,290
	1987	1,863	2,365	624	4,479	6,768	12,990	600	8,290	606	3,494
	1977	1,273	2,568	648	5,640	5,298	10,522	348	6,781	486	2,906
	1963	1,386	2,413	776	3,826	8,243	9,247	346	5,111	756	3,034
Pacific Southwest	2017	0	0	3,508	1,060	834	10,452	46	331	4,114	5,961
	2012	8	0	3,396	1,038	762	10,209	106	368	4,351	5,383
	2007	18	0	3,336	923	964	12,482	124	333	6,068	5,957
	1997	36	0	2,849	911	534	8,613	35	218	4,320	4,041
	1987	14	0	2,365	861	445	7,744	20	133	5,728	1,863
	1977	7	0	2,004	870	319	3,891	21	64	1,796	2,010
	1963	0	0	1,699	903	395	3,194	41	61	892	2,200

Table 22. (cont.) Net volume of growing stock on timberland in the Western United States by species, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1963[a]

Region and subregion	Year	Softwoods					Hardwoods				
		Engelmann and other spruces	Western larch	Incense-cedar	Lodgepole pine	Other softwoods	Total hardwoods	Cottonwood and aspen	Red alder	Oak	Other hardwoods
		Million cubic feet									
Pacific Coast total	2017	5,807	2,125	4,381	4,104	14,241	26,589	1,920	6,691	4,722	13,256
	2012	5,891	2,113	4,206	4,514	13,241	26,250	1,961	6,846	4,956	12,485
	2007	6,195	2,137	4,031	4,682	7,208	28,244	1,935	6,724	6,845	12,739
	1997	7,466	2,254	3,571	4,960	12,821	24,808	2,330	7,786	4,804	9,888
	1987	7,929	2,365	2,989	5,379	12,140	24,944	2,447	8,485	6,334	7,679
	1977	4,169	2,568	2,652	6,567	10,009	18,635	2,232	7,059	2,282	7,062
	1963	1,392	2,413	2,476	4,757	11,739	16,632	4,094	5,609	1,647	5,282
West totala	2017	24,408	6,242	4,381	19,765	20,931	37,492	10,990	6,711	5,175	14,615
	2012	25,174	6,126	4,206	24,083	20,839	38,066	11,761	6,866	5,439	13,998
	2007	24,415	6,098	4,031	26,536	11,472	40,069	11,533	6,792	7,427	14,317
	1997	22,773	5,958	3,574	27,229	19,203	35,425	10,147	7,786	4,804	12,689
	1987	21,506	7,181	2,992	26,510	15,562	32,644	9,082	8,485	6,648	8,429
	1977	17,163	6,444	2,653	26,424	14,210	24,773	7,414	7,059	2,480	7,821
	1963	14,144	8,567	2,479	21,564	14,544	22,228	8,901	5,615	1,864	5,848

[a] Data for 1953 unavailable for this table, data for 1963 provided.
[b] Data for Englemann and other spruces included in other softwoods for 1963.
Note: Data may not add to totals because of rounding.

Table 23. Net volume of softwood growing stock on timberland in the Eastern United States by species, subregion, and State, 2017

Subregion and State	Total	Longleaf and slash pines	Loblolly and shortleaf pines	Other yellow pines	White and red pines	Jack pine	Spruce and balsam fir	Eastern hemlock	Cypress	Other softwoods
	Million cubic feet									
Northeast										
Connecticut	514	0	0	5	297	0	1	191	0	20
Delaware	122	0	107	15	0	0	0	0	0	0
Maine	13,109	0	0	12	2,797	2	6,432	1,821	0	2,045
Maryland	929	0	707	89	72	0	0	16	11	36
Massachusetts	2,902	0	0	92	2,047	0	50	698	0	15
New Hampshire	3,999	0	0	15	2,080	0	923	963	0	19
New Jersey	885	0	26	611	54	0	0	17	0	177
New York	7,069	0	0	230	3,157	4	750	2,288	0	640
Pennsylvania	3,314	0	0	255	1,089	0	35	1,750	0	184
Rhode Island	200	0	0	21	166	0	0	12	0	1
Vermont	2,809	0	0	3	861	0	879	950	0	116
West Virginia	1,254	0	42	435	324	0	133	299	0	20
Total	37,108	0	882	1,784	12,945	6	9,202	9,005	11	3,273
North Central										
Illinois	222	0	88	1	103	1	0	0	11	18
Indiana	273	0	36	53	107	0	0	0	0	76
Iowa	15	0	0	0	1	0	0	0	0	14
Michigan	9,660	0	2	178	3,966	387	1,632	858	0	2,638
Minnesota	5,411	0	0	8	1,639	292	1,869	0	0	1,603
Missouri	1,236	0	935	0	16	0	0	0	0	285
Ohio	533	0	31	96	297	0	1	33	0	75
Wisconsin	6,143	0	0	22	3,492	226	872	451	0	1,080
Total	23,494	0	1,093	358	9,620	906	4,374	1,342	11	5,789
Southeast										
Florida	11,661	6,815	1,722	696	0	0	0	0	2,357	71
Georgia	20,894	5,114	13,843	727	357	0	0	45	766	42
North Carolina	14,067	632	10,250	1,486	1,011	0	31	198	341	117
South Carolina	12,415	758	10,695	340	97	0	0	13	455	56
Virginia	8,502	0	5,743	1,442	885	0	39	156	50	188
Total	67,540	13,320	42,253	4,690	2,350	0	70	413	3,969	474
South Central										
Alabama	17,322	1,675	14,572	608	0	0	0	21	321	125
Arkansas	12,226	0	11,392	1	0	0	0	0	444	389
Kentucky	1,358	0	204	377	150	0	0	209	60	359
Louisiana	11,965	1,093	9,003	62	0	0	0	0	1,802	5
Mississippi	15,934	1,458	13,939	122	0	0	0	0	316	98
Oklahoma	1,768	0	1,729	0	0	0	0	0	0	40
Tennessee	3,201	0	1,370	583	443	0	0	262	130	413
Texas	9,993	274	9,310	0	0	0	0	0	244	165
Total	73,767	4,500	61,520	1,752	592	0	0	493	3,318	1,592
East total	201,909	17,820	105,748	8,585	25,508	912	13,646	11,252	7,309	11,128

Note: Data may not add to totals because of rounding. Volume by State in this table may differ slightly from volume by State in other tables because of rounding.

Table 24. Net volume of hardwood growing stock on timberland in the Eastern United States by species, subregion, and State, 2017

Subregion and State	Total	Select white oaks	Select red oaks	Other white oaks	Other red oaks	Hickory	Yellow birch	Hard maple	Soft maple	Beech
	Million cubic feet									
Northeast										
Connecticut	3,663	279	603	63	566	221	49	163	821	108
Delaware	696	82	4	1	136	6	0	0	171	11
Maine	10,247	25	910	0	21	0	1,255	1,771	2,755	645
Maryland	4,666	503	239	273	515	193	4	76	548	162
Massachusetts	4,429	241	905	22	502	90	140	271	1,158	143
New Hampshire	5,354	67	1,121	0	110	19	465	751	1,363	360
New Jersey	2,462	234	198	170	337	81	7	84	353	46
New York	23,089	514	2,069	331	445	794	760	4,371	5,102	1,329
Pennsylvania	30,359	1,573	3,442	2,309	1,427	934	306	2,622	6,236	882
Rhode Island	571	69	127	9	160	12	11	2	128	4
Vermont	5,830	25	313	9	4	45	571	1,987	1,090	384
West Virginia	24,306	2,274	2,133	2,483	1,823	1,751	211	1,800	2,369	846
Total	115,672	5,885	12,064	5,670	6,047	4,146	3,778	13,899	22,095	4,921
North Central										
Illinois	6,824	1,027	381	139	856	840	0	273	690	14
Indiana	9,052	806	435	112	765	877	0	1,021	689	239
Iowa	3,046	581	250	1	160	244	0	128	232	0
Michigan	20,678	859	1,519	0	987	238	439	4,541	4,824	381
Minnesota	10,204	821	719	0	138	42	33	504	507	0
Missouri	15,162	4,001	977	1,542	3,545	1,760	0	248	284	10
Ohio	13,143	995	811	394	850	1,237	0	1,278	1,536	382
Wisconsin	15,659	1,042	1,915	0	808	294	258	2,417	2,466	34
Total	93,768	10,132	7,007	2,187	8,109	5,533	731	10,409	11,229	1,059
Southeast										
Florida	4,423	19	5	188	1,395	135	0	2	234	7
Georgia	15,567	1,690	364	1,043	3,427	833	1	16	731	52
North Carolina	22,668	1,983	1,191	1,600	2,225	1,009	54	148	2,239	321
South Carolina	9,254	883	360	298	1,999	427	1	5	517	31
Virginia	23,152	3,105	1,569	2,530	2,701	1,492	16	360	1,544	511
Total	75,063	7,680	3,489	5,659	11,746	3,896	72	531	5,266	922
South Central										
Alabama	15,424	1,507	642	1,142	3,525	1,304	0	80	258	162
Arkansas	15,009	2,720	1,512	1,700	2,902	1,497	0	83	187	78
Kentucky	19,325	2,680	1,078	1,546	1,876	2,307	0	1,139	1,284	738
Louisiana	9,463	578	482	568	2,581	534	0	9	216	114
Mississippi	12,724	1,112	1,034	488	3,250	786	0	19	167	150
Oklahoma	2,938	248	196	659	618	450	0	3	49	0
Tennessee	21,160	2,977	984	2,427	2,609	2,358	3	756	1,151	392
Texas	6,675	349	276	991	2,059	294	0	9	47	35
Total	102,717	12,172	6,204	9,520	19,421	9,529	3	2,097	3,360	1,668
East total	387,221	35,869	28,764	23,036	45,323	23,104	4,585	26,937	41,951	8,570

Table 24. (cont.) Net volume of hardwood growing stock on timberland in the Eastern United States by species, subregion, and State, 2017

Subregion and State	Sweetgum	Tupelo and black gum	Ash	Basswood	Yellow-poplar	Cottonwood and aspen	Black walnut	Black cherry	Other hardwoods
	Million cubic feet								
Northeast									
Connecticut	0	9	187	3	121	61	0	58	352
Delaware	112	34	11	0	91	1	6	13	16
Maine	0	0	566	27	0	1,225	0	26	1,020
Maryland	407	128	100	28	1,075	6	30	164	214
Massachusetts	0	30	268	9	0	132	3	168	346
New Hampshire	0	3	315	21	0	193	0	53	512
New Jersey	165	74	200	4	271	20	28	36	155
New York	1	16	2,510	720	123	1,161	62	1,634	1,148
Pennsylvania	1	278	1,579	456	1,732	630	206	3,504	2,243
Rhode Island	0	12	7	0	1	9	0	1	20
Vermont	0	0	515	36	0	213	0	123	517
West Virginia	1	247	683	709	4,139	105	144	973	1,615
Total	686	829	6,941	2,012	7,554	3,756	479	6,752	8,157
North Central									
Illinois	110	27	408	80	160	316	253	163	1,087
Indiana	107	74	651	110	1,198	272	291	293	1,112
Iowa	0	0	109	198	0	320	249	49	526
Michigan	0	11	1,084	786	52	3,170	61	877	848
Minnesota	0	0	1,367	873	0	3,941	41	34	1,184
Missouri	19	125	369	33	14	236	521	78	1,401
Ohio	16	99	878	237	1,622	462	322	831	1,191
Wisconsin	0	0	1,443	1,209	0	2,408	121	269	975
Total	251	337	6,310	3,527	3,046	11,125	1,859	2,593	8,325
Southeast									
Florida	521	1,253	225	13	92	1	0	44	290
Georgia	2,384	1,612	267	19	2,441	3	17	81	586
North Carolina	2,367	1,542	639	139	5,412	34	91	194	1,480
South Carolina	1,969	971	220	3	993	61	15	40	460
Virginia	1,165	468	471	188	5,656	23	129	151	1,071
Total	8,407	5,846	1,823	361	14,594	121	253	509	3,888
South Central									
Alabama	2,536	1,138	330	57	1,911	21	25	82	704
Arkansas	1,829	676	451	18	20	132	60	91	1,052
Kentucky	409	287	994	224	2,843	82	212	189	1,436
Louisiana	1,524	1,212	466	1	46	55	0	28	1,049
Mississippi	2,341	699	389	26	935	80	8	116	1,123
Oklahoma	77	27	156	0	0	95	33	8	320
Tennessee	1,078	426	800	120	3,048	40	198	279	1,515
Texas	1,293	264	288	4	0	32	3	7	723
Total	11,086	4,732	3,874	449	8,804	537	540	800	7,921
East total	20,431	11,743	18,948	6,349	33,998	15,539	3,130	10,655	28,292

Note: Data may not add to totals because of rounding. Volume by State in this table may differ from volume by State in other tables because of rounding.

Table 25. Net volume of growing stock on timberland in the Western United States by species, subregion, and State, 2017

Subregion and State	All species	Softwoods								
		Total softwoods	Douglas-fir	Ponderosa and Jeffrey pines	True fir	Western hemlock	Sugar pine	Western white pine	Redwood	Sitka spruce
	Million cubic feet									
Great Plains										
Kansas	1,436	24	0	4	0	0	0	0	0	0
Nebraska	926	250	0	222	0	0	0	0	0	0
North Dakota	359	2	0	1	0	0	0	0	0	0
South Dakota	1,765	1,609	0	1,512	0	0	0	0	0	0
Total	4,487	1,885	0	1,739	0	0	0	0	0	0
Intermountain										
Arizona	5,977	5,638	542	4,501	246	0	0	0	0	0
Colorado	22,093	17,850	2,497	2,257	3,088	0	0	0	0	0
Idaho	40,866	40,318	12,004	2,595	11,765	1,173	0	323	0	0
Montana	34,069	33,592	11,274	2,923	3,935	312	0	91	0	0
Nevada	270	235	0	75	123	0	0	3	0	0
New Mexico	7,279	6,575	1,481	3,273	865	0	0	0	0	0
Utah	6,230	4,723	1,039	375	1,475	0	0	0	0	0
Wyoming	8,735	8,287	1,166	1,119	1,775	0	0	0	0	0
Total	125,518	117,217	30,003	17,118	23,272	1,486	0	418	0	0
Alaska										
Alaska	37,140	33,761	0	0	17	13,009	0	0	0	10,536
Total	37,140	33,761	0	0	17	13,009	0	0	0	10,536
Pacific Northwest										
Oregon	90,882	83,744	50,223	8,842	9,026	7,048	675	176	20	797
Washington	68,356	62,736	29,427	3,547	7,765	13,126	0	142	1	607
Total	159,238	146,480	79,650	12,389	16,791	20,175	675	318	21	1,405
Pacific Southwest										
California	68,579	59,239	18,582	11,143	14,624	101	3,009	321	5,883	208
Hawaii	1,147	34	0	0	0	0	0	0	0	0
Total	69,726	59,273	18,582	11,143	14,624	101	3,009	321	5,883	208
West total	396,109	358,617	128,235	42,389	54,703	34,770	3,684	1,057	5,904	12,149

Table 25. (cont.) Net volume of growing stock on timberland in the Western United States by species, subregion, and State, 2017

Subregion and State	Softwoods - continued						Hardwoods				
	Engelmann and other spruces	Western larch	Incense-cedar	Lodgepole pine	Western red-cedar[a]	Other softwoods	Total hardwoods	Cottonwood and aspen	Red alder	Oak	Other hardwoods
	Million cubic feet										
Great Plains											
Kansas	0	0	0	0	0	20	1,412	292	0	285	834
Nebraska	0	0	0	0	0	28	676	406	0	83	187
North Dakota	0	0	0	0	0	1	357	208	0	65	85
South Dakota	0	0	0	0	0	97	156	81	0	21	54
Total	0	0	0	0	0	146	2,601	988	0	453	1,160
Intermountain											
Arizona	262	0	0	0	0	87	339	334	0	0	5
Colorado	7,265	0	0	2,429	0	314	4,243	4,242	0	0	1
Idaho	3,101	1,485	0	3,704	2,968	1,201	547	435	18	0	94
Montana	4,221	2,631	0	6,710	562	933	477	420	2	0	55
Nevada	0	0	0	14	0	20	36	36	0	0	0
New Mexico	744	0	0	0	0	211	705	705	0	0	0
Utah	1,111	0	0	655	0	68	1,507	1,506	0	0	1
Wyoming	1,896	0	0	2,150	0	180	448	405	0	0	42
Total	18,601	4,117	0	15,661	3,530	3,014	8,301	8,082	20	0	199
Alaska											
Alaska	4,302	3	0	84	1,372	4,439	3,379	1,126	140	0	2,114
Total	4,302	3	0	84	1,372	4,439	3,379	1,126	140	0	2,114
Pacific Northwest											
Oregon	601	653	873	1,845	1,484	1,479	7,138	149	2,754	552	3,683
Washington	903	1,469	0	1,115	3,852	781	5,619	599	3,466	56	1,498
Total	1,505	2,122	873	2,960	5,336	2,260	12,758	748	6,220	608	5,181
Pacific Southwest											
California	0	0	3,508	1,060	0	800	9,339	46	331	4,114	4,848
Hawaii	0	0	0	0	0	34	1,113	0	0	0	1,113
Total	0	0	3,508	1,060	0	834	10,452	46	331	4,114	5,961
West total	24,408	6,242	4,381	19,765	10,238	10,693	37,492	10,990	6,711	5,175	14,615

[a] Western redcedar volume may be included in other western softwood volume. Western redcedar volume in Oregon for national forest lands includes some incense-cedar.
Note: Data may not add to totals because of rounding. Total volume by State in this table may differ slightly from volume by State in other tables because of rounding.

Table 26. Net volume of hardwood growing stock on timberland in the Eastern United States by species, subregion, and diameter class, 2017

Subregion and diameter class (in inches)	Total	Select white oaks	Select red oaks	Other white oaks	Other red oaks	Hickory	Yellow birch	Hard maple	Soft maple	Beech
	Million cubic feet									
Northeast										
5.0 - 6.9	5,832	116	187	111	104	181	319	779	1,533	416
7.0 - 8.9	10,913	298	435	381	266	429	494	1,482	2,897	742
9.0 - 10.9	14,958	597	804	669	510	595	616	2,059	3,721	823
11.0 - 12.9	17,007	831	1,233	834	718	714	648	2,237	3,856	741
13.0 - 14.9	16,948	898	1,585	1,015	898	739	567	2,169	3,398	608
15.0 - 16.9	15,119	835	1,773	852	909	575	411	1,789	2,628	515
17.0 - 18.9	11,367	705	1,547	646	743	403	283	1,204	1,668	384
19.0 - 20.9	7,816	504	1,253	428	598	203	177	778	1,060	220
21.0 - 28.9	12,832	844	2,538	647	1,154	275	248	1,225	1,153	419
29.0 +	2,880	257	708	88	148	32	16	177	181	53
Total	115,672	5,885	12,064	5,670	6,047	4,146	3,778	13,899	22,095	4,921
North Central										
5.0 - 6.9	6,638	351	153	126	255	354	63	835	908	49
7.0 - 8.9	9,890	605	269	251	478	573	101	1,334	1,462	67
9.0 - 10.9	12,084	928	453	326	745	754	110	1,678	1,686	87
11.0 - 12.9	12,651	1,188	654	347	957	853	108	1,687	1,569	91
13.0 - 14.9	12,394	1,376	853	328	1,088	887	103	1,491	1,422	114
15.0 - 16.9	10,990	1,333	950	297	1,161	736	83	1,202	1,177	113
17.0 - 18.9	8,753	1,160	943	196	1,003	564	68	856	835	125
19.0 - 20.9	6,318	925	755	112	774	348	29	541	644	94
21.0 - 28.9	11,161	1,812	1,503	193	1,374	405	59	723	1,142	274
29.0 +	2,890	454	474	11	274	59	6	62	385	45
Total	93,768	10,132	7,007	2,187	8,109	5,533	731	10,409	11,229	1,059
Southeast										
5.0 - 6.9	4,664	254	71	184	690	215	10	45	637	58
7.0 - 8.9	6,510	435	123	369	902	370	14	57	746	74
9.0 - 10.9	8,070	634	197	576	1,160	494	12	73	778	100
11.0 - 12.9	8,796	845	242	704	1,289	568	12	79	733	100
13.0 - 14.9	9,275	986	294	782	1,428	595	17	69	614	96
15.0 - 16.9	9,172	1,053	355	776	1,399	562	3	66	539	93
17.0 - 18.9	8,030	1,089	396	614	1,246	437	1	59	422	104
19.0 - 20.9	6,145	762	376	538	949	276	1	13	255	72
21.0 - 28.9	11,650	1,398	1,027	855	2,080	346	3	66	462	163
29.0 +	2,751	224	408	260	603	34	0	5	79	61
Total	75,063	7,680	3,489	5,659	11,746	3,896	72	531	5,266	922

Table 26. (cont.) Net volume of hardwood growing stock on timberland in the Eastern United States by species, subregion, and diameter class, 2017

Subregion and diameter class (in inches)	Total	Select white oaks	Select red oaks	Other white oaks	Other red oaks	Hickory	Yellow birch	Hard maple	Soft maple	Beech
	Million cubic feet									
South Central										
5.0 - 6.9	5,959	450	152	381	811	505	1	236	437	70
7.0 - 8.9	9,025	850	238	762	1,175	963	0	291	506	89
9.0 - 10.9	11,383	1,225	379	1,084	1,532	1,323	0	343	514	135
11.0 - 12.9	12,749	1,533	492	1,252	1,903	1,500	0	317	401	133
13.0 - 14.9	13,503	1,834	636	1,346	2,213	1,496	1	300	417	169
15.0 - 16.9	12,338	1,660	655	1,176	2,378	1,258	0	254	323	194
17.0 - 18.9	10,530	1,510	660	1,037	2,196	929	0	126	255	200
19.0 - 20.9	8,239	1,030	701	790	1,886	573	0	88	164	221
21.0 - 28.9	14,941	1,760	1,689	1,394	3,978	826	0	127	257	400
29.0 +	4,051	320	604	299	1,349	157	0	16	87	58
Total	102,717	12,172	6,204	9,520	19,421	9,529	3	2,097	3,360	1,668
East total										
5.0 - 6.9	23,093	1,171	563	802	1,860	1,254	394	1,895	3,514	593
7.0 - 8.9	36,337	2,189	1,065	1,763	2,821	2,335	609	3,164	5,611	971
9.0 - 10.9	46,495	3,384	1,832	2,656	3,947	3,166	738	4,153	6,700	1,146
11.0 - 12.9	51,203	4,397	2,621	3,136	4,867	3,635	768	4,320	6,558	1,066
13.0 - 14.9	52,119	5,094	3,367	3,471	5,627	3,716	688	4,029	5,851	987
15.0 - 16.9	47,620	4,881	3,733	3,101	5,846	3,131	497	3,312	4,666	915
17.0 - 18.9	38,680	4,464	3,547	2,494	5,188	2,334	353	2,245	3,181	813
19.0 - 20.9	28,517	3,220	3,085	1,867	4,208	1,400	206	1,419	2,124	607
21.0 - 28.9	50,584	5,814	6,757	3,089	8,585	1,851	309	2,141	3,014	1,256
29.0 +	12,573	1,255	2,194	657	2,374	282	22	259	732	216
Total	387,221	35,869	28,764	23,036	45,323	23,104	4,585	26,937	41,951	8,570

Table 26. (cont.) Net volume of hardwood growing stock on timberland in the Eastern United States by species, subregion, and diameter class, 2017

Subregion and diameter class (in inches)	Sweetgum	Tupelo and black gum	Ash	Basswood	Yellow-poplar	Cottonwood and aspen	Black walnut	Black cherry	Other eastern hardwoods
	Million cubic feet								
Northeast									
5.0 - 6.9	28	92	450	47	103	265	12	240	850
7.0 - 8.9	51	120	730	116	250	416	30	443	1,332
9.0 - 10.9	78	146	926	203	371	568	53	710	1,507
11.0 - 12.9	88	115	1,035	290	574	708	60	919	1,407
13.0 - 14.9	110	106	970	324	834	641	68	988	1,033
15.0 - 16.9	108	90	957	356	1,036	441	84	997	763
17.0 - 18.9	71	64	703	274	1,010	267	58	850	487
19.0 - 20.9	64	39	424	149	842	145	33	638	261
21.0 - 28.9	69	47	638	206	1,887	219	64	865	335
29.0 +	19	10	109	47	648	85	17	103	183
Total	686	829	6,941	2,012	7,554	3,756	479	6,752	8,157
North Central									
5.0 - 6.9	14	39	651	172	62	1,492	61	184	869
7.0 - 8.9	20	48	913	321	146	1,643	119	308	1,232
9.0 - 10.9	28	53	984	479	194	1,653	194	389	1,342
11.0 - 12.9	36	45	896	585	255	1,591	258	430	1,100
13.0 - 14.9	36	39	771	604	313	1,394	305	384	885
15.0 - 16.9	28	41	637	481	388	1,032	305	329	697
17.0 - 18.9	27	28	502	317	431	666	225	244	561
19.0 - 20.9	19	12	344	231	341	382	191	147	429
21.0 - 28.9	38	30	534	294	794	779	190	176	842
29.0 +	3	0	78	43	121	494	10	2	369
Total	251	337	6,310	3,527	3,046	11,125	1,859	2,593	8,325
Southeast									
5.0 - 6.9	807	467	121	14	516	4	9	95	467
7.0 - 8.9	1,063	681	155	22	824	11	19	88	556
9.0 - 10.9	1,176	815	191	26	1,155	6	33	66	577
11.0 - 12.9	1,158	842	212	33	1,368	9	32	62	510
13.0 - 14.9	1,072	889	241	47	1,590	8	36	53	458
15.0 - 16.9	988	769	224	63	1,809	16	41	45	371
17.0 - 18.9	745	551	216	37	1,787	10	40	27	247
19.0 - 20.9	504	358	146	46	1,564	13	21	29	222
21.0 - 28.9	830	423	279	65	3,193	34	22	44	361
29.0 +	64	51	39	6	787	10	0	0	119
Total	8,407	5,846	1,823	361	14,594	121	253	509	3,888

Table 26. (cont.) Net volume of hardwood growing stock on timberland in the Eastern United States by species, subregion, and diameter class, 2017

Subregion and diameter class (in inches)	Sweetgum	Tupelo and black gum	Ash	Basswood	Yellow-poplar	Cottonwood and aspen	Black walnut	Black cherry	Other eastern hardwoods
	Million cubic feet								
South Central									
5.0 - 6.9	997	334	239	18	382	9	19	120	800
7.0 - 8.9	1,376	526	350	34	608	17	46	137	1,057
9.0 - 10.9	1,557	675	469	48	793	22	80	130	1,074
11.0 - 12.9	1,611	765	548	50	991	29	86	118	1,019
13.0 - 14.9	1,460	760	514	60	1,109	32	102	84	972
15.0 - 16.9	1,169	586	493	64	1,158	42	80	73	777
17.0 - 18.9	1,001	414	390	57	1,019	27	66	48	595
19.0 - 20.9	682	265	291	38	877	14	29	43	548
21.0 - 28.9	1,038	349	473	82	1,545	132	32	36	823
29.0 +	195	59	107	0	322	213	0	9	257
Total	11,086	4,732	3,874	449	8,804	537	540	800	7,921
East total									
5.0 - 6.9	1,846	932	1,460	250	1,064	1,771	100	638	2,986
7.0 - 8.9	2,510	1,375	2,148	494	1,827	2,088	215	975	4,176
9.0 - 10.9	2,839	1,689	2,570	756	2,513	2,249	361	1,295	4,501
11.0 - 12.9	2,893	1,767	2,692	957	3,189	2,336	437	1,530	4,037
13.0 - 14.9	2,679	1,794	2,496	1,035	3,846	2,075	511	1,509	3,347
15.0 - 16.9	2,293	1,487	2,311	964	4,391	1,532	510	1,445	2,606
17.0 - 18.9	1,844	1,057	1,811	685	4,247	969	389	1,170	1,890
19.0 - 20.9	1,269	674	1,205	463	3,624	554	273	858	1,460
21.0 - 28.9	1,976	848	1,924	648	7,419	1,163	308	1,121	2,360
29.0 +	281	120	334	97	1,879	802	27	114	927
Total	20,431	11,743	18,948	6,349	33,998	15,539	3,130	10,655	28,292

Note: Data may not add to totals because of rounding. Total volume by region in this table may differ slightly from volume by region in other tables because of rounding.

Table 27. Net volume of softwood growing stock on timberland in the Eastern United States by species, subregion, and diameter class, 2017

Subregion and diameter class (in inches)	Total	Longleaf and slash pines	Loblolly and shortleaf pines	Other yellow pines	White and red pines	Jack pine	Spruce and balsam fir	Eastern hemlock	Cypress	Other softwoods
	Million cubic feet									
Northeast										
5.0 - 6.9	3,439	0	56	102	373	0	2,089	511	0	308
7.0 - 8.9	4,719	0	120	248	746	2	2,179	889	0	535
9.0 - 10.9	5,104	0	144	361	1,026	3	1,817	1,152	0	601
11.0 - 12.9	5,120	0	130	389	1,326	0	1,346	1,305	0	623
13.0 - 14.9	4,790	0	133	318	1,540	1	877	1,419	0	503
15.0 - 16.9	3,898	0	108	216	1,534	0	477	1,247	1	315
17.0 - 18.9	2,993	0	70	100	1,461	0	238	926	1	197
19.0 - 20.9	2,125	0	63	28	1,192	0	83	650	1	107
21.0 - 28.9	4,016	0	58	23	2,941	0	94	814	7	80
29.0 +	905	0	0	0	806	0	2	92	0	5
Total	37,108	0	882	1,784	12,945	6	9,202	9,005	11	3,273
North Central										
5.0 - 6.9	3,331	0	51	36	521	161	1,431	34	0	1,095
7.0 - 8.9	4,125	0	113	63	1,019	230	1,247	67	0	1,386
9.0 - 10.9	3,882	0	178	82	1,330	214	767	103	0	1,208
11.0 - 12.9	3,162	0	215	60	1,364	159	398	123	0	844
13.0 - 14.9	2,509	0	218	51	1,175	94	247	173	2	550
15.0 - 16.9	1,937	0	148	45	1,019	28	153	192	0	352
17.0 - 18.9	1,381	0	86	10	844	15	76	183	0	166
19.0 - 20.9	983	0	53	9	636	5	29	172	3	77
21.0 - 28.9	1,792	0	30	3	1,366	0	27	260	5	101
29.0 +	391	0	0	0	345	0	0	35	0	10
Total	23,494	0	1,093	358	9,620	906	4,374	1,342	11	5,789
Southeast										
5.0 - 6.9	6,297	1,726	3,563	525	107	0	3	27	250	96
7.0 - 8.9	10,882	2,591	6,768	800	166	0	8	38	397	115
9.0 - 10.9	11,706	2,362	7,565	908	226	0	7	40	512	86
11.0 - 12.9	11,211	2,130	7,257	884	230	0	11	48	587	64
13.0 - 14.9	9,072	1,725	5,762	676	234	0	14	58	557	47
15.0 - 16.9	6,665	1,267	4,113	447	224	0	11	36	535	32
17.0 - 18.9	4,454	739	2,798	225	261	0	7	39	368	17
19.0 - 20.9	2,792	424	1,705	106	260	0	5	38	244	11
21.0 - 28.9	3,977	341	2,483	119	493	0	4	76	455	6
29.0 +	484	14	240	0	150	0	0	15	66	0
Total	67,540	13,320	42,253	4,690	2,350	0	70	413	3,969	474

Table 27. (cont.) Net volume of softwood growing stock on timberland in the Eastern United States by species, subregion, and diameter class, 2017

Subregion and diameter class (in inches)	Total	Longleaf and slash pines	Loblolly and shortleaf pines	Other yellow pines	White and red pines	Jack pine	Spruce and balsam fir	Eastern hemlock	Cypress	Other softwoods
	Million cubic feet									
South Central										
5.0 - 6.9	6,358	329	5,360	193	25	0	0	39	81	330
7.0 - 8.9	11,073	603	9,565	247	39	0	0	51	148	420
9.0 - 10.9	11,728	645	10,084	286	44	0	0	54	254	362
11.0 - 12.9	10,974	666	9,384	302	36	0	0	55	295	237
13.0 - 14.9	9,490	735	7,932	253	66	0	0	51	334	118
15.0 - 16.9	7,573	670	6,166	192	61	0	0	44	352	86
17.0 - 18.9	5,505	436	4,474	115	57	0	0	39	363	20
19.0 - 20.9	3,985	233	3,218	60	55	0	0	25	383	11
21.0 - 28.9	5,953	183	4,739	84	151	0	0	113	681	2
29.0 +	1,127	0	598	19	59	0	0	20	427	5
Total	73,767	4,500	61,520	1,752	592	0	0	493	3,318	1,592
East total										
5.0 - 6.9	19,426	2,055	9,030	857	1,027	161	3,523	611	332	1,829
7.0 - 8.9	30,799	3,194	16,566	1,357	1,970	232	3,434	1,045	545	2,455
9.0 - 10.9	32,421	3,007	17,970	1,637	2,626	217	2,592	1,349	767	2,257
11.0 - 12.9	30,467	2,796	16,986	1,636	2,956	159	1,755	1,530	882	1,768
13.0 - 14.9	25,861	2,460	14,045	1,298	3,014	94	1,137	1,701	893	1,218
15.0 - 16.9	20,073	1,937	10,536	900	2,838	28	641	1,519	888	786
17.0 - 18.9	14,332	1,176	7,428	450	2,623	15	321	1,188	731	400
19.0 - 20.9	9,886	657	5,039	204	2,143	5	117	885	632	205
21.0 - 28.9	15,738	524	7,310	229	4,950	0	125	1,262	1,148	189
29.0 +	2,907	14	838	19	1,360	0	2	162	492	20
Total	201,909	17,820	105,748	8,585	25,508	912	13,646	11,252	7,309	11,128

Note: Data may not add to totals because of rounding. Total volume by region in this table may differ slightly from volume by region in other tables because of rounding.

Table 28. Net volume of growing stock on timberland in the Western United States by species, subregion, and diameter class, 2017

Subregion and diameter class (in inches)	Total	Softwoods								
		Total softwoods	Douglas-fir	Ponderosa and Jeffrey pine	True fir	Western hemlock	Sugar pine	Western white pine	Redwood	Sitka spruce
	Million cubic feet									
Great Plains										
5.0 - 6.9	179	79	0	55	0	0	0	0	0	0
7.0 - 8.9	362	201	0	174	0	0	0	0	0	0
9.0 - 10.9	474	281	0	255	0	0	0	0	0	0
11.0 - 12.9	551	331	0	312	0	0	0	0	0	0
13.0 - 14.9	543	296	0	277	0	0	0	0	0	0
15.0 - 16.9	493	230	0	213	0	0	0	0	0	0
17.0 - 18.9	394	182	0	175	0	0	0	0	0	0
19.0 - 20.9	348	143	0	137	0	0	0	0	0	0
21.0 - 28.9	636	143	0	139	0	0	0	0	0	0
29.0 +	507	0	0	0	0	0	0	0	0	0
Total	4,487	1,885	0	1,739	0	0	0	0	0	0
Intermountain										
5.0 - 6.9	7,863	7,182	1,149	391	1,838	61	0	17	0	0
7.0 - 8.9	13,365	11,948	2,134	965	2,504	114	0	31	0	0
9.0 - 10.9	16,027	14,205	2,955	1,514	2,916	138	0	29	0	0
11.0 - 12.9	16,056	14,400	3,477	1,940	2,912	178	0	46	0	0
13.0 - 14.9	14,805	13,671	3,714	2,126	2,788	180	0	45	0	0
15.0 - 16.9	12,764	12,139	3,589	1,955	2,385	152	0	38	0	0
17.0 - 18.9	10,829	10,455	3,147	1,739	2,071	134	0	49	0	0
19.0 - 20.9	8,228	8,034	2,492	1,462	1,514	81	0	22	0	0
21.0 - 28.9	18,445	18,186	5,438	3,607	3,121	323	0	115	0	0
29.0 +	7,136	6,997	1,907	1,419	1,222	124	0	26	0	0
Total	125,518	117,217	30,003	17,118	23,272	1,486	0	418	0	0
Alaska										
5.0 - 6.9	1,653	994	0	0	1	316	0	0	0	152
7.0 - 8.9	2,632	1,830	0	0	1	519	0	0	0	234
9.0 - 10.9	2,786	2,272	0	0	1	726	0	0	0	349
11.0 - 12.9	2,932	2,523	0	0	1	820	0	0	0	434
13.0 - 14.9	2,785	2,549	0	0	1	902	0	0	0	529
15.0 - 16.9	2,781	2,517	0	0	1	912	0	0	0	580
17.0 - 18.9	2,356	2,240	0	0	2	872	0	0	0	610
19.0 - 20.9	2,133	2,066	0	0	0	991	0	0	0	568
21.0 - 28.9	7,783	7,547	0	0	9	3,429	0	0	0	2,551
29.0 +	9,299	9,221	0	0	0	3,522	0	0	0	4,527
Total	37,140	33,761	0	0	17	13,009	0	0	0	10,536

Table 28. (cont.) Net volume of growing stock on timberland in the Western United States by species, subregion, and diameter class, 2017

Subregion and diameter class (in inches)	Total	Softwoods								
		Total softwoods	Douglas-fir	Ponderosa and Jeffrey pine	True fir	Western hemlock	Sugar pine	Western white pine	Redwood	Sitka spruce
	Million cubic feet									
Pacific Northwest										
5.0 - 6.9	4,154	3,343	1,321	218	529	540	3	11	1	16
7.0 - 8.9	8,228	6,909	3,140	456	953	1,072	5	19	2	35
9.0 - 10.9	11,539	9,956	4,898	736	1,252	1,579	9	21	3	50
11.0 - 12.9	13,501	11,832	5,982	925	1,421	1,953	9	24	3	63
13.0 - 14.9	13,938	12,319	6,327	1,125	1,421	2,045	8	20	2	77
15.0 - 16.9	13,611	12,228	6,288	1,188	1,391	2,056	16	34	2	69
17.0 - 18.9	12,460	11,225	5,845	1,011	1,403	1,847	19	20	0	84
19.0 - 20.9	11,309	10,491	5,433	1,057	1,361	1,583	21	32	0	56
21.0 - 28.9	32,320	30,679	16,459	3,115	3,803	4,182	107	67	2	306
29.0 +	38,177	37,499	23,957	2,559	3,257	3,318	477	71	7	648
Total	159,238	146,480	79,650	12,389	16,791	20,175	675	318	21	1,405
Pacific Southwest										
5.0 - 6.9	1,787	1,035	377	155	261	4	17	2	45	1
7.0 - 8.9	2,736	1,672	603	282	411	5	30	4	94	3
9.0 - 10.9	3,551	2,341	773	429	625	7	45	5	135	4
11.0 - 12.9	4,155	2,892	923	599	747	10	62	5	195	5
13.0 - 14.9	4,329	3,273	1,002	690	914	15	65	9	226	10
15.0 - 16.9	4,512	3,592	1,040	791	1,014	10	86	7	266	14
17.0 - 18.9	4,698	3,896	1,130	845	1,067	14	108	19	286	21
19.0 - 20.9	4,610	3,932	1,089	860	1,071	7	112	23	334	8
21.0 - 28.9	15,033	13,334	3,373	2,890	3,578	26	643	74	1,492	66
29.0 +	24,315	23,306	8,273	3,602	4,936	2	1,840	174	2,810	76
Total	69,726	59,273	18,582	11,143	14,624	101	3,009	321	5,883	208
West total										
5.0 - 6.9	15,635	12,633	2,847	818	2,628	921	21	30	46	168
7.0 - 8.9	27,323	22,560	5,878	1,877	3,868	1,711	35	54	96	273
9.0 - 10.9	34,377	29,055	8,626	2,935	4,794	2,451	55	55	138	403
11.0 - 12.9	37,195	31,978	10,381	3,777	5,083	2,961	72	75	198	503
13.0 - 14.9	36,400	32,109	11,043	4,218	5,124	3,142	73	74	228	616
15.0 - 16.9	34,161	30,706	10,917	4,147	4,792	3,130	102	78	267	664
17.0 - 18.9	30,737	27,999	10,121	3,770	4,543	2,866	127	87	286	716
19.0 - 20.9	26,629	24,666	9,014	3,515	3,946	2,662	133	77	334	632
21.0 - 28.9	74,216	69,890	25,270	9,751	10,511	7,960	749	255	1,494	2,923
29.0 +	79,435	77,023	34,136	7,580	9,415	6,966	2,317	271	2,818	5,251
Total	396,109	358,617	128,235	42,389	54,703	34,770	3,684	1,057	5,904	12,149

Table 28. (cont.) Net volume of growing stock on timberland in the Western United States by species, subregion, and diameter class, 2017

Engelmann Subregion and diameter class (in inches)	Softwoods (cont.)						Hardwoods				
	Engelmann and other spruces	Western larch	Incense-cedar	Lodgepole pine	Western red-cedar	Other softwoods	Total hardwoods	Cottonwood and aspen	Red alder	Oak	Other hardwoods
	Million cubic feet										
Great Plains											
5.0 - 6.9	0	0	0	0	0	24	100	21	0	17	61
7.0 - 8.9	0	0	0	0	0	27	160	32	0	26	103
9.0 - 10.9	0	0	0	0	0	26	193	31	0	34	129
11.0 - 12.9	0	0	0	0	0	18	221	37	0	46	138
13.0 - 14.9	0	0	0	0	0	19	247	54	0	50	143
15.0 - 16.9	0	0	0	0	0	16	263	56	0	34	173
17.0 - 18.9	0	0	0	0	0	7	211	57	0	38	117
19.0 - 20.9	0	0	0	0	0	6	206	51	0	61	93
21.0 - 28.9	0	0	0	0	0	4	493	238	0	110	145
29.0 +	0	0	0	0	0	0	507	411	0	37	59
Total	0	0	0	0	0	146	2,601	988	0	453	1,160
Intermountain											
5.0 - 6.9	699	136	0	2,488	212	190	682	637	4	0	40
7.0 - 8.9	1,293	287	0	4,051	221	346	1,417	1,369	3	0	45
9.0 - 10.9	1,772	439	0	3,757	262	422	1,822	1,777	1	0	44
11.0 - 12.9	2,102	500	0	2,544	305	397	1,655	1,614	4	0	36
13.0 - 14.9	2,237	469	0	1,493	267	353	1,134	1,114	1	0	18
15.0 - 16.9	2,274	485	0	736	270	254	625	612	6	0	8
17.0 - 18.9	2,085	340	0	319	292	280	374	370	0	0	4
19.0 - 20.9	1,560	336	0	180	214	174	194	191	0	0	3
21.0 - 28.9	3,565	788	0	94	679	456	258	258	0	0	0
29.0 +	1,014	337	0	0	807	141	139	139	0	0	0
Total	18,601	4,117	0	15,661	3,530	3,014	8,301	8,082	20	0	199
Alaska											
5.0 - 6.9	413	0	0	3	14	96	659	176	14	0	469
7.0 - 8.9	858	3	0	8	29	178	802	170	30	0	602
9.0 - 10.9	847	0	0	7	45	296	514	124	21	0	369
11.0 - 12.9	820	0	0	21	63	363	409	99	18	0	293
13.0 - 14.9	603	0	0	13	80	421	236	73	15	0	147
15.0 - 16.9	427	0	0	13	87	496	264	68	16	0	179
17.0 - 18.9	221	0	0	5	112	418	115	73	5	0	38
19.0 - 20.9	78	0	0	6	81	342	67	51	4	0	12
21.0 - 28.9	34	0	0	7	343	1,175	236	215	17	0	4
29.0 +	0	0	0	0	520	652	78	77	0	0	1
Total	4,302	3	0	84	1,372	4,439	3,379	1,126	140	0	2,114

Table 28. (cont.) Net volume of growing stock on timberland in the Western United States by species, subregion, and diameter class, 2017

Engelmann Subregion and diameter class (in inches)	Softwoods (cont.)						Hardwoods				
	Engelmann and other spruces	Western larch	Incense-cedar	Lodgepole pine	Western red-cedar	Other softwoods	Total hardwoods	Cottonwood and aspen	Red alder	Oak	Other hardwoods
	Million cubic feet										
Pacific Northwest											
5.0 - 6.9	35	62	25	391	138	55	810	14	312	74	411
7.0 - 8.9	73	128	34	663	223	104	1,320	26	645	88	561
9.0 - 10.9	101	198	42	650	272	146	1,583	40	851	70	621
11.0 - 12.9	131	269	45	506	333	166	1,668	56	950	76	587
13.0 - 14.9	148	257	45	333	344	167	1,620	56	967	59	537
15.0 - 16.9	163	254	49	211	330	177	1,383	49	771	51	512
17.0 - 18.9	149	188	40	112	328	181	1,235	67	651	37	480
19.0 - 20.9	154	202	47	42	324	178	818	40	434	53	292
21.0 - 28.9	342	389	142	50	1,100	617	1,641	221	572	69	779
29.0 +	209	176	402	3	1,945	469	679	179	68	31	401
Total	1,505	2,122	873	2,960	5,336	2,260	12,758	748	6,220	608	5,181
Pacific Southwest											
5.0 - 6.9	0	0	113	39	0	22	752	4	14	310	425
7.0 - 8.9	0	0	147	50	0	43	1,064	3	34	434	593
9.0 - 10.9	0	0	186	77	0	54	1,210	4	52	461	694
11.0 - 12.9	0	0	204	87	0	54	1,263	2	70	470	721
13.0 - 14.9	0	0	177	103	0	62	1,055	4	40	382	629
15.0 - 16.9	0	0	220	78	0	67	920	4	32	365	519
17.0 - 18.9	0	0	219	99	0	90	802	1	32	316	453
19.0 - 20.9	0	0	223	119	0	86	678	6	24	275	373
21.0 - 28.9	0	0	744	266	0	182	1,699	10	26	707	955
29.0 +	0	0	1,274	142	0	175	1,009	8	7	395	599
Total	0	0	3,508	1,060	0	834	10,452	46	331	4,114	5,961
West total											
5.0 - 6.9	1,146	198	138	2,920	363	387	3,003	853	344	401	1,406
7.0 - 8.9	2,224	418	182	4,772	473	699	4,763	1,599	712	548	1,904
9.0 - 10.9	2,721	637	228	4,491	578	944	5,323	1,976	925	565	1,857
11.0 - 12.9	3,053	769	249	3,157	701	999	5,217	1,808	1,042	592	1,775
13.0 - 14.9	2,988	725	223	1,942	691	1,021	4,292	1,301	1,024	492	1,475
15.0 - 16.9	2,865	739	270	1,038	687	1,011	3,455	789	825	450	1,391
17.0 - 18.9	2,454	528	258	535	732	976	2,738	568	687	391	1,091
19.0 - 20.9	1,792	538	271	346	620	785	1,963	339	462	389	774
21.0 - 28.9	3,940	1,177	887	417	2,121	2,434	4,326	943	615	885	1,883
29.0 +	1,224	513	1,676	146	3,272	1,438	2,412	814	75	463	1,060
Total	24,408	6,242	4,381	19,765	10,238	10,693	37,492	10,990	6,711	5,175	14,615

Note: Data may not add to totals because of rounding. Total volume by region in this table may differ slightly from volume by region in other tables because of rounding.

Table 29. Net volume of softwood growing stock on timberland in the United States by diameter class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region and subregion	Year	Total	Diameter class (Inches)									
			5.0 to 6.9	7.0 to 8.9	9.0 to 10.9	11.0 to 12.9	13.0 to 14.9	15.0 to 16.9	17.0 to 18.9	19.0 to 20.9	21.0 to 28.9	29.0+
		Million cubic feet										
North												
Northeast	2017	37,108	3,439	4,719	5,104	5,120	4,790	3,898	2,993	2,125	4,016	905
	2012	36,463	3,394	4,880	5,283	5,218	4,689	3,735	2,835	2,071	3,577	782
	2007	29,914	3,303	4,597	4,629	4,435	3,732	2,806	2,092	1,444	2,352	524
	1997	30,945	3,744	5,318	5,133	4,751	3,810	2,783	1,827	1,227	1,935	417
	1987	31,609	4,751	6,404	6,043	4,919	3,351	2,288	1,426	904	1,291	232
	1977	30,990	7,639	7,255	5,431	3,877	2,547	1,711	1,018	607	767	138
	1953	20,028	4,628	4,734	3,147	2,498	1,791	1,190	721	527	702	90
North Central	2017	23,494	3,331	4,125	3,882	3,162	2,509	1,937	1,381	983	1,792	391
	2012	22,298	3,288	4,097	3,759	3,034	2,323	1,720	1,267	885	1,607	318
	2007	21,614	3,369	4,200	3,838	3,037	2,209	1,587	1,040	771	1,345	218
	1997	18,431	3,571	4,149	3,316	2,374	1,579	1,058	772	542	893	178
	1987	16,012	3,429	3,816	2,939	1,964	1,285	865	609	426	598	81
	1977	12,857	3,163	3,103	2,190	1,430	949	695	491	315	461	60
	1953	7,024	1,802	1,592	1,167	862	516	348	261	161	274	41
North total	2017	60,601	6,770	8,844	8,986	8,282	7,299	5,835	4,373	3,108	5,808	1,295
	2012	58,761	6,682	8,977	9,042	8,252	7,012	5,455	4,102	2,956	5,184	1,100
	2007	51,528	6,672	8,797	8,467	7,472	5,941	4,393	3,132	2,215	3,697	742
	1997	49,376	7,315	9,467	8,449	7,125	5,389	3,841	2,599	1,769	2,828	595
	1987	47,621	8,180	10,220	8,982	6,883	4,636	3,153	2,035	1,330	1,889	313
	1977	43,847	10,802	10,358	7,621	5,307	3,496	2,406	1,509	922	1,228	198
	1953	27,052	6,430	6,326	4,314	3,360	2,307	1,538	982	688	976	131
South												
Southeast	2017	67,540	6,297	10,882	11,706	11,211	9,072	6,665	4,454	2,792	3,977	484
	2012	62,061	6,564	10,577	11,014	9,914	7,976	5,699	3,862	2,432	3,482	541
	2007	56,722	6,472	10,413	9,966	8,654	6,945	4,985	3,430	2,242	3,112	503
	1997	51,861	6,621	9,358	9,146	8,043	6,447	4,732	3,032	1,888	2,293	301
	1987	52,619	6,483	9,420	9,878	8,847	6,834	4,544	2,886	1,640	1,845	242
	1977	51,008	6,929	9,384	9,780	8,535	6,467	4,337	2,500	1,408	1,487	181
	1953	35,548	4,547	6,776	7,473	6,574	4,265	2,550	1,464	805	969	125
South Central	2017	73,767	6,358	11,073	11,728	10,974	9,490	7,573	5,505	3,985	5,953	1,127
	2012	66,895	6,016	9,820	10,348	9,770	8,715	6,745	4,989	3,623	5,730	1,140
	2007	61,749	5,624	9,145	9,382	8,956	7,896	6,524	4,621	3,369	5,223	1,007
	1997	52,985	4,772	7,530	8,014	8,364	7,602	6,117	4,172	2,677	3,344	393
	1987	52,997	4,765	7,521	8,985	8,978	7,515	5,788	3,885	2,418	2,844	298
	1977	50,200	5,178	7,691	8,771	8,451	6,923	5,126	3,406	2,082	2,340	232
	1953	24,914	2,596	3,834	4,554	4,338	3,473	2,556	1,645	886	910	122
South total	2017	141,307	12,655	21,955	23,434	22,185	18,562	14,238	9,958	6,777	9,930	1,612
	2012	128,956	12,580	20,397	21,362	19,684	16,691	12,444	8,851	6,055	9,212	1,681
	2007	118,471	12,096	19,558	19,348	17,610	14,841	11,509	8,051	5,611	8,335	1,510
	1997	104,846	11,393	16,888	17,160	16,407	14,049	10,849	7,204	4,565	5,637	694
	1987	105,616	11,248	16,941	18,863	17,825	14,349	10,332	6,771	4,058	4,689	540
	1977	101,208	12,107	17,075	18,551	16,986	13,390	9,463	5,906	3,490	3,827	413
	1953	60,462	7,143	10,610	12,027	10,912	7,738	5,106	3,109	1,691	1,879	247

Table 29. (cont.) Net volume of softwood growing stock on timberland in the United States by diameter class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region and subregion	Year	Total	Diameter class (Inches)									
			5.0 to 6.9	7.0 to 8.9	9.0 to 10.9	11.0 to 12.9	13.0 to 14.9	15.0 to 16.9	17.0 to 18.9	19.0 to 20.9	21.0 to 28.9	29.0+
		Million cubic feet										
Rocky Mountain												
Great Plains	2017	1,885	79	201	281	331	296	230	182	143	143	0
	2012	2,021	88	231	316	352	323	254	205	134	117	0
	2007	1,641	114	215	277	282	256	188	139	90	72	8
	1997	1,563	145	267	271	266	221	157	107	64	63	2
	1987	1,913	162	278	334	339	285	215	156	74	69	1
	1977	1,798	147	267	324	315	263	195	130	83	72	2
	1953	1,310	68	132	174	197	177	176	136	111	131	8
Intermountain	2017	117,217	7,182	11,948	14,205	14,400	13,671	12,139	10,455	8,034	18,186	6,997
	2012	122,068	7,722	12,975	15,393	15,488	14,294	12,593	10,487	7,931	18,095	7,090
	2007	116,784	7,683	12,986	15,266	15,326	14,156	11,965	9,545	7,273	15,973	6,612
	1997	113,118	9,164	14,678	15,933	15,176	12,897	10,605	8,428	6,485	14,056	5,695
	1987	98,392	8,639	12,318	13,388	12,425	10,685	8,957	7,142	5,603	13,161	6,074
	1977	93,320	9,383	11,772	11,883	10,950	9,682	8,172	6,912	5,681	13,305	5,580
	1953	86,235	8,573	8,455	8,956	8,968	8,542	7,858	6,884	5,886	14,935	7,178
Rocky Mountain total	2017	119,102	7,260	12,149	14,486	14,731	13,967	12,369	10,637	8,177	18,329	6,997
	2012	124,089	7,810	13,206	15,709	15,840	14,617	12,847	10,692	8,065	18,212	7,090
	2007	118,425	7,797	13,201	15,543	15,608	14,412	12,153	9,684	7,363	16,045	6,620
	1997	114,681	9,309	14,945	16,204	15,442	13,118	10,762	8,535	6,549	14,119	5,697
	1987	100,305	8,801	12,596	13,722	12,764	10,970	9,172	7,298	5,677	13,230	6,075
	1977	95,118	9,530	12,039	12,207	11,265	9,945	8,367	7,042	5,764	13,377	5,582
	1953	87,545	8,641	8,587	9,130	9,165	8,719	8,034	7,020	5,997	15,066	7,186
Pacific Coast												
Alaska	2017	33,761	994	1,830	2,272	2,523	2,549	2,517	2,240	2,066	7,547	9,221
	2012	32,453	980	1,804	2,209	2,464	2,445	2,380	2,206	2,039	7,026	8,899
	2007	29,124	800	1,604	1,941	2,236	2,192	2,182	2,023	1,911	6,547	7,688
	1997	29,810	743	1,538	1,830	2,044	2,162	1,995	2,052	2,008	6,908	8,530
	1987	37,049	956	1,934	2,394	2,705	2,675	2,662	2,750	2,506	8,797	9,670
	1977	48,280	1,346	1,849	2,754	3,521	3,996	4,116	3,685	3,424	11,547	12,042
	1953	49,150	1,103	1,495	2,279	3,097	3,619	3,963	3,792	3,624	12,414	13,764
Pacific Northwest	2017	146,480	3,343	6,909	9,956	11,832	12,319	12,228	11,225	10,491	30,679	37,499
	2012	145,473	3,417	6,952	9,804	11,611	12,146	12,011	10,954	10,159	30,641	37,780
	2007	146,006	3,474	7,052	9,916	11,600	11,977	11,847	10,852	10,182	32,544	36,562
	1997	135,969	3,767	6,983	9,101	10,397	10,471	10,273	9,629	8,884	26,732	39,732
	1987	130,684	4,154	7,662	9,780	10,863	10,636	10,266	9,527	8,533	24,926	34,337
	1977	132,535	5,821	7,235	8,235	8,800	8,719	8,682	8,493	7,859	26,299	42,392
	1953	149,574	4,264	5,593	6,366	7,370	7,242	8,090	7,844	7,967	29,507	65,331
Pacific Southwest	2017	59,273	1,035	1,672	2,341	2,892	3,273	3,592	3,896	3,932	13,334	23,306
	2012	57,887	1,068	1,685	2,331	2,797	3,263	3,459	3,771	3,599	12,657	23,258
	2007	54,922	1,179	1,708	2,300	2,697	3,180	3,419	3,553	3,322	11,734	21,830
	1997	49,172	820	1,444	2,064	2,462	2,676	3,070	3,134	3,201	11,369	18,931
	1987	46,317	891	1,417	1,754	2,135	2,383	2,628	2,792	2,665	10,223	19,429
	1977	45,979	769	1,259	1,613	1,885	2,213	2,387	2,456	2,511	10,016	20,870
	1953	58,010	766	1,245	1,603	1,835	2,055	2,160	2,269	2,282	10,141	33,654

Table 29. (cont.) Net volume of softwood growing stock on timberland in the United States by diameter class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region and subregion	Year	Total	Diameter class (Inches)									
			5.0 to 6.9	7.0 to 8.9	9.0 to 10.9	11.0 to 12.9	13.0 to 14.9	15.0 to 16.9	17.0 to 18.9	19.0 to 20.9	21.0 to 28.9	29.0+
		Million cubic feet										
Pacific Coast total	2017	239,515	5,372	10,411	14,569	17,247	18,141	18,338	17,361	16,489	51,560	70,026
	2012	235,813	5,465	10,441	14,344	16,872	17,854	17,850	16,931	15,797	50,324	69,937
	2007	230,052	5,453	10,364	14,157	16,533	17,349	17,448	16,428	15,415	50,825	66,080
	1997	214,951	5,330	9,965	12,995	14,903	15,309	15,338	14,815	14,093	45,009	67,193
	1987	214,050	6,001	11,013	13,928	15,703	15,694	15,556	15,069	13,704	43,946	63,436
	1977	226,794	7,936	10,343	12,602	14,206	14,928	15,185	14,634	13,794	47,862	75,304
	1953	256,734	6,133	8,333	10,248	12,302	12,916	14,213	13,905	13,873	52,062	112,749
United States	2017	560,526	32,058	53,359	61,475	62,445	57,969	50,779	42,331	34,551	85,628	79,930
	2012	547,619	32,537	53,021	60,457	60,648	56,174	48,596	40,576	32,873	82,932	79,808
	2007	518,476	32,018	51,920	57,515	57,223	52,543	45,503	37,295	30,604	78,902	74,952
	1997	483,854	33,347	51,265	54,808	53,877	47,865	40,790	33,153	26,976	67,593	74,179
	1987	467,592	34,230	50,770	55,495	53,175	45,649	38,213	31,173	24,769	63,754	70,364
	1977	466,967	40,375	49,815	50,981	47,764	41,759	35,421	29,091	23,970	66,294	81,497
	1953	431,793	28,347	33,856	35,719	35,739	31,680	28,891	25,016	22,249	69,983	120,313

Note: Data may not add to totals because of rounding. Total volume by region in this table may differ slightly from volume by region in other tables because of rounding.

Table 30. Net volume of hardwood growing stock on timberland in the United States by diameter class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region and subregion	Year	Total	Diameter class (Inches) 5.0 to 6.9	7.0 to 8.9	9.0 to 10.9	11.0 to 12.9	13.0 to 14.9	15.0 to 16.9	17.0 to 18.9	19.0 to 20.9	21.0 to 28.9	29.0+
		Million cubic feet										
North												
Northeast	2017	115,672	5,832	10,913	14,958	17,007	16,948	15,119	11,367	7,816	12,832	2,880
	2012	115,634	6,244	11,583	15,761	17,460	16,897	14,692	10,760	7,596	11,910	2,732
	2007	103,331	7,626	12,841	16,445	16,235	14,757	11,739	8,295	5,276	8,339	1,778
	1997	90,234	8,137	13,420	15,604	14,110	12,048	9,054	6,165	4,145	6,160	1,391
	1987	80,526	9,280	13,288	14,328	12,619	10,359	7,344	5,022	3,090	4,402	794
	1977	67,320	10,488	12,220	12,275	9,872	7,790	5,458	3,558	2,240	2,968	451
	1953	43,199	6,926	7,703	7,332	5,712	4,652	3,578	2,532	1,660	2,709	395
North Central	2017	93,768	6,638	9,890	12,084	12,651	12,394	10,990	8,753	6,318	11,161	2,890
	2012	93,409	6,826	10,314	12,545	12,804	12,427	10,727	8,426	6,061	10,626	2,652
	2007	88,809	7,259	10,746	12,930	12,700	11,747	9,618	7,336	5,256	8,777	2,440
	1997	74,640	7,436	10,575	12,210	11,341	9,678	7,475	5,305	3,499	5,798	1,323
	1987	61,896	8,177	10,121	10,432	9,074	7,103	5,452	3,829	2,604	4,076	1,028
	1977	51,835	7,773	9,665	9,338	7,414	5,925	4,203	2,775	1,753	2,468	521
	1953	33,498	4,766	5,925	6,037	4,359	3,630	2,705	1,928	1,319	2,401	428
North total	2017	209,440	12,470	20,802	27,042	29,658	29,342	26,109	20,120	14,133	23,993	5,771
	2012	209,043	13,070	21,897	28,306	30,264	29,324	25,419	19,186	13,657	22,536	5,384
	2007	192,140	14,885	23,587	29,375	28,935	26,504	21,357	15,631	10,532	17,116	4,218
	1997	164,874	15,573	23,995	27,814	25,451	21,726	16,529	11,470	7,644	11,958	2,714
	1987	142,422	17,457	23,409	24,760	21,693	17,462	12,796	8,851	5,694	8,478	1,822
	1977	119,155	18,261	21,885	21,613	17,286	13,715	9,661	6,333	3,993	5,436	972
	1953	76,697	11,692	13,628	13,369	10,071	8,282	6,283	4,460	2,979	5,110	823
South												
Southeast	2017	75,063	4,664	6,510	8,070	8,796	9,275	9,172	8,030	6,145	11,650	2,751
	2012	72,812	4,460	6,482	8,195	8,805	9,282	9,035	7,577	5,857	10,610	2,510
	2007	70,025	4,741	6,921	8,598	9,118	9,346	8,586	6,789	5,096	8,777	2,053
	1997	71,124	5,598	7,861	9,542	10,208	9,781	8,365	6,387	4,613	7,219	1,550
	1987	68,154	5,963	8,156	9,556	10,345	9,516	7,805	5,787	3,815	5,947	1,264
	1977	60,691	6,005	8,037	9,192	9,239	8,346	6,500	4,616	2,985	4,766	1,005
	1953	41,533	3,558	5,218	6,391	6,315	5,900	4,309	3,293	2,226	3,603	720
South Central	2017	102,717	5,959	9,025	11,383	12,749	13,503	12,338	10,530	8,239	14,941	4,051
	2012	104,855	6,109	9,385	11,883	13,278	13,887	12,532	10,616	8,340	14,977	3,848
	2007	100,026	6,505	9,742	12,183	13,113	13,233	11,849	9,619	7,243	13,043	3,496
	1997	80,392	6,605	9,823	11,838	11,180	10,815	8,941	6,848	4,877	7,807	1,657
	1987	70,869	7,385	9,914	11,340	10,493	9,487	7,505	5,295	3,430	5,129	891
	1977	61,472	7,426	8,978	9,843	8,852	8,019	6,404	4,380	2,782	4,055	733
	1953	46,475	4,529	6,170	7,308	7,028	6,304	4,901	3,553	2,354	3,739	589
South total	2017	177,781	10,623	15,535	19,453	21,545	22,778	21,511	18,560	14,384	26,591	6,802
	2012	177,667	10,569	15,867	20,078	22,083	23,169	21,567	18,193	14,197	25,587	6,358
	2007	170,051	11,246	16,663	20,781	22,231	22,579	20,435	16,408	12,339	21,820	5,549
	1997	151,516	12,203	17,684	21,380	21,388	20,596	17,306	13,235	9,490	15,026	3,207
	1987	139,023	13,348	18,070	20,896	20,838	19,003	15,310	11,082	7,245	11,076	2,155
	1977	122,163	13,431	17,015	19,035	18,091	16,365	12,904	8,996	5,767	8,821	1,738
	1953	88,008	8,087	11,388	13,699	13,343	12,204	9,210	6,846	4,580	7,342	1,309

Table 30. (cont.) Net volume of hardwood growing stock on timberland in the United States by diameter class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region and subregion	Year	Total	Diameter class (Inches) 5.0 to 6.9	7.0 to 8.9	9.0 to 10.9	11.0 to 12.9	13.0 to 14.9	15.0 to 16.9	17.0 to 18.9	19.0 to 20.9	21.0 to 28.9	29.0+
		Million cubic feet										
Rocky Mountain												
Great Plains	2017	2,601	100	160	193	221	247	263	211	206	493	507
	2012	2,739	121	185	222	237	283	255	230	193	526	488
	2007	2,898	169	243	273	251	269	241	202	212	541	497
	1997	2,368	175	225	265	240	239	212	187	153	418	255
	1987	1,472	168	158	177	148	136	116	96	82	230	161
	1977	1,273	133	149	169	155	136	114	90	76	230	21
	1953	1,097	92	130	139	106	121	113	97	78	199	22
Intermountain	2017	8,301	682	1,417	1,822	1,655	1,134	625	374	194	258	139
	2012	9,077	800	1,613	2,023	1,764	1,203	640	365	208	317	144
	2007	9,555	876	1,660	1,975	1,806	1,335	708	397	298	395	105
	1997	8,250	1,462	1,933	1,837	1,222	750	439	216	139	178	74
	1987	6,217	1,086	1,423	1,424	888	550	317	167	124	163	75
	1977	4,863	797	1,164	1,007	738	462	278	175	95	133	14
	1953	3,973	444	802	817	660	467	298	188	114	158	25
Rocky Mountain total	2017	10,903	782	1,578	2,015	1,876	1,381	889	585	400	751	646
	2012	11,816	921	1,798	2,245	2,001	1,486	895	595	401	843	632
	2007	12,453	1,045	1,903	2,248	2,057	1,604	949	599	510	936	602
	1997	10,618	1,637	2,158	2,102	1,462	989	651	403	292	596	329
	1987	7,689	1,254	1,581	1,601	1,036	686	433	263	206	393	236
	1977	6,136	930	1,313	1,176	893	598	392	265	171	363	35
	1953	5,070	536	932	956	766	588	411	285	192	357	47
Pacific Coast												
Alaska	2017	3,379	659	802	514	409	236	264	115	67	236	78
	2012	3,309	652	788	516	417	233	272	108	53	199	72
	2007	2,873	639	760	464	343	186	207	72	32	115	55
	1997	3,145	583	710	466	359	224	281	124	102	233	63
	1987	4,211	664	1,030	675	562	335	337	187	135	216	70
	1977	4,222	616	915	744	416	373	304	203	148	313	190
	1953	4,189	610	874	720	407	370	305	208	155	335	205
Pacific Northwest	2017	12,758	810	1,320	1,583	1,668	1,620	1,383	1,235	818	1,641	679
	2012	12,732	811	1,322	1,549	1,721	1,584	1,403	1,147	843	1,662	689
	2007	12,891	882	1,430	1,661	1,701	1,556	1,443	1,095	851	1,551	721
	1997	13,049	742	1,454	1,905	2,083	1,698	1,417	1,113	731	1,380	524
	1987	13,007	826	1,567	2,079	2,116	1,813	1,364	1,020	633	1,151	438
	1977	10,522	1,199	1,475	1,594	1,520	1,299	971	762	511	924	267
	1953	7,082	1,037	1,062	1,049	961	807	529	458	321	671	187
Pacific Southwest	2017	10,452	752	1,064	1,210	1,263	1,055	920	802	678	1,699	1,009
	2012	10,209	726	1,033	1,150	1,184	1,012	926	801	700	1,750	926
	2007	12,484	955	1,309	1,465	1,457	1,263	1,150	970	738	1,993	1,184
	1997	8,613	641	892	876	948	882	704	661	583	1,548	879
	1987	7,744	551	798	823	781	750	699	626	485	1,412	819
	1977	3,891	254	411	415	391	368	365	299	266	720	402
	1953	3,049	193	320	250	281	301	257	242	203	536	466

Table 30. (cont.) Net volume of hardwood growing stock on timberland in the United States by diameter class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region and subregion	Year	Total	Diameter class (Inches) 5.0 to 6.9	7.0 to 8.9	9.0 to 10.9	11.0 to 12.9	13.0 to 14.9	15.0 to 16.9	17.0 to 18.9	19.0 to 20.9	21.0 to 28.9	29.0+
		Million cubic feet										
Pacific Coast total	2017	26,589	2,221	3,185	3,307	3,341	2,911	2,567	2,153	1,564	3,575	1,766
	2012	26,250	2,189	3,143	3,215	3,322	2,829	2,601	2,056	1,596	3,611	1,687
	2007	28,248	2,476	3,499	3,590	3,501	3,005	2,800	2,137	1,621	3,659	1,960
	1997	24,807	1,966	3,056	3,247	3,390	2,804	2,402	1,898	1,416	3,161	1,466
	1987	24,962	2,041	3,395	3,577	3,459	2,898	2,400	1,833	1,253	2,779	1,327
	1977	18,635	2,069	2,801	2,753	2,327	2,040	1,640	1,264	925	1,957	859
	1953	14,320	1,840	2,256	2,019	1,649	1,478	1,091	908	679	1,542	858
United States	2017	424,712	26,095	41,100	51,818	56,420	56,411	51,075	41,418	30,481	54,910	14,985
	2012	424,776	26,749	42,705	53,844	57,670	56,808	50,482	40,030	29,851	52,577	14,061
	2007	402,892	29,652	45,652	55,994	56,724	53,692	45,541	34,775	25,002	43,531	12,329
	1997	351,815	31,379	46,893	54,543	51,691	46,115	36,888	27,006	18,842	30,741	7,716
	1987	314,096	34,100	46,455	50,834	47,026	40,049	30,939	22,029	14,398	22,726	5,540
	1977	266,089	34,691	43,014	44,577	38,597	32,718	24,597	16,858	10,856	16,577	3,604
	1953	184,095	22,155	28,204	30,043	25,829	22,552	16,995	12,499	8,430	14,351	3,037

Note: Data may not add to totals because of rounding. Total volume by region in this table may differ slightly from volume by region in other tables because of rounding.

Table 31. Net volume of growing stock on timberland in the United States by diameter class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953

Region and subregion	Year	Total	Diameter class (Inches)									
			5.0 to 6.9	7.0 to 8.9	9.0 to 10.9	11.0 to 12.9	13.0 to 14.9	15.0 to 16.9	17.0 to 18.9	19.0 to 20.9	21.0 to 28.9	29.0+
		Million cubic feet										
North												
Northeast	2017	152,780	9,271	15,632	20,062	22,127	21,738	19,017	14,360	9,941	16,848	3,785
	2012	152,097	9,638	16,463	21,044	22,678	21,586	18,427	13,595	9,667	15,487	3,514
	2007	133,245	10,929	17,438	21,074	20,670	18,489	14,545	10,387	6,720	10,691	2,302
	1997	121,179	11,881	18,738	20,737	18,861	15,858	11,837	7,992	5,372	8,095	1,808
	1987	112,135	14,031	19,692	20,371	17,538	13,710	9,632	6,448	3,994	5,693	1,026
	1977	98,310	18,127	19,475	17,706	13,749	10,337	7,169	4,576	2,847	3,735	589
	1953	63,227	11,554	12,437	10,479	8,210	6,443	4,768	3,253	2,187	3,411	485
North Central	2017	117,261	9,969	14,015	15,967	15,813	14,903	12,927	10,133	7,301	12,953	3,281
	2012	115,707	10,114	14,411	16,304	15,838	14,750	12,447	9,693	6,946	12,233	2,970
	2007	110,423	10,628	14,946	16,768	15,737	13,956	11,205	8,376	6,027	10,122	2,658
	1997	93,071	11,007	14,724	15,526	13,715	11,257	8,533	6,077	4,041	6,691	1,501
	1987	77,908	11,606	13,937	13,371	11,038	8,388	6,317	4,438	3,030	4,674	1,109
	1977	64,692	10,936	12,768	11,528	8,844	6,874	4,898	3,266	2,068	2,929	581
	1953	40,522	6,568	7,517	7,204	5,221	4,146	3,053	2,189	1,480	2,675	469
North total	2017	270,041	19,240	29,646	36,029	37,941	36,641	31,944	24,493	17,241	29,801	7,066
	2012	267,804	19,752	30,874	37,348	38,516	36,336	30,874	23,288	16,613	27,720	6,484
	2007	243,668	21,557	32,384	37,842	36,407	32,445	25,750	18,763	12,747	20,813	4,960
	1997	214,250	22,888	33,462	36,263	32,576	27,115	20,370	14,069	9,413	14,786	3,309
	1987	190,043	25,637	33,629	33,742	28,576	22,098	15,949	10,886	7,024	10,367	2,135
	1977	163,002	29,063	32,243	29,234	22,593	17,211	12,067	7,842	4,915	6,664	1,170
	1953	103,749	18,122	19,954	17,683	13,431	10,589	7,821	5,442	3,667	6,086	954
South												
Southeast	2017	142,603	10,961	17,392	19,776	20,007	18,347	15,837	12,484	8,937	15,627	3,235
	2012	134,873	11,024	17,059	19,209	18,719	17,258	14,734	11,439	8,289	14,092	3,051
	2007	126,747	11,213	17,334	18,564	17,772	16,291	13,571	10,219	7,338	11,889	2,556
	1997	122,985	12,219	17,219	18,688	18,251	16,228	13,097	9,419	6,501	9,512	1,851
	1987	120,773	12,446	17,576	19,434	19,192	16,350	12,349	8,673	5,455	7,792	1,506
	1977	111,699	12,934	17,421	18,972	17,774	14,813	10,837	7,116	4,393	6,253	1,186
	1953	77,081	8,105	11,994	13,864	12,889	10,165	6,859	4,757	3,031	4,572	845
South Central	2017	176,485	12,317	20,098	23,111	23,723	22,993	19,911	16,034	12,225	20,894	5,179
	2012	171,750	12,125	19,205	22,231	23,048	22,602	19,277	15,605	11,963	20,707	4,988
	2007	161,775	12,129	18,887	21,565	22,069	21,129	18,373	14,240	10,612	18,266	4,503
	1997	133,377	11,377	17,353	19,852	19,544	18,417	15,058	11,020	7,554	11,151	2,050
	1987	123,866	12,150	17,435	20,325	19,471	17,002	13,293	9,180	5,848	7,973	1,189
	1977	111,672	12,604	16,669	18,614	17,303	14,942	11,530	7,786	4,864	6,395	965
	1953	71,389	7,125	10,004	11,862	11,366	9,777	7,457	5,198	3,240	4,649	711
South total	2017	319,088	23,278	37,490	42,887	43,729	41,340	35,748	28,519	21,161	36,521	8,414
	2012	306,623	23,149	36,264	41,440	41,767	39,860	34,011	27,044	20,252	34,799	8,039
	2007	288,522	23,342	36,221	40,129	39,841	37,420	31,944	24,459	17,950	30,155	7,059
	1997	256,362	23,596	34,572	38,540	37,795	34,645	28,155	20,439	14,055	20,663	3,901
	1987	244,639	24,596	35,011	39,759	38,663	33,352	25,642	17,853	11,303	15,765	2,695
	1977	223,371	25,538	34,090	37,586	35,077	29,755	22,367	14,902	9,257	12,648	2,151
	1953	148,470	15,230	21,998	25,726	24,255	19,942	14,316	9,955	6,271	9,221	1,556

Table 31. (cont.) Net volume of growing stock on timberland in the United States by diameter class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953.

Region and subregion	Year	Total	Diameter class (Inches)									
			5.0 to 6.9	7.0 to 8.9	9.0 to 10.9	11.0 to 12.9	13.0 to 14.9	15.0 to 16.9	17.0 to 18.9	19.0 to 20.9	21.0 to 28.9	29.0+
		Million cubic feet										
Rocky Mountain												
Great Plains	2017	4,487	179	362	474	551	543	493	394	348	636	507
	2012	4,760	209	416	538	589	606	509	435	327	643	488
	2007	4,539	283	458	550	533	525	429	341	302	613	505
	1997	3,931	320	492	536	506	460	369	294	217	481	257
	1987	3,385	330	436	511	487	421	331	252	156	299	162
	1977	3,071	280	416	493	470	399	309	220	159	302	23
	1953	2407	160	262	313	303	298	289	233	189	330	30
Intermountain	2017	125,518	7,863	13,365	16,027	16,056	14,805	12,764	10,829	8,228	18,445	7,136
	2012	131,145	8,522	14,588	17,416	17,252	15,497	13,233	10,852	8,139	18,412	7,234
	2007	126,339	8,559	14,646	17,241	17,132	15,491	12,673	9,942	7,571	16,368	6,717
	1997	121,368	10,626	16,611	17,770	16,398	13,647	11,044	8,644	6,624	14,234	5,769
	1987	104,609	9,725	13,741	14,812	13,313	11,235	9,274	7,309	5,727	13,324	6,149
	1977	98,183	10,180	12,936	12,890	11,688	10,144	8,450	7,087	5,776	13,438	5,594
	1953	90,208	9,017	9,257	9,773	9,628	9,009	8,156	7,072	6,000	15,093	7,203
Rocky Mountain total	2017	130,005	8,042	13,727	16,501	16,607	15,348	13,257	11,223	8,577	19,080	7,643
	2012	135,905	8,731	15,004	17,954	17,841	16,103	13,742	11,287	8,466	19,055	7,722
	2007	130,878	8,842	15,104	17,791	17,665	16,016	13,102	10,283	7,873	16,981	7,222
	1997	125,299	10,946	17,103	18,306	16,904	14,107	11,413	8,938	6,841	14,715	6,026
	1987	107,994	10,055	14,177	15,323	13,800	11,656	9,605	7,561	5,883	13,623	6,311
	1977	101,254	10,460	13,352	13,383	12,158	10,543	8,759	7,307	5,935	13,740	5,617
	1953	92,615	9,177	9,519	10,086	9,931	9,307	8,445	7,305	6,189	15,423	7,233
Pacific Coast												
Alaska	2017	37,140	1,653	2,632	2,786	2,932	2,785	2,781	2,356	2,133	7,783	9,299
	2012	35,762	1,632	2,592	2,725	2,881	2,678	2,652	2,314	2,092	7,225	8,971
	2007	31,997	1,439	2,364	2,405	2,579	2,378	2,389	2,095	1,943	6,662	7,743
	1997	32,955	1,326	2,248	2,296	2,403	2,386	2,276	2,176	2,110	7,141	8,593
	1987	41,260	1,620	2,964	3,069	3,267	3,010	2,999	2,937	2,641	9,013	9,740
	1977	52,502	1,962	2,764	3,498	3,937	4,369	4,420	3,888	3,572	11,860	12,232
	1953	53,339	1,713	2,369	2,999	3,504	3,989	4,268	4,000	3,779	12,749	13,969
Pacific Northwest	2017	159,238	4,154	8,228	11,539	13,501	13,938	13,611	12,460	11,309	32,320	38,177
	2012	158,205	4,228	8,274	11,353	13,332	13,730	13,414	12,101	11,002	32,303	38,469
	2007	158,897	4,356	8,482	11,577	13,301	13,533	13,290	11,947	11,033	34,095	37,283
	1997	149,018	4,509	8,437	11,006	12,480	12,169	11,690	10,742	9,615	28,112	40,256
	1987	143,691	4,980	9,229	11,859	12,979	12,449	11,630	10,547	9,166	26,077	34,775
	1977	143,057	7,020	8,710	9,829	10,320	10,018	9,653	9,255	8,370	27,223	42,659
	1953	156,656	5,301	6,655	7,415	8,331	8,049	8,619	8,302	8,288	30,178	65,518
Pacific Southwest	2017	69,726	1,787	2,736	3,551	4,155	4,329	4,512	4,698	4,610	15,033	24,315
	2012	68,096	1,794	2,718	3,481	3,981	4,275	4,385	4,572	4,299	14,407	24,184
	2007	67,406	2,134	3,017	3,765	4,154	4,443	4,569	4,523	4,060	13,727	23,014
	1997	57,785	1,461	2,336	2,940	3,410	3,558	3,774	3,795	3,784	12,917	19,810
	1987	54,061	1,442	2,215	2,577	2,916	3,133	3,327	3,418	3,150	11,635	20,248
	1977	49,870	1,023	1,670	2,028	2,276	2,581	2,752	2,755	2,777	10,736	21,272
	1953	61,059	959	1,565	1,853	2,116	2,356	2,417	2,511	2,485	10,677	34,120

Table 31. (cont.) Net volume of growing stock on timberland in the United States by diameter class, region, and subregion, 2017, 2012, 2007, 1997, 1987, 1977, and 1953.

Region and subregion	Year	Total	Diameter class (Inches)									
			5.0 to 6.9	7.0 to 8.9	9.0 to 10.9	11.0 to 12.9	13.0 to 14.9	15.0 to 16.9	17.0 to 18.9	19.0 to 20.9	21.0 to 28.9	29.0+
		Million cubic feet										
Pacific Coast total	2017	266,104	7,593	13,596	17,876	20,588	21,052	20,904	19,514	18,053	55,136	71,792
	2012	262,063	7,654	13,584	17,559	20,194	20,683	20,451	18,987	17,393	53,935	71,624
	2007	258,300	7,929	13,863	17,747	20,034	20,354	20,248	18,565	17,036	54,484	68,040
	1997	239,758	7,296	13,021	16,242	18,293	18,113	17,740	16,713	15,509	48,170	68,659
	1987	239,012	8,042	14,408	17,505	19,162	18,592	17,956	16,902	14,957	46,725	64,763
	1977	245,429	10,005	13,144	15,355	16,533	16,968	16,825	15,898	14,719	49,819	76,163
	1953	271,054	7,973	10,589	12,267	13,951	14,394	15,304	14,813	14,552	53,604	113,607
United States	2017	985,238	58,154	94,459	113,293	118,865	114,380	101,854	83,749	65,032	140,538	94,914
	2012	972,395	59,286	95,726	114,301	118,318	112,982	99,078	80,606	62,724	135,509	93,869
	2007	921,368	61,670	97,572	113,509	113,947	106,235	91,044	72,070	55,606	122,433	87,281
	1997	835,669	64,726	98,158	109,351	105,568	93,980	77,678	60,159	45,818	98,334	81,895
	1987	781,688	68,330	97,225	106,329	100,201	85,698	69,152	53,202	39,167	86,480	75,904
	1977	733,056	75,066	92,829	95,558	86,361	74,477	60,018	45,949	34,826	82,871	85,101
	1953	615,888	50,502	62,060	65,762	61,568	54,232	45,886	37,515	30,679	84,334	123,350

Note: Data may not add to totals because of rounding. Total volume by region in this table may differ slightly from volume by region in other tables because of rounding.

Table 32. Net volume of growing stock on timberland by origin in the North, South and West by forest type group and major ownership group, 2017

Region and forest-type group[a]	All ownership groups			Public ownerships			Private ownerships		
	Total	Planted	Natural	Total	Planted	Natural	Total	Planted	Natural
	Million cubic feet								
North									
White-red-jack pine	21,444	6,489	14,955	6,822	3,166	3,656	6,822	3,323	11,299
Spruce-fir	17,046	1,039	16,008	5,267	368	4,900	5,267	671	11,108
Loblolly-shortleaf pine	2,886	731	2,155	1,212	364	848	1,212	367	1,307
Oak-pine	9,500	497	9,002	2,188	224	1,964	2,188	273	7,038
Oak-hickory	98,064	382	97,681	18,427	76	18,351	18,427	307	79,330
Oak-gum-cypress	1,504	3	1,501	474	3	471	474	1	1,029
Elm-ash-cottonwood	19,515	234	19,280	3,056	29	3,027	3,056	206	16,253
Maple-beech-birch	83,630	542	83,088	17,999	206	17,793	17,999	336	65,295
Aspen-birch	14,581	138	14,443	5,476	59	5,417	5,476	79	9,026
Other forest types	1,810	41	1,769	566	14	551	566	27	1,218
Nonstocked	61	2	59	15	0	15	15	2	44
North total	270,041	10,100	259,942	61,503	4,508	56,995	61,503	5,591	202,947
South									
White-red-jack pine	1,555	196	1,358	657	13	644	657	183	714
Spruce-fir	62	14	48	48	0	48	48	14	0
Longleaf-slash pine	16,257	7,923	8,335	4,718	1,195	3,523	4,718	6,728	4,811
Loblolly-shortleaf pine	101,852	50,148	51,704	13,878	2,450	11,428	13,878	47,698	40,276
Oak-pine	28,746	1,523	27,222	4,844	125	4,718	4,844	1,398	22,504
Oak-hickory	111,746	416	111,330	17,826	14	17,812	17,826	401	93,518
Oak-gum-cypress	40,010	207	39,803	7,152	21	7,131	7,152	187	32,671
Elm-ash-cottonwood	12,311	52	12,259	1,565	1	1,565	1,565	52	10,694
Maple-beech-birch	5,897	12	5,886	804	0	804	804	12	5,082
Aspen-birch	4	0	4	0	0	0	0	0	4
Other forest types	580	2	579	146	0	146	146	1	433
Nonstocked	68	7	61	10	1	8	10	6	53
South total	319,088	60,499	258,589	51,649	3,820	47,829	51,649	56,679	210,760
Western									
Douglas-fir	125,337	25,338	100,000	87,296	10,715	76,581	87,296	14,623	23,419
Ponderosa pine	35,918	1,285	34,633	23,720	863	22,857	23,720	422	11,776
Western white pine	198	5	193	147	4	144	147	1	49
Fir-spruce	71,020	680	70,340	63,112	390	62,722	63,112	291	7,618
Hemlock-Sitka spruce	59,149	2,177	56,972	47,426	926	46,500	47,426	1,251	10,472
Larch	4,209	47	4,162	3,598	38	3,561	3,598	9	601
Lodgepole pine	17,420	113	17,307	15,553	69	15,484	15,553	44	1,823
Redwood	5,607	179	5,428	427	3	423	427	175	5,005
Other softwoods	33,678	467	33,211	25,053	262	24,791	25,053	205	8,420
Western hardwoods	42,862	1,929	40,933	21,019	631	20,388	21,019	1,298	20,545
Other forest types	75	5	70	9	0	8	9	5	62
Nonstocked	636	46	590	391	21	370	391	25	220
Western total	396,108	32,271	363,837	287,751	13,922	273,829	287,751	18,349	90,009
United States	985,238	102,870	882,368	400,903	22,251	378,653	400,903	80,619	503,715

[a] Forest type reflects the current dominant species by plurality of stocking and may not reflect the actual species planted at the time of stand origin.
Note: Data may not add to totals because of rounding.

Table 33. Annual mortality of growing stock on timberland in the United States by ownership group, region, subregion, and species group, 2016, 2006, 1996, 1976 and 1952

Region, subregion, and species group	All owners					National forest				
	2016	2006	1996	1976	1952	2016	2006	1996	1976	1952
	Thousand cubic feet									
North										
Northeast										
Softwoods	335,963	299,645	273,609	191,544	150,800	9,717	10,769	7,549	1,746	3,570
Hardwoods	905,683	635,634	514,142	356,773	248,200	44,245	44,072	26,217	10,823	9,810
Total	1,241,645	935,280	787,750	548,317	399,000	53,963	54,841	33,766	12,569	13,380
North Central										
Softwoods	231,388	247,063	181,907	132,777	64,834	44,918	37,026	32,973	21,732	16,214
Hardwoods	1,147,490	851,427	658,116	467,451	226,384	103,443	64,876	55,959	36,115	18,417
Total	1,378,878	1,098,490	840,022	600,228	291,218	148,361	101,902	88,932	57,847	34,631
North total										
Softwoods	567,351	546,708	455,516	324,321	215,634	54,635	47,795	40,522	23,478	19,784
Hardwoods	2,053,172	1,487,061	1,172,257	824,224	474,584	147,688	108,948	82,176	46,938	28,227
Total	2,620,523	2,033,769	1,627,773	1,148,545	690,218	202,323	156,743	122,698	70,416	48,011
South										
Southeast										
Softwoods	527,925	611,216	633,226	416,000	234,700	62,668	67,498	58,533	21,447	11,800
Hardwoods	557,002	580,751	612,245	286,783	283,800	44,511	41,751	53,604	24,358	18,600
Total	1,084,927	1,191,967	1,245,471	702,783	518,500	107,179	109,248	112,137	45,805	30,400
South Central										
Softwoods	630,004	754,352	405,719	216,201	98,700	104,885	146,598	34,270	19,769	12,132
Hardwoods	1,215,439	913,233	595,686	359,267	355,200	97,137	75,352	28,680	14,497	12,227
Total	1,845,442	1,667,585	1,001,405	575,468	453,900	202,022	221,950	62,950	34,266	24,359
South total										
Softwoods	1,157,929	1,365,568	1,038,945	632,201	333,400	167,554	214,095	92,803	41,216	23,932
Hardwoods	1,772,441	1,493,984	1,207,931	646,050	639,000	141,647	117,103	82,284	38,855	30,827
Total	2,930,370	2,859,552	2,246,876	1,278,251	972,400	309,201	331,198	175,087	80,071	54,759
Rocky Mountain										
Great Plains										
Softwoods	42,986	11,232	9,904	3,940	3,300	29,418	6,558	7,198	3,543	3,025
Hardwoods	39,226	42,976	38,041	29,312	24,730	653	714	261	-	-
Total	82,212	54,208	47,945	33,252	28,030	30,070	7,272	7,460	3,543	3,025
Intermountain										
Softwoods	2,354,177	1,226,767	1,002,101	454,779	565,300	2,034,192	1,045,457	819,293	270,479	388,200
Hardwoods	133,280	83,071	115,305	39,160	34,600	92,587	56,174	81,870	17,860	17,200
Total	2,487,457	1,309,838	1,117,406	493,939	599,900	2,126,780	1,101,631	901,163	288,339	405,400
Rocky Mountain total										
Softwoods	2,397,163	1,237,999	1,012,004	458,719	568,600	2,063,610	1,052,014	826,491	274,022	391,225
Hardwoods	172,506	126,047	153,347	68,472	59,330	93,240	56,888	82,131	17,860	17,200
Total	2,569,669	1,364,046	1,165,351	527,191	627,930	2,156,850	1,108,903	908,622	291,882	408,425

Table 33. (cont.) Annual mortality of growing stock on timberland in the United States by ownership group, region, subregion, and species group, 2016, 2006, 1996, 1976 and 1952

Region, subregion, and species group	All owners					National forest				
	2016	2006	1996	1976	1952	2016	2006	1996	1976	1952
	Thousand cubic feet									
Pacific Coast										
Alaska										
Softwoods	275,285	236,177	277,838	213,596	224,700	121,000	104,123	139,989	146,799	171,090
Hardwoods	27,707	20,120	21,343	9,395	9,467	2,044	1,049	430	1,536	1,608
Total	302,992	256,297	299,181	222,991	234,167	123,044	105,172	140,419	148,335	172,698
Pacific Northwest										
Softwoods	1,029,856	835,797	910,631	699,600	952,500	630,833	451,403	592,824	326,700	407,300
Hardwoods	170,832	113,972	120,522	71,800	50,500	34,741	14,526	6,469	6,600	6,100
Total	1,200,688	949,769	1,031,152	771,400	1,003,000	665,574	465,929	599,293	333,300	413,400
Pacific Southwest										
Softwoods	471,924	288,358	264,646	137,700	366,800	381,272	195,699	152,274	80,800	199,500
Hardwoods	101,920	74,679	80,302	6,792	10,100	42,958	21,160	2,174	2,300	7,400
Total	573,844	363,037	344,948	144,492	376,900	424,230	216,859	154,448	83,100	206,900
Pacific Coast total										
Softwoods	1,777,065	1,360,332	1,453,115	1,050,896	1,544,000	1,133,105	751,225	885,087	554,299	777,890
Hardwoods	300,459	208,770	222,166	87,987	70,067	79,742	36,735	9,073	10,436	15,108
Total	2,077,524	1,569,103	1,675,281	1,138,883	1,614,067	1,212,847	787,960	894,161	564,735	792,998
United States										
Softwoods	5,899,507	4,510,608	3,959,580	2,466,137	2,661,634	3,418,904	2,065,130	1,844,904	893,015	1,212,831
Hardwoods	4,298,579	3,315,862	2,755,701	1,626,733	1,242,981	462,318	319,674	255,664	114,089	91,362
Total	10,198,086	7,826,470	6,715,281	4,092,870	3,904,615	3,881,222	2,384,804	2,100,568	1,007,104	1,304,193

Table 33. (cont.) Annual mortality of growing stock on timberland in the United States by ownership group, region, subregion, and species group, 2016, 2006, 1996, 1976 and 1952

Region, subregion, and species group	Other Public					2016 Private corporate	2016 Private noncorporate	Total Private				
	2016	2006	1996	1976	1952			2016	2006	1996	1976	1952
	Thousand cubic feet											
North												
Northeast												
Softwoods	51,318	28,280	16,790	10,561	6,911	105,328	169,600	274,928	260,596	249,270	179,237	140,319
Hardwoods	152,706	88,889	73,113	33,580	21,982	214,915	493,817	708,731	502,673	414,812	312,370	216,408
Total	204,024	117,169	89,902	44,141	28,893	320,243	663,416	983,659	763,270	664,082	491,607	356,727
North Central												
Softwoods	65,349	81,223	60,153	36,930	19,644	24,717	96,404	121,121	128,813	88,781	74,115	28,976
Hardwoods	163,880	150,338	121,076	102,796	38,737	86,102	794,065	880,167	636,213	481,080	328,540	169,230
Total	229,229	231,561	181,229	139,726	58,381	110,820	890,469	1,001,288	765,026	569,861	402,655	198,206
North total												
Softwoods	116,667	109,503	76,943	47,491	26,555	130,045	266,004	396,049	389,410	338,051	253,352	169,295
Hardwoods	316,586	239,227	194,189	136,376	60,719	301,017	1,287,882	1,588,898	1,138,886	895,892	640,910	385,638
Total	433,253	348,730	271,132	183,867	87,274	431,062	1,553,885	1,984,947	1,528,296	1,233,943	894,262	554,933
South												
Southeast												
Softwoods	69,058	58,098	41,147	18,553	11,100	145,921	250,278	396,199	485,621	533,546	376,000	211,800
Hardwoods	50,933	67,710	32,215	13,018	6,300	133,066	328,493	461,559	471,290	526,426	249,407	258,900
Total	119,991	125,807	73,362	31,571	17,400	278,987	578,770	857,757	956,911	1,059,972	625,407	470,700
South Central												
Softwoods	28,446	42,756	17,169	6,983	3,000	184,327	312,345	496,672	564,998	354,280	189,449	83,568
Hardwoods	95,464	86,139	50,648	18,081	8,359	287,995	734,842	1,022,838	751,743	516,358	326,689	334,614
Total	123,910	128,894	67,817	25,064	11,359	472,322	1,047,188	1,519,510	1,316,741	870,638	516,138	418,182
South total												
Softwoods	97,504	100,853	58,316	25,536	14,100	330,248	562,623	892,871	1,050,619	887,826	565,449	295,368
Hardwoods	146,397	153,848	82,863	31,099	14,659	421,061	1,063,335	1,484,396	1,223,033	1,042,784	576,096	593,514
Total	243,901	254,701	141,179	56,635	28,759	751,310	1,625,958	2,377,267	2,273,652	1,930,610	1,141,545	888,882
Rocky Mountain												
Great Plains												
Softwoods	1,169	1,155	666	130	59	685	11,714	12,399	3,519	2,040	267	216
Hardwoods	1,258	4,511	2,902	4,379	3,896	1,939	35,376	37,315	37,752	34,877	24,933	20,834
Total	2,427	5,666	3,568	4,509	3,955	2,624	47,090	49,714	41,271	36,917	25,200	21,050
Intermountain												
Softwoods	132,544	68,438	56,967	66,643	66,354	58,028	129,412	187,440	112,873	125,841	117,657	110,746
Hardwoods	12,323	5,915	4,036	6,709	5,443	8,151	20,218	28,370	20,982	29,399	14,591	11,957
Total	144,868	74,352	61,003	73,352	71,797	66,179	149,631	215,810	133,854	155,241	132,248	122,703
Rocky Mountain total												
Softwoods	133,713	69,593	57,632	66,773	66,413	58,713	141,126	199,839	116,392	127,881	117,924	110,962
Hardwoods	13,581	10,425	6,939	11,088	9,339	10,090	55,594	65,685	58,733	64,277	39,524	32,791
Total	147,295	80,018	64,571	77,861	75,752	68,803	196,720	265,524	175,125	192,158	157,448	143,753

Table 33. (cont.) Annual mortality of growing stock on timberland in the United States by ownership group, region, subregion, and species group, 2016, 2006, 1996, 1976 and 1952

Region, subregion, and species group	Other Public					2016 Private corporate	2016 Private noncorporate	Total Private				
	2016	2006	1996	1976	1952			2016	2006	1996	1976	1952
	Thousand cubic feet											
Pacific Coast												
Alaska												
Softwoods	121,942	104,820	96,762	63,781	52,563	25,702	6,641	32,343	27,234	41,087	3,016	1,047
Hardwoods	12,840	8,413	8,362	7,656	7,756	2,000	10,823	12,823	10,659	12,550	203	103
Total	134,782	113,232	105,124	71,437	60,319	27,702	17,464	45,165	37,893	53,638	3,219	1,150
Pacific Northwest												
Softwoods	154,806	139,848	98,621	172,200	210,000	128,680	115,537	244,218	244,546	219,186	200,700	335,200
Hardwoods	48,322	28,319	24,088	11,900	13,700	51,195	36,574	87,769	71,126	89,965	53,300	30,700
Total	203,128	168,168	122,709	184,100	223,700	179,876	152,111	331,987	315,673	309,151	254,000	365,900
Pacific Southwest												
Softwoods	3,697	7,287	6,181	5,100	16,500	63,553	23,402	86,955	85,372	106,190	51,800	150,800
Hardwoods	9,357	4,970	5,598	870	300	22,297	27,308	49,606	48,549	72,530	3,622	2,400
Total	13,054	12,257	11,780	5,970	16,800	85,850	50,710	136,560	133,921	178,720	55,422	153,200
Pacific Coast total												
Softwoods	280,445	251,955	201,564	241,081	279,063	217,935	145,580	363,515	357,152	366,463	255,516	487,047
Hardwoods	70,520	41,702	38,048	20,426	21,756	75,493	74,705	150,197	130,334	175,045	57,125	33,203
Total	350,965	293,656	239,612	261,507	300,819	293,428	220,284	513,712	487,486	541,508	312,641	520,250
United States												
Softwoods	628,330	531,904	394,455	380,881	386,131	736,942	1,115,332	1,852,274	1,913,573	1,720,221	1,192,241	1,062,672
Hardwoods	547,084	445,202	322,038	198,989	106,473	807,661	2,481,515	3,289,177	2,550,986	2,177,999	1,313,655	1,045,146
Total	1,175,414	977,106	716,493	579,870	492,604	1,544,603	3,596,848	5,141,451	4,464,559	3,898,220	2,505,896	2,107,818

Note: Data may not add to totals because of rounding.

Table 34. Net annual growth of growing stock on timberland in the United States by ownership group, region, subregion, and species group, 2016, 2006, 1996, 1976, and 1952

Region, subregion, and species group	All owners					National forest				
	2016	2006	1996	1976	1952	2016	2006	1996	1976	1952
	Thousand cubic feet									
North										
Northeast										
Softwoods	916,788	836,486	646,083	1,067,271	652,600	18,943	15,518	13,839	18,359	13,282
Hardwoods	2,346,951	2,412,228	2,223,289	2,072,571	1,358,000	47,633	82,439	68,469	116,999	69,443
Total	3,263,739	3,248,714	2,869,371	3,139,842	2,010,600	66,576	97,957	82,308	135,358	82,725
North Central										
Softwoods	628,764	652,224	523,127	490,986	320,702	98,193	122,829	94,231	97,660	57,215
Hardwoods	2,039,186	2,674,738	2,027,493	1,718,072	1,385,188	118,387	151,365	138,894	158,742	112,026
Total	2,667,950	3,326,961	2,550,620	2,209,058	1,705,890	216,580	274,194	233,124	256,402	169,241
North total										
Softwoods	1,545,552	1,488,710	1,169,210	1,558,257	973,302	117,136	138,347	108,070	116,019	70,497
Hardwoods	4,386,137	5,086,966	4,250,781	3,790,643	2,743,188	166,020	233,804	207,362	275,741	181,469
Total	5,931,690	6,575,675	5,419,991	5,348,900	3,716,490	283,156	372,151	315,433	391,760	251,966
South										
Southeast										
Softwoods	4,284,678	3,876,167	2,779,534	3,104,000	1,874,017	82,396	57,337	57,911	137,000	80,313
Hardwoods	2,108,095	2,239,043	1,954,613	2,186,000	1,291,618	129,777	127,335	107,393	141,000	73,208
Total	6,392,773	6,115,210	4,734,147	5,290,000	3,165,635	212,172	184,672	165,304	278,000	153,521
South Central										
Softwoods	4,983,363	3,756,275	3,110,078	3,210,598	1,767,400	196,249	233,012	192,018	245,340	211,300
Hardwoods	2,387,993	3,400,909	2,871,358	2,822,683	1,749,700	91,922	204,767	144,271	144,064	67,265
Total	7,371,356	7,157,184	5,981,436	6,033,281	3,517,100	288,171	437,778	336,289	389,404	278,565
South total										
Softwoods	9,268,041	7,632,442	5,889,611	6,314,598	3,641,417	278,645	290,348	249,929	382,340	291,613
Hardwoods	4,496,088	5,639,952	4,825,972	5,008,683	3,041,318	221,699	332,102	251,664	285,064	140,473
Total	13,764,129	13,272,393	10,715,583	11,323,281	6,682,735	500,344	622,450	501,593	667,404	432,086
Rocky Mountain										
Great Plains										
Softwoods	(2,311)	26,756	51,000	43,521	22,220	(4,588)	17,379	42,293	31,087	14,700
Hardwoods	59,168	44,868	46,482	39,818	30,500	174	848	2,050	676	100
Total	56,857	71,625	97,482	83,339	52,720	(4,414)	18,227	44,343	31,763	14,800
Intermountain										
Softwoods	191,749	1,550,420	2,546,167	1,550,496	1,077,700	(229,790)	986,271	1,865,747	1,013,396	673,400
Hardwoods	50,091	138,886	459,917	99,098	56,800	25,468	83,456	176,112	65,498	31,300
Total	241,840	1,689,306	3,006,084	1,649,594	1,134,500	(204,322)	1,069,727	2,041,859	1,078,894	704,700
Rocky Mountain total										
Softwoods	189,438	1,577,176	2,597,167	1,594,017	1,099,920	(234,378)	1,003,651	1,908,040	1,044,483	688,100
Hardwoods	109,259	183,754	506,400	138,916	87,300	25,643	84,304	178,162	66,174	31,400
Total	298,697	1,760,930	3,103,566	1,732,933	1,187,220	(208,736)	1,087,954	2,086,202	1,110,657	719,500

Table 34. (cont.) Net annual growth of growing stock on timberland in the United States by ownership group, region, subregion, and species group, 2016, 2006, 1996, 1976, and 1952

Region, subregion, and species group	All owners					National forest				
	2016	2006	1996	1976	1952	2016	2006	1996	1976	1952
	Thousand cubic feet									
Pacific Coast										
Alaska										
Softwoods	132,820	130,164	211,605	162,499	103,600	52,376	53,561	160,102	22,627	10,367
Hardwoods	120,901	117,609	86,636	6,824	6,725	4,235	2,040	4,808	15	16
Total	253,721	247,774	298,241	169,323	110,325	56,611	55,601	164,910	22,642	10,383
Pacific Northwest										
Softwoods	3,422,657	3,038,551	3,687,474	2,158,700	1,472,500	881,492	1,165,531	1,704,438	538,800	440,900
Hardwoods	284,274	301,186	425,532	400,800	221,500	24,016	41,343	100,846	14,700	13,600
Total	3,706,931	3,339,737	4,113,006	2,559,500	1,694,000	905,508	1,206,875	1,805,284	553,500	454,500
Pacific Southwest										
Softwoods	909,281	1,374,048	1,160,361	713,200	444,000	301,699	767,426	621,429	363,500	162,000
Hardwoods	144,901	173,807	137,294	79,137	75,000	26,845	44,773	8,244	16,100	29,000
Total	1,054,182	1,547,856	1,297,655	792,337	519,000	328,545	812,199	629,673	379,600	191,000
Pacific Coast total										
Softwoods	4,464,758	4,542,764	5,059,439	3,034,399	2,020,100	1,235,568	1,986,518	2,485,969	924,927	613,267
Hardwoods	550,077	592,602	649,462	486,761	303,225	55,096	88,157	113,898	30,815	42,616
Total	5,014,835	5,135,366	5,708,901	3,521,160	2,323,325	1,290,664	2,074,675	2,599,867	955,742	655,883
United States										
Softwoods	15,467,790	15,241,091	14,715,427	12,501,271	7,734,739	1,396,971	3,418,864	4,752,009	2,467,769	1,663,477
Hardwoods	9,541,561	11,503,274	10,232,615	9,425,003	6,175,031	468,458	738,367	751,086	657,794	395,958
Total	25,009,351	26,744,366	24,948,042	21,926,274	13,909,770	1,865,429	4,157,231	5,503,095	3,125,563	2,059,435

Table 34. (cont.) Net annual growth of growing stock on timberland in the United States by ownership group, region, subregion, and species group, 2016, 2006, 1996, 1976, and 1952

Region, subregion, and species group	Other Public					2016 Private corporate	2016 Private non-corporate	Total Private				
	2016	2006	1996	1976	1952			2016	2006	1996	1976	1952
	Thousand cubic feet											
North												
Northeast												
Softwoods	94,282	104,611	60,666	48,791	27,166	333,755	469,808	803,563	716,357	571,577	1,000,121	612,152
Hardwoods	258,575	337,709	194,964	237,900	142,264	537,297	1,503,446	2,040,744	1,992,079	1,959,856	1,717,672	1,146,293
Total	352,857	442,320	255,631	286,691	169,430	871,052	1,973,254	2,844,307	2,708,436	2,531,432	2,717,793	1,758,445
North Central												
Softwoods	161,062	177,872	140,565	142,017	92,256	78,096	291,413	369,509	351,523	288,332	251,309	171,231
Hardwoods	287,412	438,911	302,427	304,325	213,120	197,295	1,436,092	1,633,387	2,084,461	1,586,172	1,255,005	1,060,042
Total	448,474	616,784	442,991	446,342	305,376	275,391	1,727,505	2,002,895	2,435,984	1,874,504	1,506,314	1,231,273
North total												
Softwoods	255,345	282,483	201,231	190,808	119,422	411,851	761,221	1,173,072	1,067,879	859,909	1,251,430	783,383
Hardwoods	545,987	776,621	497,391	542,225	355,384	734,592	2,939,538	3,674,130	4,076,540	3,546,028	2,972,677	2,206,335
Total	801,331	1,059,104	698,622	733,033	474,806	1,146,443	3,700,759	4,847,202	5,144,420	4,405,937	4,224,107	2,989,718
South												
Southeast												
Softwoods	252,062	224,853	144,516	149,000	70,017	1,814,047	2,136,173	3,950,220	3,593,977	2,577,107	2,818,000	1,723,687
Hardwoods	125,983	142,393	97,390	71,000	27,169	441,246	1,411,089	1,852,335	1,969,315	1,749,830	1,974,000	1,191,241
Total	378,045	367,246	241,906	220,000	97,186	2,255,294	3,547,262	5,802,555	5,563,291	4,326,937	4,792,000	2,914,928
South Central												
Softwoods	99,005	92,511	65,607	71,156	56,388	2,323,145	2,364,964	4,688,109	3,430,752	2,852,453	2,894,102	1,499,712
Hardwoods	132,966	197,211	131,442	108,706	55,182	524,088	1,639,017	2,163,105	2,998,931	2,595,645	2,569,913	1,627,253
Total	231,971	289,723	197,049	179,862	111,570	2,847,233	4,003,981	6,851,214	6,429,683	5,448,098	5,464,015	3,126,965
South total												
Softwoods	351,067	317,365	210,122	220,156	126,405	4,137,192	4,501,138	8,638,330	7,024,729	5,429,560	5,712,102	3,223,399
Hardwoods	258,949	339,604	228,833	179,706	82,351	965,335	3,050,105	4,015,440	4,968,245	4,345,475	4,543,913	2,818,494
Total	**610,016**	**656,969**	**438,955**	**399,862**	**208,756**	**5,102,526**	**7,551,243**	**12,653,770**	**11,992,974**	**9,775,034**	**10,256,015**	**6,041,893**
Rocky Mountain												
Great Plains												
Softwoods	876	1,142	835	2,977	1,469	613	788	1,401	8,235	7,872	9,457	6,051
Hardwoods	7,681	5,158	3,300	3,552	2,615	388	50,925	51,313	38,863	41,133	35,590	27,785
Total	8,557	6,300	4,135	6,529	4,084	1,001	51,713	52,714	47,097	49,005	45,047	33,836
Intermountain												
Softwoods	80,695	190,160	167,534	158,464	117,646	163,852	176,993	340,845	373,989	512,886	378,636	286,654
Hardwoods	3,674	13,373	60,282	6,945	5,462	2,498	18,450	20,949	42,057	223,523	26,655	20,038
Total	84,368	203,533	227,816	165,409	123,108	166,350	195,443	361,793	416,046	736,409	405,291	306,692
Rocky Mountain total												
Softwoods	81,571	191,301	168,369	161,441	119,115	164,465	177,781	342,245	382,224	520,758	388,093	292,705
Hardwoods	11,354	18,531	63,582	10,497	8,077	2,886	69,375	72,262	80,919	264,656	62,245	47,823
Total	92,925	209,833	231,951	171,938	127,192	167,351	247,156	414,507	463,144	785,413	450,338	340,528

Table 34. (cont.) Net annual growth of growing stock on timberland in the United States by ownership group, region, subregion, and species group, 2016, 2006, 1996, 1976, and 1952

Region, subregion, and species group	Other Public					2016 Private corporate	2016 Private non-corporate	Total Private				
	2016	2006	1996	1976	1952			2016	2006	1996	1976	1952
	Thousand cubic feet											
Pacific Coast												
Alaska												
Softwoods	52,983	52,431	40,496	136,877	92,588	16,386	11,074	27,461	24,172	11,007	2,995	645
Hardwoods	105,970	106,979	61,201	6,609	6,609	6,556	4,140	10,697	8,591	20,628	200	100
Total	158,953	159,410	101,696	143,486	99,197	22,943	15,215	38,158	32,762	31,635	3,195	745
Pacific Northwest												
Softwoods	742,578	647,191	557,893	467,000	258,900	1,356,541	442,045	1,798,586	1,225,829	1,425,143	1,152,900	772,700
Hardwoods	46,649	72,703	81,629	93,000	33,500	114,479	99,130	213,609	187,139	243,057	293,100	174,400
Total	789,227	719,894	639,522	560,000	292,400	1,471,020	541,176	2,012,195	1,412,968	1,668,200	1,446,000	947,100
Pacific Southwest												
Softwoods	47,465	52,441	28,872	13,900	14,000	361,262	198,855	560,117	554,182	510,059	335,800	268,000
Hardwoods	3,307	10,717	5,248	7,735	6,000	51,572	63,176	114,749	118,317	123,802	55,302	40,000
Total	50,772	63,158	34,121	21,635	20,000	412,834	262,032	674,866	672,498	633,861	391,102	308,000
Pacific Coast total												
Softwoods	843,027	752,063	627,261	617,777	365,488	1,734,189	651,975	2,386,164	1,804,182	1,946,209	1,491,695	1,041,345
Hardwoods	155,926	190,399	148,078	107,344	46,109	172,608	166,447	339,055	314,046	387,486	348,602	214,500
Total	998,952	942,463	775,339	725,121	411,597	1,906,797	818,422	2,725,219	2,118,229	2,333,695	1,840,297	1,255,845
United States												
Softwoods	1,531,009	1,543,213	1,206,983	1,190,182	730,430	6,447,696	6,092,114	12,539,811	10,279,014	8,756,435	8,843,320	5,340,832
Hardwoods	972,216	1,325,156	937,884	839,772	491,921	1,875,421	6,225,466	8,100,887	9,439,752	8,543,645	7,927,437	5,287,152
Total	2,503,225	2,868,368	2,144,867	2,029,954	1,222,351	8,323,117	12,317,580	20,640,697	19,718,766	17,300,080	16,770,757	10,627,984

Note: Data may not add to totals because of rounding.

Table 35. Annual removals of growing stock on timberland in the United States by ownership group, region, subregion, and species group, 2016, 2006, 1996, and 1976

Region, subregion, and species group	All owners				National forest	Other public	Private
	2016	2006	1996	1976	2016	2016	2016
	Thousand cubic feet						
North							
Northeast							
Softwoods	376,915	353,236	413,718	498,576	4,409	22,504	350,003
Hardwoods	799,303	814,754	860,999	803,694	5,251	68,098	725,954
Total	1,176,218	1,167,990	1,274,717	1,302,270	9,660	90,602	1,075,957
North Central							
Softwoods	276,984	323,609	254,630	193,534	17,314	88,072	171,599
Hardwoods	1,037,976	1,327,845	1,243,071	999,059	42,988	234,997	759,991
Total	1,314,960	1,651,454	1,497,701	1,192,593	60,301	323,068	931,591
North total							
Softwoods	653,900	676,844	668,348	692,110	21,723	110,575	521,602
Hardwoods	1,837,279	2,142,599	2,104,070	1,802,753	48,238	303,095	1,485,945
Total	2,491,178	2,819,444	2,772,418	2,494,863	69,961	413,670	2,007,548
South							
Southeast							
Softwoods	2,736,259	2,960,536	2,947,436	2,028,804	20,809	97,860	2,617,590
Hardwoods	790,373	1,345,288	1,511,833	1,002,521	8,442	19,792	762,139
Total	3,526,632	4,305,824	4,459,269	3,031,325	29,251	117,652	3,379,729
South Central							
Softwoods	2,911,057	3,356,641	3,530,826	2,407,658	48,633	71,692	2,790,731
Hardwoods	1,421,728	2,033,882	2,194,685	1,239,717	20,576	34,444	1,366,709
Total	4,332,785	5,390,523	5,725,511	3,647,375	69,209	106,136	4,157,440
South total							
Softwoods	5,647,316	6,317,177	6,478,262	4,436,462	69,443	169,552	5,408,321
Hardwoods	2,212,101	3,379,170	3,706,518	2,242,238	29,017	54,236	2,128,847
Total	7,859,417	9,696,347	10,184,780	6,678,700	98,460	223,788	7,537,169
Rocky Mountain							
Great Plains							
Softwoods	28,851	24,802	20,181	21,322	23,799	69	4,984
Hardwoods	5,571	16,362	15,113	20,600	10	316	5,244
Total	34,422	41,164	35,294	41,922	23,809	385	10,228
Intermountain							
Softwoods	367,041	520,847	501,124	843,009	67,128	91,909	208,004
Hardwoods	3,055	21,910	30,870	23,654	887	349	1,819
Total	370,096	542,757	531,994	866,663	68,015	92,258	209,823
Rocky Mountain total							
Softwoods	395,892	545,649	521,305	864,331	90,927	91,978	212,988
Hardwoods	8,626	38,272	45,983	44,254	898	665	7,063
Total	404,518	583,921	567,288	908,585	91,824	92,643	220,051

Table 35. (cont.) Annual removals of growing stock on timberland in the United States by ownership group, region, subregion, and species group, 2016, 2006, 1996, and 1976

Region, subregion, and species group	All owners				National forest	Other public	Private
	2016	2006	1996	1976	2016	2016	2016
	Thousand cubic feet						
Pacific Coast							
Alaska							
Softwoods	38,552	59,303	177,298	107,437	7,997	8,312	22,244
Hardwoods	479	6,841	5,229	3,164	1	398	80
Total	39,031	66,144	182,527	110,601	7,998	8,710	22,323
Pacific Northwest							
Softwoods	1,810,716	1,818,155	1,621,480	3,101,707	120,671	264,726	1,425,318
Hardwoods	81,213	120,742	99,492	106,286	1,904	9,189	70,120
Total	1,891,929	1,938,897	1,720,972	3,207,993	122,576	273,916	1,495,438
Pacific Southwest							
Softwoods	355,116	466,293	618,021	818,402	70,610	13,010	271,496
Hardwoods	11	2,937	10,036	16,805	0	0	11
Total	355,127	469,231	628,057	835,207	70,610	13,010	271,507
Pacific Coast total							
Softwoods	2,204,383	2,343,751	2,416,799	4,027,546	199,278	286,049	1,719,057
Hardwoods	81,703	130,520	114,757	126,255	1,905	9,587	70,210
Total	2,286,086	2,474,272	2,531,556	4,153,801	201,183	295,636	1,789,268
United States							
Softwoods	8,901,491	9,883,422	10,084,714	10,020,449	381,369	658,153	7,861,969
Hardwoods	4,139,708	5,690,561	5,971,328	4,215,500	80,059	367,584	3,692,066
Total	13,041,200	15,573,983	16,056,042	14,235,949	461,428	1,025,737	11,554,035

Note: Data may not add to totals because of rounding.

Table 36. Net annual growth, removals, and mortality of growing stock on timberland in the United States by species group, region, subregion, and State, 2016

Region, subregion, and State	All species			Softwoods			Hardwoods		
	Net growth	Removals	Mortality	Net growth	Removals	Mortality	Net growth	Removals	Mortality
	Thousand cubic feet								
North									
Northeast									
Connecticut	101,684	8,146	17,235	11,261	911	2,573	90,422	7,235	14,662
Delaware	16,022	3,953	7,130	3,773	2,363	1,721	12,248	1,589	5,409
Maine	728,112	427,113	215,231	430,164	224,147	129,473	297,948	202,965	85,758
Maryland	123,176	53,838	43,314	32,121	19,205	9,656	91,055	34,633	33,658
Massachusetts	132,894	11,907	49,305	50,384	5,307	19,058	82,510	6,600	30,246
New Hampshire	191,444	76,331	72,956	91,128	38,529	26,299	100,316	37,802	46,657
New Jersey	58,111	6,551	36,700	16,218	469	10,241	41,893	6,082	26,459
New York	613,859	146,586	257,599	147,986	34,641	56,206	465,873	111,945	201,393
Pennsylvania	669,404	193,117	249,918	57,219	16,396	34,070	612,185	176,721	215,848
Rhode Island	16,811	1,252	2,914	5,414	169	738	11,397	1,083	2,176
Vermont	159,596	51,299	75,688	54,897	26,940	26,077	104,699	24,359	49,611
West Virginia	452,626	196,126	213,656	16,222	7,837	19,851	436,403	188,289	193,805
Total	3,263,739	1,176,218	1,241,645	916,788	376,915	335,963	2,346,951	799,303	905,683
North Central									
Illinois	146,268	45,384	96,870	2,658	689	3,883	143,610	44,695	92,987
Indiana	207,288	95,048	96,386	1,361	2,668	8,196	205,927	92,380	88,190
Iowa	62,382	15,360	52,468	264	90	370	62,118	15,270	52,097
Michigan	651,741	385,537	324,775	234,778	109,961	81,670	416,963	275,575	243,105
Minnesota	399,839	233,313	224,292	146,105	70,509	67,337	253,733	162,804	156,955
Missouri	303,434	151,556	212,937	26,904	8,779	10,204	276,530	142,777	202,733
Ohio	318,821	90,977	136,354	15,068	10,969	9,700	303,753	80,008	126,654
Wisconsin	578,177	297,785	234,796	201,626	73,320	50,027	376,551	224,465	184,769
Total	2,667,950	1,314,960	1,378,878	628,764	276,984	231,388	2,039,186	1,037,976	1,147,490
North total	5,931,690	2,491,178	2,620,523	1,545,552	653,900	567,351	4,386,137	1,837,279	2,053,172
South									
Southeast									
Florida	772,000	513,700	159,650	656,478	460,986	96,554	115,523	52,714	63,096
Georgia	1,815,765	1,167,097	310,105	1,418,383	976,070	159,836	397,382	191,027	150,268
North Carolina	1,546,873	718,302	264,563	842,987	487,569	120,055	703,887	230,733	144,508
South Carolina	1,197,025	663,422	136,424	911,013	557,858	72,070	286,012	105,565	64,354
Virginia	1,061,109	464,111	214,186	455,818	253,776	79,409	605,291	210,335	134,776
Total	6,392,773	3,526,632	1,084,927	4,284,678	2,736,259	527,925	2,108,095	790,373	557,002
South Central									
Alabama	1,809,672	1,020,464	319,850	1,333,675	762,656	152,189	475,997	257,808	167,661
Arkansas	1,085,376	561,216	279,514	757,746	395,912	81,860	327,630	165,304	197,654
Kentucky	465,291	200,216	192,068	31,175	17,067	28,049	434,117	183,149	164,019
Louisiana	962,155	684,411	218,995	765,071	587,347	64,190	197,084	97,064	154,805
Mississippi	1,706,002	814,323	288,212	1,311,603	592,672	118,726	394,399	221,651	169,486
Oklahoma	133,457	99,785	43,554	97,480	71,604	10,616	35,978	28,181	32,938
Tennessee	603,742	434,413	218,448	140,855	78,187	43,761	462,887	356,226	174,686
Texas	605,661	517,957	284,803	545,759	405,611	130,613	59,902	112,346	154,190
Total	7,371,356	4,332,785	1,845,442	4,983,363	2,911,057	630,004	2,387,993	1,421,728	1,215,439
South total	13,764,129	7,859,417	2,930,370	9,268,041	5,647,316	1,157,929	4,496,088	2,212,101	1,772,441

Table 36. (cont.) Net annual growth, removals, and mortality of growing stock on timberland in the United States by species group, region, subregion, and State, 2016

Region, subregion, and State	All species			Softwoods			Hardwoods		
	Net growth	Removals	Mortality	Net growth	Removals	Mortality	Net growth	Removals	Mortality
	Thousand cubic feet								
Rocky Mountain									
Great Plains									
Kansas	39,627	3,056	14,504	178	31	661	39,449	3,026	13,843
Nebraska	2,287	2,644	26,364	-8,570	507	11,876	10,857	2,137	14,489
North Dakota	3,965	143	8,798	113	3	0	3,853	140	8,798
South Dakota	10,978	28,579	32,546	5,968	28,310	30,450	5,010	268	2,096
Total	56,857	34,422	82,212	-2,311	28,851	42,986	59,168	5,571	39,226
Intermountain									
Arizona	24,360	7,798	80,531	23,687	7,782	73,852	673	16	6,679
Colorado	-136,296	9,424	533,160	-153,722	7,618	462,400	17,427	1,806	70,760
Idaho	450,800	230,262	622,223	441,238	230,262	616,491	9,561	0	5,732
Montana	63,292	102,188	667,286	54,778	102,171	662,369	8,514	17	4,917
Nevada	1,953	247	3,736	1,206	243	3,482	747	3	254
New Mexico	40,985	5,585	80,835	37,027	4,851	69,462	3,958	734	11,373
Utah	-46,781	1,609	171,567	-54,797	1,169	145,713	8,016	440	25,855
Wyoming	-156,474	12,983	328,119	-157,668	12,945	320,408	1,194	38	7,710
Total	241,840	370,096	2,487,457	191,749	367,041	2,354,177	50,091	3,055	133,280
Rocky Mountain total	298,697	404,518	2,569,669	189,438	395,892	2,397,163	109,259	8,626	172,506
Pacific Coast									
Alaska									
Alaska	253,721	39,031	302,992	132,820	38,552	275,285	120,901	479	27,707
Total	253,721	39,031	302,992	132,820	38,552	275,285	120,901	479	27,707
Pacific Northwest									
Oregon	2,126,666	1,086,584	544,018	1,956,885	1,042,823	463,732	169,781	43,761	80,285
Washington	1,580,265	805,344	656,671	1,465,772	767,893	566,124	114,493	37,452	90,547
Total	3,706,931	1,891,929	1,200,688	3,422,657	1,810,716	1,029,856	284,274	81,213	170,832
Pacific Southwest									
California	1,053,194	355,127	572,757	909,281	355,116	471,924	143,913	11	100,833
Hawaii	988	0	1,088	0	0	0	988	0	1,088
Total	1,054,182	355,127	573,844	909,281	355,116	471,924	144,901	11	101,920
Pacific Coast total	5,014,835	2,286,086	2,077,524	4,464,758	2,204,383	1,777,065	550,077	81,703	300,459
United States	25,009,351	13,041,200	10,198,086	15,467,790	8,901,491	5,899,507	9,541,561	4,139,708	4,298,579

Note: Data may not add to totals because of rounding.

Table 37. Net all live biomass on forest land and timberland in the East and West regions by rural-urban continuum class and forest-type group, 2017

Region and forest type group	Forest land						Timberland					
		Predominant county population continuum class						Predominant county population continuum class				
	Total	Major metro	Intermediate-small metro	Large town	Small town	Rural	Total	Major metro	Intermediate-small metro	Large town	Small town	Rural
	Million dry tons											
East												
White-red-jack pine	530	124	107	16	205	78	495	118	101	15	192	69
Spruce-fir	468	34	38	24	282	90	420	30	37	21	259	72
Longleaf-slash pine	458	134	109	18	160	37	443	125	108	17	157	36
Loblolly-shortleaf pine	2,666	692	477	70	1,014	413	2,583	666	463	68	986	401
Oak-pine	1,182	364	231	28	394	165	1,142	351	223	27	383	158
Oak-hickory	7,354	2,149	1,487	152	2,379	1,188	6,909	1,990	1,414	140	2,250	1,115
Oak-gum-cypress	1,416	411	292	33	524	156	1,324	376	283	30	487	148
Elm-ash-cottonwood	1,155	381	226	28	395	125	1,072	350	214	27	365	116
Maple-beech-birch	3,079	497	684	118	1,278	501	2,800	455	624	111	1,195	414
Aspen-birch	454	64	40	16	228	107	422	60	38	14	214	96
Other forest types	202	62	41	2	66	31	110	40	28	1	30	11
Nonstocked	8	2	1	0	3	1	6	2	1	0	2	1
East total	18,973	4,914	3,733	507	6,927	2,892	17,725	4,562	3,535	472	6,519	2,638
West												
Douglas-fir	2,873	766	906	292	652	257	2,506	670	838	235	535	228
Ponderosa pine	741	70	204	45	284	138	682	59	191	44	266	122
Western white pine	10	4	1	–	3	2	3	0	0	0	2	1
Fir-spruce	2,491	210	318	144	701	1,118	1,192	123	218	85	514	253
Hemlock-Sitka spruce	1,744	217	232	137	428	729	1,052	140	169	81	278	383
Larch	94	10	11	12	43	18	82	8	10	9	41	14
Lodgepole pine	498	53	55	56	241	94	323	20	35	36	162	70
Redwood	153	48	40	52	13	–	101	32	40	27	2	0
Other softwoods	1,831	156	235	16	290	1,134	641	96	181	8	217	139
Western hardwoods	1,599	293	428	160	348	370	1,010	143	284	134	239	209
Other forest types	400	23	117	25	161	74	9	1	1	1	2	4
Nonstocked	64	1	4	1	7	51	13	1	3	1	5	3
West total	12,497	1,851	2,552	940	3,170	3,984	7,614	1,293	1,971	662	2,263	1,426
United States	31,470	6,765	6,285	1,447	10,097	6,876	25,340	5,855	5,505	1,134	8,782	4,064

Note: Data may not add to totals because of rounding.

Table 38a. Total aboveground biomass on forest land in the United States by region, subregion, State, and tree component, 2017

Region, subregion, and State	All biomass	Live trees greater than 5-inches dbh				Total sapling biomass	Woodland species	Sound dead biomass
		Live tree biomass	Boles	Stumps	Tops/ limbs			
	Million dry tons							
North								
Northeast								
Connecticut	136	135	101	5	23	5	0	1
Delaware	27	26	19	1	4	2	0	0
Maine	719	707	443	26	105	132	0	12
Maryland	191	188	140	7	31	9	0	3
Massachusetts	221	218	163	9	37	9	0	3
New Hampshire	292	287	203	11	48	24	0	5
New Jersey	120	117	86	5	20	6	0	3
New York	1,177	1,149	828	47	198	75	0	28
Pennsylvania	1,115	1,096	804	45	193	53	0	18
Rhode Island	26	26	19	1	5	1	0	0
Vermont	287	282	202	11	48	21	0	5
West Virginia	842	830	611	33	145	40	0	12
Total	5,151	5,059	3,620	203	857	378	0	92
North Central								
Illinois	263	254	187	10	43	14	0	9
Indiana	282	274	203	11	46	14	0	8
Iowa	129	123	90	5	21	7	0	6
Michigan	899	870	604	35	148	83	0	29
Minnesota	519	500	318	19	81	82	0	20
Missouri	671	648	453	28	112	55	0	23
Ohio	497	487	357	20	84	26	0	10
Wisconsin	673	654	448	26	112	68	0	19
Total	3,933	3,810	2,660	153	648	349	0	124
North total	9,085	8,869	6,280	356	1,505	727	0	216
South								
Southeast								
Florida	610	605	434	30	88	54	0	5
Georgia	1,106	1,097	790	49	168	90	0	9
North Carolina	1,043	1,032	738	43	164	87	0	10
South Carolina	633	629	450	28	95	56	0	4
Virginia	953	940	677	39	156	68	0	12
Total	4,345	4,304	3,089	189	672	355	0	40
South Central								
Alabama	983	976	685	43	150	98	0	7
Arkansas	825	817	584	35	129	67	1	8
Kentucky	689	681	488	28	118	46	0	8
Louisiana	627	622	448	27	93	53	0	5
Mississippi	859	856	611	37	129	80	0	3
Oklahoma	284	276	182	12	45	36	1	8
Tennessee	804	787	569	33	135	50	0	17
Texas	797	785	462	30	104	77	112	11
Total	5,868	5,800	4,030	245	905	505	114	68
South total	10,212	10,104	7,119	434	1,577	860	114	108

Table 38a. (cont.) Total aboveground biomass on forest land in the United States by region, subregion, State, and tree component, 2017

Region, subregion, and State	All biomass	Live trees greater than 5-inches dbh				Total sapling biomass	Woodland species	Sound dead biomass
		Live tree biomass	Boles	Stumps	Tops/ limbs			
	Million dry tons							
Rocky Mountain								
Great Plains								
Kansas	93	90	65	4	15	5	0	3
Nebraska	49	47	36	2	8	2	0	2
North Dakota	20	20	12	1	3	2	1	1
South Dakota	48	45	34	2	7	2	1	3
Total	210	202	147	9	33	12		9
Intermountain								
Arizona	235	223	104	5	18	3	93	12
Colorado	624	585	384	20	75	29	78	39
Idaho	897	847	668	32	113	30	4	49
Montana	832	773	585	32	102	49	5	59
Nevada	85	84	13	1	2	1	67	1
New Mexico	292	289	149	7	27	6	101	3
Utah	253	237	108	5	22	10	93	16
Wyoming	250	250	186	10	33	19	3	0
Total	3,468	3,289	2,195	112	391	147	444	179
Rocky Mountain total	3,678	3,490	2,342	120	424	159	444	188
Pacific Coast								
Alaska								
Alaska	3,102	3,053	1,081	40	129	1,801	0	50
Total	3,102	3,053	1,081	40	129	1,801	0	50
Pacific Northwest								
Oregon	2,167	2,085	1,679	74	286	45	1	82
Washington	1,873	1,785	1,438	66	242	39	1	87
Total	4,040	3,870	3,116	140	528	84		170
Pacific Southwest								
California	2,170	2,061	1,626	74	293	57	11	109
Hawaii	23	23	16	1	4	2	0	0
Total	2,194	2,084	1,642	75	297	59	11	109
Pacific Coast total	9,336	9,007	5,840	256	954	1,945	11	329
United States	32,311	31,470	21,581	1,167	4,460	3,691	569	840

Note: Data may not add to totals because of rounding.

Table 38b. Total aboveground biomass on timberland in the United States by region, subregion, State, and tree component, 2007

Region, subregion, and State	All biomass	Live trees greater than 5-inches dbh					
		Live tree biomass	Boles	Stumps	Tops/limbs	Total sapling biomass	Sound dead biomass
	Million dry tons						
North							
Northeast							
Connecticut	98	98	69	3	18	7	0
Delaware	22	21	15	1	4	2	0
Maine	654	650	381	24	92	153	4
Maryland	151	150	108	5	26	11	1
Massachusetts	174	174	124	6	30	13	0
New Hampshire	253	252	171	9	43	29	1
New Jersey	90	89	62	3	15	9	2
New York	755	753	513	27	133	81	2
Pennsylvania	862	861	604	30	159	68	1
Rhode Island	19	19	13	1	4	2	0
Vermont	314	311	215	11	54	31	3
West Virginia	688	683	486	23	125	48	6
Total	4,082	4,060	2,761	143	703	454	21
North Central							
Illinois	210	210	151	7	36	16	0
Indiana	243	242	175	8	42	17	0
Iowa	112	112	79	4	20	9	0
Michigan	799	794	523	30	134	108	5
Minnesota	450	448	271	17	70	91	2
Missouri	592	591	397	20	105	70	0
Ohio	365	365	256	13	65	31	0
Wisconsin	606	604	395	21	104	83	2
Total	3,376	3,366	2,247	119	577	424	9
North total	7,457	7,427	5,007	262	1,279	878	31
South							
Southeast							
Florida	505	505	348	21	74	62	0
Georgia	975	975	667	35	153	120	0
North Carolina	896	896	621	31	145	99	0
South Carolina	551	551	377	20	86	69	0
Virginia	817	817	568	28	140	81	0
Total	3,745	3,745	2,580	135	598	431	0
South Central							
Alabama	870	870	587	30	138	115	0
Arkansas	757	757	524	26	124	84	0
Kentucky	580	580	405	20	104	51	0
Louisiana	570	570	404	21	87	58	0
Mississippi	786	786	539	27	122	98	0
Oklahoma	169	168	99	6	27	36	1
Tennessee	739	739	520	26	132	61	0
Texas	457	457	317	15	70	55	0
Total	4,928	4,927	3,396	171	803	557	1
South total	8,673	8,672	5,976	306	1,401	988	1

Table 38b. (cont.) Total aboveground biomass on timberland in the United States by region, subregion, State, and tree component, 2007

Region, subregion, and State	All biomass	Live trees greater than 5-inches dbh					
		Live tree biomass	Boles	Stumps	Tops/limbs	Total sapling biomass	Sound dead biomass
	Million dry tons						
Rocky Mountain							
Great Plains							
Kansas	71	71	51	3	12	5	0
Nebraska	38	38	28	2	6	2	0
North Dakota	16	16	10	1	3	2	0
South Dakota	32	32	23	1	5	3	0
Total	157	157	112	6	26	13	0
Intermountain							
Arizona	139	129	98	5	17	8	11
Colorado	525	485	356	20	69	41	41
Idaho	773	681	528	29	87	38	98
Montana	821	739	546	33	93	67	95
Nevada	16	15	11	1	2	2	1
New Mexico	164	152	107	6	20	19	12
Utah	159	139	99	6	20	15	21
Wyoming	259	213	157	9	28	18	51
Total	2,857	2,552	1,902	108	336	207	331
Rocky Mountain total	3,014	2,710	2,014	114	362	220	331
Pacific Coast							
Alaska							
Alaska	771	757	568	22	66	101	14
Total	771	757	568	22	66	101	14
Pacific Northwest							
Oregon	1,730	1,730	1,377	63	236	54	0
Washington	1,392	1,392	1,103	57	185	47	0
Total	3,122	3,122	2,480	119	421	101	0
Pacific Southwest							
California	1,381	1,381	1,080	53	195	53	0
Hawaii	4	4	4	0	0	0	0
Total	1,385	1,385	1,084	53	195	53	0
Pacific Coast total	5,277	5,264	4,132	194	681	256	14
United States	24,421	24,072	17,130	877	3,723	2,342	376

Note: Data may not add to totals because of rounding.

Table 39. Volume of roundwood products harvested in the United States by source of material, species group, region, subregion, and product, 2016

Region, subregion, and product	Allsources			Source of material					
				Growingstock			Other sources		
	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
	Thousand cubic feet								
North									
Northeast									
Saw logs	483,941	176,377	307,564	461,935	169,932	292,004	22,006	6,446	15,560
Veneer logs	22,275	1,142	21,133	21,772	1,067	20,705	503	75	428
Pulpwood	430,160	137,015	293,146	329,910	125,673	204,237	100,251	11,341	88,909
Composite products	49,099	1,190	47,909	35,838	1,150	34,688	13,261	40	13,221
Fuelwood	595,043	89,002	506,041	136,451	30,944	105,507	458,592	58,058	400,534
Posts, poles, and pilings	4,392	2,916	1,476	3,297	2,282	1,015	1,095	634	461
Miscellaneous products	12,125	3,371	8,753	11,354	3,261	8,093	771	110	661
Total	1,597,036	411,013	1,186,023	1,000,558	334,309	666,249	596,478	76,704	519,774
North Central									
Saw logs	546,153	118,750	427,402	498,035	114,983	383,052	48,118	3,768	44,350
Veneer logs	17,555	1,263	16,292	15,747	1,138	14,609	1,808	124	1,683
Pulpwood	468,047	112,036	356,011	381,821	100,775	281,045	86,226	11,260	74,966
Composite products	132,465	10,367	122,098	118,679	9,271	109,408	13,786	1,096	12,690
Fuelwood	574,806	24,471	550,334	84,144	7,984	76,160	490,662	16,487	474,175
Posts, poles, and pilings	10,221	9,588	633	8,861	8,592	268	1,360	995	365
Miscellaneous products	35,466	7,862	27,604	32,909	7,530	25,379	2,557	331	2,225
Total	1,784,712	284,336	1,500,376	1,140,195	250,273	889,922	644,517	34,063	610,454
North total									
Saw logs	1,030,094	295,127	734,966	959,971	284,914	675,056	70,123	10,213	59,910
Veneer logs	39,830	2,405	37,425	37,519	2,205	35,314	2,311	200	2,111
Pulpwood	898,207	249,050	649,157	711,730	226,448	485,282	186,477	22,602	163,875
Composite products	181,565	11,557	170,008	154,517	10,421	144,096	27,047	1,136	25,911
Fuelwood	1,169,849	113,474	1,056,376	220,595	38,928	181,667	949,254	74,545	874,709
Posts, poles, and pilings	14,613	12,503	2,109	12,158	10,874	1,284	2,455	1,629	825
Miscellaneous products	47,591	11,233	36,358	44,263	10,791	33,472	3,328	442	2,886
Total	3,381,748	695,349	2,686,399	2,140,754	584,582	1,556,171	1,240,994	110,767	1,130,228
South									
Southeast									
Saw logs	1,143,179	904,455	238,724	1,117,508	882,675	234,833	25,671	21,781	3,891
Veneer logs	119,879	103,599	16,280	117,516	102,574	14,942	2,362	1,024	1,338
Pulpwood	1,711,745	1,396,052	315,693	1,536,785	1,239,789	296,996	174,960	156,263	18,697
Composite products	169,211	166,927	2,284	157,685	155,414	2,271	11,526	11,513	13
Fuelwood	278,312	278,312	–	–	–	–	278,312	278,312	–
Posts, poles, and pilings	40,642	40,631	11	39,518	39,507	10	1,124	1,124	0
Miscellaneous products	308,549	252,285	56,264	204,967	153,625	51,342	103,582	98,660	4,922
Total	3,771,516	3,142,261	629,255	3,173,978	2,573,584	600,394	597,537	568,677	28,861
South Central									
Saw logs	1,355,196	939,611	415,585	1,329,698	920,199	409,499	25,498	19,412	6,086
Veneer logs	268,460	254,883	13,577	264,210	250,908	13,301	4,251	3,975	276
Pulpwood	1,988,820	1,432,099	556,721	1,813,637	1,282,737	530,900	175,183	149,362	25,821
Composite products	114,328	107,720	6,608	108,501	101,895	6,605	5,828	5,825	3
Fuelwood	228,988	228,988	–	–	–	–	228,988	228,988	–
Posts, poles, and pilings	13,060	13,060	–	12,818	12,818	–	242	242	–
Miscellaneous products	251,869	196,536	55,333	206,024	153,498	52,526	45,845	43,038	2,807
Total	4,220,722	3,172,897	1,047,824	3,734,888	2,722,056	1,012,832	485,834	450,842	34,992

Table 39. (cont.) Volume of roundwood products harvested in the United States by source of material, species group, region, subregion, and product, 2016

Region, subregion, and product	Allsources			Source of material					
				Growingstock			Other sources		
	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
	Thousand cubic feet								
South total									
Saw logs	2,498,375	1,844,066	654,309	2,447,206	1,802,874	644,332	51,169	41,193	9,977
Veneer logs	388,339	358,482	29,857	381,726	353,483	28,243	6,613	4,999	1,614
Pulpwood	3,700,565	2,828,152	872,414	3,350,422	2,522,526	827,897	350,143	305,626	44,517
Composite products	283,539	274,647	8,892	266,185	257,309	8,876	17,354	17,338	16
Fuelwood	507,300	507,300	–	–	–	–	507,300	507,300	–
Posts, poles, and pilings	53,702	53,691	11	52,336	52,325	10	1,366	1,365	0
Miscellaneous products	560,417	448,820	111,597	410,990	307,123	103,868	149,427	141,698	7,729
Total	7,992,237	6,315,158	1,677,079	6,908,866	5,295,640	1,613,226	1,083,371	1,019,518	63,853
Rocky Mountain									
Great Plains									
Saw logs	22,936	19,352	3,583	22,343	19,150	3,193	592	202	390
Veneer logs	217	–	217	204	–	204	12	–	12
Pulpwood	–	–	–	–	–	–	–	–	–
Composite products	–	–	–	–	–	–	–	–	–
Fuelwood	37,883	2,400	35,483	1,739	495	1,244	36,144	1,905	34,239
Posts, poles, and pilings	1,871	1,869	2	1,401	1,400	1	470	469	2
Miscellaneous products	6,522	6,121	401	6,284	5,886	398	239	235	4
Total	69,429	29,742	39,687	31,971	26,931	5,040	37,458	2,811	34,647
Intermountain									
Saw logs	298,217	296,875	1,342	271,423	270,160	1,263	26,795	26,715	79
Veneer logs	22,316	22,316	–	21,967	21,967	–	349	349	–
Pulpwood	45,520	45,520	–	42,903	42,903	–	2,617	2,617	–
Composite products	–	–	–	–	–	–	–	–	–
Fuelwood	118,219	117,762	457	4,980	4,964	16	113,239	112,798	441
Posts, poles, and pilings	10,543	10,535	8	7,580	7,574	6	2,963	2,961	2
Miscellaneous products	15,549	13,231	2,317	11,187	9,586	1,601	4,362	3,646	716
Total	510,364	506,239	4,125	360,039	357,153	2,887	150,325	149,086	1,238
Rocky Mountain total									
Saw logs	321,153	316,228	4,925	293,766	289,310	4,456	27,387	26,918	469
Veneer logs	22,532	22,316	217	22,171	21,967	204	361	349	12
Pulpwood	45,520	45,520	–	42,903	42,903	–	2,617	2,617	–
Composite products	–	–	–	–	–	–	–	–	–
Fuelwood	156,103	120,162	35,940	6,719	5,459	1,260	149,384	114,703	34,680
Posts, poles, and pilings	12,414	12,404	11	8,980	8,973	7	3,434	3,430	4
Miscellaneous products	22,071	19,352	2,719	17,470	15,471	1,999	4,600	3,881	720
Total	579,793	535,981	43,812	392,010	384,083	7,926	187,783	151,898	35,885
Pacific Coast									
Alaska									
Saw logs	29,293	29,212	80	28,864	28,784	79	429	428	1
Veneer logs	–	–	–	–	–	–	–	–	–
Pulpwood	–	–	–	–	–	–	–	–	–
Composite products	–	–	–	–	–	–	–	–	–
Fuelwood	7,755	6,919	836	709	364	344	7,047	6,555	491
Posts, poles, and pilings	–	–	–	–	–	–	–	–	–
Miscellaneous products	339	316	23	274	252	23	64	64	0
Total	37,387	36,447	939	29,847	29,400	447	7,540	7,047	493

Table 39. (cont.) Volume of roundwood products harvested in the United States by source of material, species group, region, subregion, and product, 2016

Region, subregion, and product	Allsources			Source of material					
				Growingstock			Other sources		
	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
	Thousand cubic feet								
Pacific Northwest									
Saw logs	1,425,269	1,373,291	51,977	1,393,104	1,342,804	50,300	32,165	30,487	1,678
Veneer logs	183,435	181,694	1,741	180,963	179,238	1,725	2,472	2,457	16
Pulpwood	258,644	230,836	27,808	246,742	219,918	26,824	11,901	10,917	984
Composite products	–	–	–	–	–	–	–	–	–
Fuelwood	134,307	132,704	1,602	952	914	38	133,355	131,791	1,564
Posts, poles, and pilings	15,845	15,845	–	15,703	15,703	–	142	142	–
Miscellaneous products	457	451	6	426	421	6	31	31	0
Total	2,017,956	1,934,823	83,134	1,837,890	1,758,998	78,892	180,066	175,825	4,241
Pacific Southwest									
Saw logs	216,859	216,853	6	210,756	210,751	6	6,102	6,102	0
Veneer logs	25,526	25,526	–	25,268	25,268	–	258	258	–
Pulpwood	–	–	–	–	–	–	–	–	–
Composite products	–	–	–	–	–	–	–	–	–
Fuelwood	227,244	225,820	1,424	103,488	103,483	5	123,756	122,337	1,419
Posts, poles, and pilings	890	890	–	881	881	–	9	9	–
Miscellaneous products	35	35	–	5	5	–	30	30	–
Total	470,554	469,124	1,429	340,398	340,388	11	130,156	128,737	1,419
Pacific Coast total									
Saw logs	1,671,420	1,619,356	52,064	1,632,724	1,582,339	50,385	38,696	37,017	1,679
Veneer logs	208,961	207,221	1,741	206,231	204,506	1,725	2,730	2,715	16
Pulpwood	258,644	230,836	27,808	246,742	219,918	26,824	11,901	10,917	984
Composite products	–	–	–	–	–	–	–	–	–
Fuelwood	369,305	365,444	3,861	105,148	104,761	387	264,157	260,683	3,474
Posts, poles, and pilings	16,736	16,736	–	16,584	16,584	–	151	151	–
Miscellaneous products	831	802	29	706	677	28	125	125	0
Total	2,525,897	2,440,394	85,503	2,208,136	2,128,786	79,350	317,761	311,608	6,153
United States									
Saw logs	5,521,042	4,074,778	1,446,264	5,333,667	3,959,437	1,374,229	187,375	115,340	72,035
Veneer logs	659,662	590,423	69,239	647,647	582,160	65,487	12,016	8,263	3,753
Pulpwood	4,902,936	3,353,558	1,549,379	4,351,798	3,011,796	1,340,002	551,138	341,761	209,376
Composite products	465,104	286,204	178,900	420,703	267,730	152,972	44,401	18,473	25,927
Fuelwood	2,202,557	1,106,380	1,096,177	332,462	149,148	183,314	1,870,095	957,232	912,863
Posts, poles, and pilings	97,464	95,333	2,131	90,059	88,757	1,301	7,405	6,576	830
Miscellaneous products	630,910	480,208	150,702	473,430	334,063	139,367	157,480	146,145	11,335
Total	14,479,675	9,986,883	4,492,792	11,649,765	8,393,092	3,256,673	2,829,910	1,593,791	1,236,119

Note: Data may not add to totals because of rounding.

Table 40. Roundwood products, logging residues, and other removals from growing stock and other sources by species group, region, and subregion, 2016

Region, subregion, class of material, and source of material	Total	Species group	
		Softwoods	Hardwoods
	Thousand cubic feet		
North			
Northeast			
Roundwood products—			
Growing stock	1,000,558	334,309	666,249
Other sources	596,478	76,704	519,774
Total	1,597,036	411,013	1,186,023
Logging residues—			
Growing stock[a]	112,585	18,604	93,981
Other sources[b]	322,228	111,882	210,346
Total	434,812	130,486	304,326
Other removals—			
Growing stockc	63,076	24,002	39,073
Other sourcesd	14,372	5,724	8,648
Total	77,447	29,726	47,721
Total, all classes—			
Growing stock	1,176,218	376,915	799,303
Other sources	933,078	194,310	738,767
Total, all materials	2,109,296	571,226	1,538,070
North Central			
Roundwood products—			
Growing stock	1,140,195	250,273	889,922
Other sources	644,517	34,063	610,454
Total	1,784,712	284,336	1,500,376
Logging residues—			
Growing stock[a]	113,461	11,837	101,624
Other sources[b]	415,770	86,138	329,632
Total	529,232	97,975	431,256
Other removals—			
Growing stock[c]	61,304	14,874	46,430
Other sources[d]	23,947	7,302	16,645
Total	85,251	22,176	63,075
Total, all classes—			
Growing stock	1,314,960	276,984	1,037,976
Other sources	1,084,234	127,503	956,731
Total, all materials	2,399,195	404,488	1,994,707
North Total			
Roundwood products—			
Growing stock	2,140,754	584,582	1,556,171
Other sources	1,240,994	110,767	1,130,228
Total	3,381,748	695,349	2,686,399
Logging residues—			
Growing stock[a]	226,046	30,441	195,604
Other sources[b]	737,998	198,020	539,978
Total	964,044	228,462	735,582
Other removals—			
Growing stock[c]	124,379	38,876	85,503
Other sources[d]	38,319	13,026	25,293
Total	162,698	51,902	110,796
Total, all classes—			
Growing stock	2,491,178	653,900	1,837,279
Other sources	2,017,312	321,813	1,695,499
Total, all materials	4,508,490	975,713	3,532,777
South			
Southeast			
Roundwood products—			
Growing stock	3,173,978	2,573,584	600,394
Other sources	319,225	290,365	28,861
Total	3,493,204	2,863,949	629,255
Logging residues—			
Growing stock[a]	284,629	146,252	138,377
Other sources[b]	547,333	328,160	219,172
Total	831,962	474,413	357,549
Other removals—			
Growing stock[c]	68,025	16,422	51,602
Other sources[d]	120,157	37,260	82,897
Total	188,181	53,682	134,499
Total, all classes—			
Growing stock	3,526,632	2,736,259	790,373
Other sources	986,715	655,785	330,930
Total, all materials	4,513,347	3,392,044	1,121,303
South Central			
Roundwood products—			
Growing stock	3,734,888	2,722,056	1,012,832
Other sources	256,846	221,854	34,992
Total	3,991,734	2,943,909	1,047,824
Logging residues—			
Growing stock[a]	516,123	177,515	338,608
Other sources[b]	709,775	358,295	351,480
Total	1,225,898	535,810	690,088
Other removals—			
Growing stock[c]	81,774	11,486	70,288
Other sources[d]	77,104	16,474	60,630
Total	158,879	27,960	130,918
Total, all classes—			
Growing stock	4,332,785	2,911,057	1,421,728
Other sources	1,043,725	596,623	447,102
Total, all materials	5,376,510	3,507,679	1,868,830
South total			
Roundwood products—			
Growing stock	6,908,866	5,295,640	1,613,226
Other sources	576,071	512,218	63,853
Total	7,484,937	5,807,858	1,677,079
Logging residues—			
Growing stock[a]	800,752	323,767	476,985
Other sources[b]	1,257,107	686,455	570,652
Total	2,057,860	1,010,223	1,047,637

Table 40. (cont.) Roundwood products, logging residues, and other removals from growing stock and other sources by species group, region, and subregion, 2016

Region, subregion, class of material, and source of material	Total	Species group	
		Softwoods	Hardwoods
	Thousand cubic feet		
Other removals—			
Growing stockc	149,799	27,909	121,890
Other sourcesd	197,261	53,734	143,527
Total	347,060	81,643	265,417
Total, all classes—			
Growing stock	7,859,417	5,647,316	2,212,101
Other sources	2,030,440	1,252,408	778,032
Total, all materials	9,889,857	6,899,723	2,990,133
Rocky Mountain			
Great Plains			
Roundwood products—			
Growing stock	31,971	26,931	5,040
Other sources	37,458	2,811	34,647
Total	69,429	29,742	39,687
Logging residues—			
Growing stock[a]	2,452	1,920	531
Other sources[b]	10,173	9,077	1,096
Total	12,625	10,997	1,627
Other removals—			
Growing stock[c]	0	0	0
Other sources[d]	0	0	0
Total	0	0	0
Total, all classes—			
Growing stock	34,422	28,851	5,571
Other sources	47,631	11,888	35,743
Total, all materials	82,054	40,739	41,314
Intermountain			
Roundwood products—			
Growing stock	360,039	357,153	2,887
Other sources	150,325	149,086	1,238
Total	510,364	506,239	4,125
Logging residues—			
Growing stock[a]	10,057	9,888	168
Other sources[b]	80,808	80,285	523
Total	90,865	90,173	691
Other removals—			
Growing stock[c]	0	0	0
Other sources[d]	0	0	0
Total	0	0	0
Total, all classes—			
Growing stock	370,096	367,041	3,055
Other sources	231,133	229,371	1,762
Total, all materials	601,229	596,412	4,816
Rocky Mountain total			
Roundwood products—			
Growing stock	392,010	384,083	7,926
Other sources	187,783	151,898	35,885
Total	579,793	535,981	43,812
Logging residues—			
Growing stock[a]	12,508	11,809	699
Other sources[b]	90,981	89,362	1,619
Total	103,489	101,171	2,319
Other removals—			
Growing stock[c]	0	0	0
Other sources[d]	0	0	0
Total	–	–	–
Total, all classes—			
Growing stock	404,518	395,892	8,626
Other sources	278,764	241,260	37,505
Total, all materials	683,282	637,152	46,130
Pacific Coast			
Alaska			
Roundwood products—			
Growing stock	29,847	29,400	447
Other sources	7,540	7,047	493
Total	37,387	36,447	939
Logging residues—			
Growing stock[a]	9,184	9,152	32
Other sources[b]	5,690	5,634	56
Total	14,874	14,786	89
Other removals—			
Growing stock[c]	0	0	0
Other sources[d]	0	0	0
Total	0	0	0
Total, all classes—			
Growing stock	39,031	38,552	479
Other sources	13,230	12,681	549
Total, all materials	52,261	51,233	1,028
Pacific Northwest			
Roundwood products—			
Growing stock	1,837,890	1,758,998	78,892
Other sources	180,066	175,825	4,241
Total	2,017,956	1,934,823	83,134
Logging residues—			
Growing stock[a]	54,038	51,718	2,321
Other sources[b]	440,728	414,352	26,376
Total	494,766	466,070	28,697
Other removals—			
Growing stock[c]	0	0	0
Other sources[d]	0	0	0
Total	0	0	0
Total, all classes—			
Growing stock	1,891,929	1,810,716	81,213
Other sources	620,794	590,177	30,617
Total, all materials	2,512,722	2,400,892	111,830

Table 40. (cont.) Roundwood products, logging residues, and other removals from growing stock and other sources by species group, region, and subregion, 2016

Region, subregion, class of material, and source of material	Total	Species group	
		Softwoods	Hardwoods
	Thousand cubic feet		
Pacific Southwest			
Roundwood products—			
Growing stock	340,398	340,388	11
Other sources	130,156	128,737	1,419
Total	470,554	469,124	1,429
Logging residues—			
Growing stock[a]	14,728	14,728	0
Other sources[b]	92,920	92,724	196
Total	107,649	107,452	196
Other removals—			
Growing stock[c]	0	0	0
Other sources[d]	0	0	0
Total	0	0	0
Total, all classes—			
Growing stock	355,127	355,116	11
Other sources	223,076	221,461	1,615
Total, all materials	578,202	576,577	1,626
Pacific Coast total			
Roundwood products—			
Growing stock	2,208,136	2,128,786	79,350
Other sources	317,761	311,608	6,153
Total	2,525,897	2,440,394	85,503
Logging residues—			
Growing stock[a]	77,951	75,598	2,353
Other sources[b]	539,338	512,710	26,628
Total	617,289	588,308	28,981
Other removals—			
Growing stock[c]	–	–	–
Other sources[d]	–	–	–
Total	–	–	–
Total, all classes—			
Growing stock	2,286,086	2,204,383	81,703
Other sources	857,100	824,319	32,781
Total, all materials	3,143,186	3,028,702	114,484
United States			
Roundwood products—			
Growing stock	11,649,765	8,393,092	3,256,673
Other sources	2,322,610	1,086,491	1,236,119
Total	13,972,375	9,479,583	4,492,792
Logging residues—			
Growing stock[a]	1,117,257	441,615	675,642
Other sources[b]	2,625,425	1,486,548	1,138,877
Total	3,742,682	1,928,163	1,814,519
Other removals—			
Growing stock[c]	274,178	66,784	207,393
Other sources[d]	235,580	66,760	168,820
Total	509,758	133,545	376,213
Total, all classes—			
Growing stock	13,041,200	8,901,491	4,139,708
Other sources	5,183,615	2,639,799	2,543,816
Total, all materials	18,224,815	11,541,290	6,683,525

[a] Growing-stock volume cut or knocked down during harvest but left at the harvest site.

[b] Wood volume other than growing stock cut or knocked down during harvest but left on the ground. This volume is net of wet rot or advanced dry rot, and exclude old punky logs; consists of material sound enough to chip; includes downed dead and cull trees, tops above the 4-inch growing-stock top, and smaller than 5 inches d.b.h.; excludes stumps and limbs.

[c] Growing-stock volume removed by cultural operations or timberland clearing.

[d] Wood volume other than growing stock removed by cultural operations or timberland clearing. This volume is net of wet rot or advanced dry rot, and excludes old punky logs; consists of material sound enough to chip; includes downed dead and cull trees, tops above the 4-inch growing-stock top, and smaller than 5 inches dbh; excludes stumps and limbs.

Note: Data may not add to totals because of rounding.

Table 41. Total volume of roundwood harvested in the United States by region, source of material, species group, and category, 2016, 2006, 1996, 1986, 1976, 1962, and 1952

Category	Year	Source of material								
		All sources			Growing stock			Other sources		
		Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
		Thousand cubic feet								
United States										
Saw logs	2016	5,521,042	4,074,778	1,446,264	5,333,667	3,959,437	1,374,229	187,375	115,340	72,035
	2006	7,178,996	5,289,148	1,889,847	6,781,310	5,029,594	1,751,716	397,685	259,554	138,131
	1996	7,120,223	5,158,256	1,961,967	6,711,817	4,928,295	1,783,521	408,407	229,961	178,446
	1986	7,110,200	5,441,442	1,668,758	6,766,756	5,219,952	1,546,804	343,444	221,490	121,955
	1976	6,683,230	5,249,795	1,433,435	6,363,763	5,017,652	1,346,111	319,467	232,143	87,324
	1962	6,206,651	4,601,269	1,605,383	5,880,689	4,321,139	1,559,550	325,962	280,129	45,833
	1952*	6,451,547	5,028,456	1,423,092	5,773,485	4,598,693	1,174,792	678,063	429,763	248,300
Veneer logs	2016	659,662	590,423	69,239	647,647	582,160	65,487	12,016	8,263	3,753
	2006	1,211,349	1,068,460	142,889	1,155,896	1,020,002	135,894	55,453	48,458	6,995
	1996	1,281,543	1,123,938	157,605	1,220,519	1,070,475	150,044	61,024	53,463	7,561
	1986	1,544,905	1,437,832	107,073	1,444,218	1,341,878	102,340	100,687	95,954	4,733
	1976	1,442,596	1,342,176	100,420	1,332,064	1,236,359	95,705	110,532	105,817	4,715
	1962	883,991	591,992	291,999	756,054	473,058	282,996	127,937	118,934	9,003
	1952*	459,432	251,461	207,971	386,711	220,719	165,993	72,720	30,742	41,978
Pulpwood and composites	2016	5,368,040	3,639,761	1,728,278	4,772,501	3,279,527	1,492,975	595,538	360,235	235,304
	2006	4,947,123	2,907,481	2,039,642	4,361,552	2,582,226	1,779,327	585,571	325,255	260,315
	1996	5,404,562	2,964,592	2,439,969	4,770,291	2,645,756	2,124,535	634,271	318,837	315,434
	1986	4,768,790	3,083,553	1,685,237	4,216,679	2,796,630	1,420,049	552,112	286,923	265,188
	1976	3,708,990	2,556,020	1,152,970	3,312,673	2,309,107	1,003,566	396,317	246,913	149,404
	1962	2,920,189	1,871,963	1,048,226	2,707,912	1,761,958	945,954	212,277	110,006	102,272
	1952	1,750,145	1,492,893	257,252	1,642,181	1,395,044	247,137	107,964	97,849	10,115
Fuelwood	2016	1,695,257	599,080	1,096,177	332,462	149,148	183,314	1,362,795	449,932	912,863
	2006	1,407,949	477,230	930,718	490,259	85,764	404,495	917,690	391,466	526,224
	1996	2,282,849	493,048	1,789,801	798,960	187,308	611,652	1,483,889	305,740	1,178,149
	1986	3,113,046	545,269	2,567,776	795,758	204,566	591,192	2,317,288	340,704	1,976,584
	1976	602,989	131,822	471,167	335,647	62,963	272,684	267,342	68,859	198,483
	1962	1,358,244	199,205	1,159,039	767,256	98,570	668,686	590,988	100,635	490,353
	1952	1,726,275	422,375	1,303,900	967,771	238,663	729,108	758,503	183,711	574,792
Other products**	2016	728,374	575,541	152,833	563,488	422,820	140,668	164,886	152,721	12,165
	2006	254,544	214,829	39,715	217,335	182,649	34,685	37,210	32,180	5,030
	1996	341,752	296,365	45,387	308,364	269,747	38,617	33,388	26,618	6,770
	1986	502,454	283,594	218,860	454,219	264,873	189,346	48,235	18,721	29,514
	1976	377,563	238,451	139,112	343,261	225,830	117,431	34,302	12,621	21,681
	1962	560,120	246,296	313,824	483,421	210,747	272,674	76,700	35,549	41,151
	1952	710,444	326,533	383,911	622,452	284,403	338,049	87,993	42,130	45,862
Total products	2016	13,972,375	9,479,583	4,492,792	11,649,765	8,393,092	3,256,673	2,322,610	1,086,491	1,236,119
	2006	14,999,961	9,957,149	5,042,812	13,006,352	8,900,235	4,106,117	1,993,608	1,056,913	936,695
	1996	16,430,929	10,036,200	6,394,729	13,809,950	9,101,581	4,708,369	2,620,979	934,619	1,686,360
	1986	17,039,395	10,791,690	6,247,705	13,677,630	9,827,899	3,849,731	3,361,765	963,791	2,397,974
	1976	12,815,368	9,518,264	3,297,104	11,687,408	8,851,911	2,835,497	1,127,960	666,353	461,607
	1962	11,929,196	7,510,725	4,418,471	10,595,332	6,865,472	3,729,860	1,333,864	645,253	688,611
	1952	11,097,843	7,521,718	3,576,126	9,392,600	6,737,522	2,655,078	1,705,243	784,196	921,048

* Saw log and veneer data corrected for 1952.

** Includes poles, pilings, posts, cooperage and miscellaneous products.

Table 41. (cont.) Total volume of roundwood harvested in the United States by region, source of material, species group, and category, 2016, 2006, 1996, 1986, 1976, 1962, and 1952

Category	Year	Source of material								
		All sources			Growing stock			Other sources		
		Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
		Thousand cubic feet								
Logging residue	2016	3,757,557	1,942,949	1,814,608	1,126,441	450,767	675,674	2,631,116	1,492,182	1,138,934
	2006	4,529,905	2,243,408	2,286,497	1,250,323	550,808	699,515	3,279,582	1,692,600	1,586,982
	1996	3,373,283	1,348,461	2,024,822	1,291,664	614,742	676,922	2,081,619	733,719	1,347,900
	1986	3,912,746	2,270,109	1,642,637	1,582,035	998,503	583,532	2,330,711	1,271,606	1,059,105
	1976	3,369,383	1,706,227	1,663,156	2,114,667	831,894	1,282,773	1,254,716	874,333	380,383
	1962	3,346,528	1,434,059	1,912,469	1,860,208	622,682	1,237,526	1,486,320	811,377	674,943
	1952	2,108,489	992,225	1,116,264	1,383,386	656,081	727,304	725,103	336,143	388,960
Other removals	2016	509,758	133,545	376,213	274,178	66,784	207,393	235,580	66,760	168,820
	2006	1,391,212	488,400	902,811	1,021,009	409,015	611,993	370,203	79,385	290,818
	1996	1,355,447	447,952	907,495	887,949	348,207	539,742	467,498	99,745	367,753
	1986	1,806,311	422,378	1,383,933	1,117,547	327,068	790,479	688,764	95,310	593,454
	1976	1,378,185	461,333	916,851	1,077,288	381,415	695,873	300,896	79,918	220,978
	1962	1,064,366	236,146	828,220	644,403	176,382	468,021	419,963	59,764	360,199
	1952	1,822,194	909,566	912,628	1,359,022	816,516	542,506	463,172	93,051	370,121
Total Harvest	2016	18,239,690	11,556,076	6,683,613	13,050,384	8,910,643	4,139,741	5,189,306	2,645,433	2,543,873
	2006	20,921,077	12,688,957	8,232,120	15,277,684	9,860,058	5,417,626	5,643,393	2,828,899	2,814,495
	1996	21,159,659	11,832,613	9,327,046	15,989,563	10,064,530	5,925,033	5,170,096	1,768,083	3,402,013
	1986	22,758,452	13,484,177	9,274,275	16,377,212	11,153,470	5,223,742	6,381,240	2,330,707	4,050,533
	1976	17,562,935	11,685,824	5,877,111	14,879,364	10,065,220	4,814,144	2,683,572	1,620,604	1,062,968
	1962	16,340,089	9,180,929	7,159,160	13,099,943	7,664,536	5,435,407	3,240,146	1,516,393	1,723,753
	1952	15,028,526	9,423,509	5,605,017	12,135,007	8,210,119	3,924,888	2,893,519	1,213,390	1,680,129
North										
Saw logs	2016	1,030,094	295,127	734,966	959,971	284,914	675,056	70,123	10,213	59,910
	2006	1,168,146	346,205	821,941	1,027,094	293,366	733,728	141,052	52,840	88,213
	1996	1,279,688	336,542	943,145	1,125,336	282,167	843,168	154,352	54,375	99,977
	1986	1,069,231	343,489	725,742	930,697	283,107	647,590	138,534	60,382	78,152
	1976	966,739	267,127	699,612	890,943	245,805	645,138	75,796	21,322	54,474
	1962	778,285	187,479	590,807	738,369	173,797	564,572	39,916	13,682	26,234
	1952*	926,724	341,258	585,466	808,162	311,591	496,571	118,562	29,667	88,895
Veneer logs	2016	39,830	2,405	37,425	37,519	2,205	35,314	2,311	200	2,111
	2006	55,654	3,346	52,308	49,505	2,765	46,740	6,148	581	5,568
	1996	60,129	3,075	57,054	53,616	2,513	51,103	6,513	562	5,951
	1986	42,946	9,573	33,373	39,058	8,062	30,996	3,888	1,511	2,377
	1976	37,034	3,233	33,801	34,294	3,019	31,275	2,740	214	2,526
	1962	55,109	245	54,864	48,642	245	48,397	6,468	-	6,468
	1952*	46,310	280	46,030	37,770	237	37,533	8,540	44	8,497
Pulpwood and composites	2016	1,079,772	260,607	819,165	866,248	236,870	629,378	213,524	23,737	189,786
	2006	1,198,770	311,367	887,403	998,048	259,630	738,419	200,722	51,738	148,984
	1996	1,265,166	380,738	884,427	1,060,444	314,211	746,232	204,722	66,527	138,195
	1986	976,018	378,001	598,017	804,471	309,898	494,573	171,547	68,103	103,444
	1976	789,056	334,920	454,136	680,737	283,946	396,791	108,319	50,974	57,345
	1962	682,643	302,840	379,804	644,685	281,197	363,488	37,959	21,643	16,316
	1952	439,483	299,796	139,687	420,417	284,708	135,709	19,066	15,088	3,978

Table 41. (cont.) Total volume of roundwood harvested in the United States by region, source of material, species group, and category, 2016, 2006, 1996, 1986, 1976, 1962, and 1952

Category	Year	Source of material								
		All sources			Growing stock			Other sources		
		Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
		Thousand cubic feet								
Fuelwood	2016	1,169,849	113,474	1,056,376	220,595	38,928	181,667	949,254	74,545	874,709
	2006	575,619	32,515	543,105	137,756	4,991	132,765	437,863	27,524	410,340
	1996	842,114	68,999	773,115	129,999	10,496	119,503	712,115	58,503	653,612
	1986	1,765,369	125,041	1,640,328	239,460	19,769	219,691	1,525,909	105,272	1,420,637
	1976	218,127	3,631	214,496	100,145	1,374	98,771	117,982	2,257	115,725
	1962	467,009	30,714	436,295	297,646	25,309	272,337	169,364	5,405	163,958
	1952	670,231	37,407	632,825	276,071	10,734	265,337	394,161	26,673	367,488
Other products**	2016	62,203	23,736	38,467	56,421	21,665	34,756	5,782	2,071	3,711
	2006	46,372	24,675	21,697	38,112	19,624	18,488	8,260	5,051	3,210
	1996	61,842	26,520	35,322	49,526	19,992	29,534	12,316	6,528	5,788
	1986	225,307	44,525	180,782	188,536	33,466	155,070	36,771	11,059	25,712
	1976	126,835	27,043	99,792	104,645	22,324	82,321	22,190	4,719	17,471
	1962	205,137	38,957	166,180	181,843	36,632	145,211	23,294	2,325	20,969
	1952	209,040	39,781	169,259	184,758	32,202	152,557	24,282	7,579	16,702
Total products	2016	3,381,748	695,349	2,686,399	2,140,754	584,582	1,556,171	1,240,994	110,767	1,130,228
	2006	3,044,562	718,108	2,326,454	2,250,516	580,376	1,670,140	794,046	137,732	656,314
	1996	3,508,939	815,875	2,693,064	2,418,921	629,380	1,789,541	1,090,018	186,495	903,523
	1986	4,078,871	900,629	3,178,242	2,202,222	654,302	1,547,920	1,876,649	246,327	1,630,322
	1976	2,137,791	635,954	1,501,837	1,810,764	556,468	1,254,296	327,027	79,486	247,541
	1962	2,188,184	560,235	1,627,949	1,911,184	517,180	1,394,004	277,000	43,055	233,945
	1952	2,291,788	718,522	1,573,266	1,727,177	639,471	1,087,706	564,611	79,051	485,560
Logging residue	2016	964,044	228,462	735,582	226,046	30,441	195,604	737,998	198,020	539,978
	2006	1,317,758	279,211	1,038,547	252,597	29,195	223,402	1,065,161	250,016	815,145
	1996	1,359,582	292,536	1,067,046	255,951	30,918	225,033	1,103,631	261,618	842,013
	1986	610,265	218,264	392,001	201,476	30,840	170,636	408,789	187,424	221,365
	1976	565,457	201,593	363,864	328,510	69,249	259,261	236,947	132,344	104,603
	1962	376,715	159,642	217,073	181,000	43,055	137,945	195,715	116,587	79,128
	1952	471,861	228,298	243,563	212,756	78,771	133,985	259,105	149,527	109,578
Other removals	2016	162,698	51,902	110,796	124,379	38,876	85,503	38,319	13,026	25,293
	2006	400,148	71,433	328,715	316,993	67,498	249,495	83,155	3,935	79,219
	1996	201,312	14,014	187,298	97,544	8,048	89,496	103,768	5,966	97,802
	1986	507,069	64,927	442,142	304,519	40,374	264,145	202,550	24,553	177,997
	1976	620,991	96,977	524,013	519,543	79,640	439,903	101,448	17,337	84,110
	1962	198,433	40,388	158,046	119,534	25,115	94,420	78,899	15,273	63,626
	1952	270,664	51,799	218,865	162,965	32,210	130,755	107,699	19,588	88,111
Total Harvest	2016	4,508,490	975,713	3,532,777	2,491,178	653,900	1,837,279	2,017,312	321,813	1,695,499
	2006	4,762,468	1,068,753	3,693,715	2,820,106	677,069	2,143,038	1,942,362	391,684	1,550,677
	1996	5,069,833	1,122,425	3,947,408	2,772,416	668,346	2,104,070	2,297,417	454,079	1,843,338
	1986	5,196,205	1,183,820	4,012,385	2,708,217	725,516	1,982,701	2,487,988	458,304	2,029,684
	1976	3,324,239	934,525	2,389,714	2,658,817	705,357	1,953,460	665,422	229,168	436,254
	1962	2,763,332	760,265	2,003,067	2,211,718	585,350	1,626,369	551,614	174,915	376,699
	1952	3,034,313	998,619	2,035,695	2,102,898	750,452	1,352,446	931,415	248,166	683,249

* Saw log and veneer data corrected for 1952.

** Includes poles, pilings, posts, cooperage and miscellaneous products.

Table 41. (cont.) Total volume of roundwood harvested in the United States by region, source of material, species group, and category, 2016, 2006, 1996, 1986, 1976, 1962, and 1952

Category	Year	Source of material								
		All sources			Growing stock			Other sources		
		Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
		Thousand cubic feet								
South										
Saw logs	2016	2,498,375	1,844,066	654,309	2,447,206	1,802,874	644,332	51,169	41,193	9,977
	2006	3,652,780	2,667,325	985,455	3,507,459	2,568,597	938,862	145,321	98,728	46,593
	1996	3,680,682	2,721,782	958,900	3,534,463	2,653,390	881,072	146,220	68,392	77,828
	1986	3,074,661	2,172,991	901,670	3,005,843	2,144,843	861,000	68,818	28,148	40,670
	1976	2,266,355	1,598,952	667,403	2,210,297	1,570,670	639,627	56,058	28,282	27,776
	1962	2,239,774	1,233,895	1,005,879	2,204,242	1,217,033	987,209	35,532	16,862	18,670
	1952*	2,506,471	1,674,976	831,495	2,236,384	1,560,836	675,548	270,087	114,140	155,947
Veneer logs	2016	388,339	358,482	29,857	381,726	353,483	28,243	6,613	4,999	1,614
	2006	829,834	744,141	85,693	788,557	704,095	84,462	41,277	40,046	1,231
	1996	825,003	736,174	88,829	804,052	716,609	87,443	20,951	19,565	1,386
	1986	807,616	736,459	71,157	793,891	724,662	69,229	13,725	11,797	1,928
	1976	561,331	498,140	63,191	549,966	488,783	61,183	11,365	9,357	2,008
	1962	192,854	3,080	189,775	190,298	3,059	187,239	2,556	21	2,535
	1952*	170,304	8,461	161,843	135,847	7,387	128,460	34,457	1,074	33,383
Pulpwood and composites	2016	3,984,104	3,102,799	881,306	3,616,608	2,779,835	836,773	367,497	322,963	44,533
	2006	3,562,736	2,461,692	1,101,044	3,192,969	2,202,355	990,613	369,767	259,337	110,431
	1996	4,046,778	2,499,130	1,547,648	3,633,402	2,262,754	1,370,647	413,376	236,375	177,000
	1986	3,284,136	2,207,980	1,076,156	2,978,875	2,062,611	916,264	305,261	145,369	159,892
	1976	2,615,220	1,937,776	677,444	2,380,275	1,794,210	586,065	234,945	143,566	91,379
	1962	1,999,963	1,336,960	663,003	1,832,555	1,253,938	578,617	167,408	83,022	84,386
	1952	1,002,469	888,871	113,598	946,192	838,656	107,536	56,277	50,215	6,062
Fuelwood	2016***	-	-	-	-	-	-	-	-	-
	2006	371,677	39,703	331,974	300,265	29,914	270,351	71,412	9,789	61,623
	1996	947,981	109,044	838,937	507,358	62,841	444,517	440,623	46,203	394,420
	1986	746,698	53,225	693,473	323,259	31,592	291,667	423,439	21,633	401,806
	1976	322,593	76,784	245,809	220,585	51,397	169,188	102,008	25,387	76,621
	1962	812,848	104,066	708,782	459,625	63,554	396,071	353,223	40,512	312,711
	1952	932,198	277,676	654,521	668,777	206,876	461,901	263,421	70,800	192,620
Other products**	2016***	614,119	502,511	111,608	463,326	359,448	103,878	150,793	143,063	7,729
	2006	149,767	134,913	14,854	135,451	121,399	14,051	14,316	13,514	803
	1996	92,338	88,708	3,630	80,310	77,113	3,197	12,028	11,595	433
	1986	166,274	131,688	34,586	158,508	127,478	31,030	7,766	4,210	3,556
	1976	159,606	121,945	37,661	149,439	115,873	33,566	10,167	6,072	4,095
	1962	279,358	133,700	145,658	255,126	129,527	125,599	24,232	4,173	20,059
	1952	399,900	187,748	212,151	360,549	177,105	183,444	39,351	10,644	28,707
Total products	2016	7,484,937	5,807,858	1,677,079	6,908,866	5,295,640	1,613,226	576,071	512,218	63,853
	2006	8,566,794	6,047,774	2,519,020	7,924,700	5,626,360	2,298,340	642,094	421,414	220,681
	1996	9,592,782	6,154,838	3,437,944	8,559,585	5,772,708	2,786,877	1,033,197	382,130	651,067
	1986	8,079,385	5,302,343	2,777,042	7,260,376	5,091,186	2,169,190	819,009	211,157	607,852
	1976	5,925,105	4,233,597	1,691,508	5,510,562	4,020,933	1,489,629	414,543	212,664	201,879
	1962	5,524,797	2,811,700	2,713,097	4,941,846	2,667,110	2,274,736	582,951	144,590	438,361
	1952	5,011,341	3,037,732	1,973,609	4,347,748	2,790,859	1,556,889	663,593	246,873	416,720

* Saw log and veneer data corrected for 1952.

** Includes poles, pilings, posts, cooperage and miscellaneous products.

*** 2016 fuelwood for South included in Other Products.

Table 41. (cont.) Total volume of roundwood harvested in the United States by region, source of material, species group, and category, 2016, 2006, 1996, 1986, 1976, 1962, and 1952

Category	Year	Source of material								
		All sources			Growing stock			Other sources		
		Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
		Thousand cubic feet								
Logging residue	2016	2,057,860	1,010,223	1,047,637	800,752	323,767	476,985	1,257,107	686,455	570,652
	2006	2,343,907	1,147,103	1,196,804	816,264	349,299	466,965	1,527,643	797,804	729,839
	1996	1,522,542	581,666	940,876	812,513	368,436	444,077	710,029	213,230	496,799
	1986	1,945,074	721,408	1,223,666	763,922	364,075	399,847	1,181,152	357,333	823,819
	1976	1,879,140	612,162	1,266,978	1,245,651	252,279	993,372	633,489	359,883	273,606
	1962	2,066,860	389,274	1,677,586	1,228,067	144,590	1,083,477	838,793	244,684	594,109
	1952	1,157,711	286,694	871,017	722,203	130,046	592,157	435,508	156,649	278,860
Other removals	2016	347,060	81,643	265,417	149,799	27,909	121,890	197,261	53,734	143,527
	2006	991,064	416,967	574,097	704,015	341,517	362,498	287,048	75,450	211,599
	1996	1,133,117	429,883	703,234	781,500	337,118	444,382	351,617	92,765	258,852
	1986	1,274,036	341,342	932,694	807,689	285,764	521,925	466,347	55,578	410,769
	1976	638,644	253,847	384,797	446,245	197,872	248,373	192,399	55,975	136,424
	1962	856,338	187,760	668,578	522,049	149,703	372,346	334,289	38,057	296,232
	1952	1,175,925	482,753	693,172	829,339	417,774	411,565	346,586	64,979	281,607
Total Harvest	2016	9,889,857	6,899,723	2,990,133	7,859,417	5,647,316	2,212,101	2,030,440	1,252,408	778,032
	2006	11,901,765	7,611,844	4,289,921	9,444,980	6,317,177	3,127,803	2,456,785	1,294,667	1,162,118
	1996	12,248,441	7,166,387	5,082,054	10,153,598	6,478,262	3,675,336	2,094,843	688,125	1,406,718
	1986	11,298,495	6,365,093	4,933,402	8,831,987	5,741,025	3,090,962	2,466,508	624,068	1,842,440
	1976	8,442,889	5,099,606	3,343,283	7,202,459	4,471,084	2,731,375	1,240,431	628,522	611,909
	1962	8,447,994	3,388,734	5,059,260	6,691,962	2,961,403	3,730,559	1,756,033	427,331	1,328,701
	1952	7,344,977	3,807,179	3,537,798	5,899,289	3,338,679	2,560,611	1,445,687	468,500	977,187
Rocky Mountain										
Saw logs	2016	321,153	316,228	4,925	293,766	289,310	4,456	27,387	26,918	469
	2006	470,288	460,928	9,359	425,894	417,791	8,103	44,394	43,137	1,256
	1996	389,865	381,097	8,768	361,533	353,363	8,170	28,331	27,733	598
	1986	619,134	607,393	11,741	608,957	598,186	10,771	10,177	9,207	970
	1976	641,601	640,684	917	630,910	630,017	893	10,691	10,667	24
	1962	557,741	555,379	2,362	523,412	521,089	2,323	34,329	34,290	39
	1952*	360,089	359,937	152	336,258	336,120	138	23,831	23,817	14
Veneer logs	2016	22,532	22,316	217	22,171	21,967	204	361	349	12
	2006	36,131	36,131	-	35,387	35,387	-	744	744	-
	1996	63,563	63,461	102	63,163	63,063	100	400	398	2
	1986	77,888	77,695	193	77,879	77,695	184	9	-	9
	1976	65,113	65,092	21	63,971	63,950	21	1,142	1,142	-
	1962	18,762	18,721	41	18,762	18,721	41	-	-	-
	1952*	1,422	1,422	-	1,306	1,306	-	116	116	-
Pulpwood and composites	2016	45,520	45,520	-	42,903	42,903	-	2,617	2,617	-
	1996	31,770	26,987	4,783	24,097	19,385	4,712	7,673	7,602	71
	1996	31,770	26,987	4,783	24,097	19,385	4,712	7,673	7,602	71
	1986	39,321	39,171	150	28,912	28,762	150	10,409	10,409	-
	1976	25,234	25,151	83	23,446	23,363	83	1,788	1,788	-
	1962	22,666	22,531	135	17,325	17,190	135	5,341	5,341	-
	1952	17,481	17,349	132	16,262	16,136	126	1,219	1,214	6

Table 41. (cont.) Total volume of roundwood harvested in the United States by region, source of material, species group, and category, 2011, 2006, 1996, 1986, 1976, 1962, and 1952.

Category	Year	Source of material								
		All sources			Growing stock			Other sources		
		Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
		Thousand cubic feet								
Fuelwood	2016	156,103	120,162	35,940	6,719	5,459	1,260	149,384	114,703	34,680
	2006	119,797	79,952	39,845	5,614	4,575	1,040	114,183	75,378	38,805
	1996	172,500	98,730	73,770	7,336	2,894	4,442	165,164	95,836	69,328
	1986	164,410	84,644	79,766	10,989	5,784	5,205	153,421	78,860	74,561
	1976	24,735	23,910	825	4,313	4,302	11	20,422	19,608	814
	1962	28,334	27,939	395	788	771	17	27,546	27,168	378
	1952	47,246	32,375	14,871	3,889	2,634	1,255	43,357	29,741	13,616
Other products**	2016	34,485	31,756	2,730	26,451	24,445	2,006	8,034	7,311	724
	2006	34,910	31,782	3,129	21,310	19,189	2,121	13,600	12,593	1,008
	1996	29,991	23,559	6,432	21,885	16,002	5,883	8,106	7,557	549
	1986	47,094	43,602	3,492	44,168	40,922	3,246	2,926	2,680	246
	1976	19,841	18,210	1,631	17,924	16,380	1,544	1,917	1,830	87
	1962	23,814	21,901	1,913	15,438	13,582	1,856	8,376	8,319	57
	1952	25,765	24,649	1,117	25,523	24,545	978	242	103	139
Total products	2016	579,793	535,981	43,812	392,010	384,083	7,926	187,783	151,898	35,885
	2006	692,896	635,780	57,116	512,303	496,327	15,976	180,593	139,453	41,140
	1996	687,689	593,834	93,855	478,014	454,707	23,307	209,675	139,127	70,548
	1986	947,847	852,505	95,342	770,905	751,349	19,556	176,942	101,156	75,786
	1976	776,524	773,047	3,477	740,564	738,012	2,552	35,960	35,035	925
	1962	651,317	646,471	4,846	575,725	571,353	4,372	75,592	75,118	474
	1952	452,004	435,732	16,272	383,238	380,741	2,497	68,766	54,991	13,775
Logging residue	2016	103,489	101,171	2,319	12,508	11,809	699	90,981	89,362	1,619
	2006	135,090	133,874	1,216	26,024	25,734	290	109,066	108,140	927
	1996	160,263	152,664	7,599	47,204	45,085	2,119	113,059	107,579	5,480
	1986	96,895	91,353	5,542	96,126	91,341	4,785	769	12	757
	1976	91,725	91,411	314	91,712	91,407	305	13	4	9
	1962	75,606	75,127	479	75,592	75,118	474	14	9	5
	1952	46,419	45,666	753	45,895	45,596	299	524	70	454
Other removals	2016	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable
	2006	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable
	1996	18,668	2,269	16,399	6,777	1,332	5,445	11,891	937	10,954
	1986	5,922	200	5,722	3,692	138	3,554	2,230	62	2,168
	1976	12,923	12,699	223	12,875	12,678	197	48	21	26
	1962	959	151	808	899	105	795	60	46	14
	1952	572	40	532	144	7	138	428	34	394
Total Harvest	2016	683,282	637,152	46,130	404,518	395,892	8,626	278,764	241,260	37,505
	2006	827,986	769,654	58,332	538,327	522,061	16,266	289,659	247,593	42,066
	1996	866,620	748,767	117,853	531,995	501,124	30,871	334,625	247,643	86,982
	1986	1,050,664	944,058	106,606	870,723	842,828	27,895	179,941	101,230	78,711
	1976	881,172	877,158	4,015	845,151	842,097	3,054	36,021	35,061	961
	1962	727,882	721,749	6,133	652,216	646,576	5,641	75,665	75,173	492
	1952	498,995	481,438	17,556	429,277	426,343	2,934	69,717	55,095	14,623

Table 41. (cont.) Total volume of roundwood harvested in the United States by region, source of material, species group, and category, 2011, 2006, 1996, 1986, 1976, 1962, and 1952.

Category	Year	Source of material								
		All sources			Growing stock			Other sources		
		Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
		Thousand cubic feet								
Pacific Coast (Excluding Alaska)										
Saw logs	2016	1,642,127	1,590,144	51,983	1,603,860	1,553,555	50,305	38,267	36,589	1,678
	2006	1,843,348	1,770,341	73,007	1,779,926	1,708,945	70,981	63,421	61,396	2,026
	1996	1,735,445	1,684,475	50,971	1,656,683	1,605,751	50,932	78,763	78,724	39
	1986	2,263,721	2,234,564	29,157	2,140,423	2,113,427	26,996	123,298	121,137	2,161
	1976	2,705,219	2,640,847	64,372	2,538,273	2,478,951	59,322	166,946	161,896	5,050
	1962	2,543,971	2,537,636	6,335	2,349,476	2,344,030	5,446	194,495	193,606	889
	1952*	2,648,232	2,642,352	5,880	2,383,070	2,380,535	2,535	265,162	261,817	3,345
Veneer logs	2016	208,961	207,221	1,741	206,231	204,506	1,725	2,730	2,715	16
	2006	289,731	284,843	4,888	282,447	277,755	4,692	7,284	7,088	196
	1996	332,848	321,228	11,620	299,688	288,290	11,398	33,160	32,938	222
	1986	611,681	609,331	2,350	528,642	526,711	1,931	83,039	82,620	419
	1976	767,037	763,630	3,407	673,801	670,575	3,226	93,236	93,055	181
	1962	608,663	561,344	47,319	490,317	442,998	47,319	118,346	118,346	-
	1952*	240,883	240,788	95	211,310	211,310	-	29,573	29,478	95
Pulpwood and composites	2016	258,644	230,836	27,808	246,742	219,918	26,824	11,901	10,917	984
	2006	146,105	104,880	41,225	138,775	98,327	40,449	7,330	6,553	777
	1996	41,593	38,554	3,039	35,070	32,192	2,878	6,523	6,362	161
	1986	467,932	457,281	10,651	403,750	394,915	8,835	64,182	62,366	1,816
	1976	278,670	258,106	20,564	227,405	207,521	19,884	51,265	50,585	680
	1962	214,873	209,589	5,284	213,303	209,589	3,714	1,570	-	1,570
	1952	290,566	286,731	3,835	259,181	255,415	3,766	31,386	31,316	69
Fuelwood	2016	361,550	358,524	3,026	104,439	104,396	43	257,111	254,128	2,983
	2006	331,487	319,411	12,076	46,589	46,251	338	284,897	273,160	11,737
	1996	307,472	209,198	98,274	144,094	105,245	38,849	163,378	103,953	59,425
	1986	423,513	274,744	148,769	212,718	142,428	70,290	210,795	132,316	78,479
	1976	35,776	27,029	8,747	9,275	5,851	3,424	26,502	21,179	5,323
	1962	49,415	35,848	13,567	9,177	8,916	261	40,238	26,932	13,306
	1952	76,561	74,906	1,654	19,028	18,413	615	57,533	56,493	1,040
Other products**	2016	17,228	17,222	6	17,015	17,010	6	212	212	0
	2006	23,027	23,027	-	22,169	22,169	-	858	858	-
	1996	78,103	78,103	-	77,165	77,165	-	938	938	-
	1986	61,466	61,466	-	60,694	60,694	-	772	772	-
	1976	70,835	70,807	28	70,807	70,807	-	28	-	28
	1962	50,510	50,436	73	30,537	30,529	7	19,973	19,907	66
	1952	75,715	74,339	1,376	51,605	50,535	1,070	24,110	23,804	306
Total products	2016	2,488,510	2,403,947	84,563	2,178,288	2,099,385	78,903	310,222	304,562	5,660
	2006	2,633,697	2,502,501	131,196	2,269,907	2,153,447	116,460	363,790	349,054	14,736
	1996	2,495,461	2,331,558	163,903	2,212,699	2,108,643	104,056	282,762	222,915	59,847
	1986	3,828,313	3,637,386	190,927	3,346,227	3,238,175	108,052	482,086	399,211	82,875
	1976	3,857,537	3,760,419	97,118	3,519,560	3,433,704	85,856	337,977	326,715	11,262
	1962	3,467,432	3,394,853	72,579	3,092,810	3,036,062	56,748	374,622	358,791	15,831
	1952	3,331,957	3,319,116	12,841	2,924,193	2,916,207	7,986	407,764	402,909	4,855

Table 41. (cont.) Total volume of roundwood harvested in the United States by region, source of material, species group, and category, 2011, 2006, 1996, 1986, 1976, 1962, and 1952.

Category	Year	Source of material								
		All sources			Growing stock			Other sources		
		Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
		Thousand cubic feet								
Logging residue	2016	617,289	588,308	28,981	77,951	75,598	2,353	539,338	512,710	26,628
	2006	706,734	658,990	47,744	138,220	131,001	7,219	568,514	527,989	40,525
	1996	259,290	251,086	8,204	135,300	130,242	5,058	123,990	120,844	3,146
	1986	1,221,454	1,200,222	21,232	495,529	487,379	8,150	725,925	712,843	13,082
	1976	753,549	721,549	32,000	425,115	395,280	29,835	328,434	326,269	2,165
	1962	825,205	807,874	17,332	373,421	357,791	15,630	451,784	450,083	1,702
	1952	398,517	397,586	931	397,889	397,026	863	628	560	68
Other removals	2016	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable
	2006	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable
	1996	1,249	691	558	1,027	614	413	222	77	145
	1986	19,074	15,783	3,291	1,437	666	771	17,637	15,117	2,520
	1976	105,527	97,710	7,817	98,525	91,125	7,400	7,002	6,585	417
	1962	7,750	6,971	779	1,034	583	451	6,715	6,387	328
	1952	375,033	374,975	58	366,574	366,525	49	8,459	8,450	9
Total Harvest	2016	3,105,799	2,992,255	113,545	2,256,239	2,174,983	81,256	849,560	817,272	32,288
	2006	3,340,432	3,161,492	178,940	2,408,127	2,284,449	123,679	932,304	877,043	55,261
	1996	2,756,000	2,583,335	172,665	2,349,026	2,239,499	109,527	406,974	343,836	63,138
	1986	5,068,841	4,853,391	215,450	3,843,193	3,726,220	116,973	1,225,648	1,127,171	98,477
	1976	4,716,613	4,579,678	136,935	4,043,200	3,920,109	123,091	673,413	659,569	13,844
	1962	4,300,387	4,209,698	90,689	3,467,265	3,394,436	72,829	833,122	815,261	17,860
	1952	4,105,507	4,091,677	13,831	3,688,656	3,679,758	8,898	416,852	411,919	4,933
Alaska										
Saw logs	2016	29,293	29,212	80	28,864	28,784	79	429	428	1
	2006	44,434	44,349	85	40,937	40,895	42	3,497	3,453	43
	1996	34,543	34,360	183	33,802	33,623	179	741	737	4
	1986	83,453	83,005	448	80,836	80,389	447	2,617	2,616	2
	1976	103,316	102,185	1,131	93,340	92,209	1,131	9,976	9,976	-
	1962	86,880	86,880	0	65,190	65,190	0	21,690	21,690	-
	1952*	10,031	9,933	99	9,612	9,612	0	420	321	99
Veneer logs	2016	-	-	-	-	-	-	-	-	-
	2006	-	-	-	-	-	-	-	-	-
	1996	-	-	-	-	-	-	-	-	-
	1986	4,774	4,774	0	4,748	4,748	0	26	26	-
	1976	12,081	12,081	0	10,032	10,032	0	2,049	2,049	-
	1962	8,603	8,603	0	8,036	8,036	0	567	567	-
	1952*	512	509	3	479	479	0	33	31	3
Pulpwood and composites	2016	-	-	-	-	-	-	-	-	-
	2006	7,741	2,555	5,186	7,663	2,529	5,134	78	26	52
	1996	19,255	19,183	72	17,278	17,213	65	1,977	1,970	7
	1986	1,383	1,120	263	671	444	227	713	676	36
	1976	810	67	743	810	67	743	-	-	-
	1962	44	44	0	44	44	0	-	-	-
	1952	146	146	0	130	130	0	16	16	-

Table 41. (cont.) Total volume of roundwood harvested in the United States by region, source of material, species group, and category, 2011, 2006, 1996, 1986, 1976, 1962, and 1952.

Category	Year	Source of material								
		All sources			Growing stock			Other sources		
		Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
		Thousand cubic feet								
Fuelwood	2016	7,755	6,919	836	709	364	344	7,047	6,555	491
	2006	9,369	5,649	3,720	34	34	1	9,334	5,616	3,719
	1996	12,782	7,077	5,705	10,173	5,832	4,341	2,609	1,245	1,364
	1986	13,056	7,615	5,440	9,332	4,993	4,339	3,724	2,623	1,101
	1976	1,758	467	1,290	1,330	39	1,290	428	428	-
	1962	638	638	0	20	20	0	617	617	-
	1952	39	11	28	7	7	-	32	4	28
Other products**	2016	339	316	23	274	252	23	64	64	0
	2006	468	432	35	293	268	25	175	165	10
	1996	79,478	79,475	3	79,478	79,475	3	-	-	-
	1986	2,313	2,313	-	2,313	2,313	-	-	-	-
	1976	446	446	-	446	446	-	-	-	-
	1962	1,301	1,301	-	477	477	-	824	824	-
	1952	25	17	8	16	16	-	8	0	8
Total products	2016	37,387	36,447	939	29,847	29,400	447	7,540	7,047	493
	2006	62,011	52,985	9,027	48,927	43,725	5,202	13,084	9,260	3,825
	1996	146,058	140,095	5,963	140,731	136,143	4,588	5,327	3,952	1,375
	1986	104,979	98,827	6,152	97,900	92,887	5,013	7,079	5,940	1,139
	1976	118,411	115,247	3,164	105,958	102,794	3,164	12,453	12,453	-
	1962	97,466	97,466	0	73,767	73,767	0	23,699	23,699	-
	1952	10,753	10,616	138	10,244	10,244	0	509	372	138
Logging residue	2016	14,874	14,786	89	9,184	9,152	32	5,690	5,634	56
	2006	26,416	24,230	2,186	17,217	15,578	1,639	9,199	8,652	547
	1996	71,606	70,509	1,097	40,696	40,061	635	30,910	30,448	462
	1986	39,058	38,862	196	24,982	24,868	114	14,076	13,994	82
	1976	79,511	79,511	0	23,679	23,679	0	55,832	55,832	-
	1962	2,142	2,142	0	2,128	2,128	0	14	14	-
	1952	33,981	33,981	0	4,643	4,643	0	29,338	29,338	-
Other removals	2016	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable
	2006	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable
	1996	1,101	1,095	6	1,101	1,095	6	-	-	-
	1986	210	126	84	210	126	84	-	-	-
	1976	100	100	0	100	100	0	-	-	-
	1962	886	876	10	886	876	10	-	-	-
	1952	-	-	-				-	-	-
Total Harvest	2016	52,261	51,233	1,028	39,031	38,552	479	13,230	12,681	549
	2006	88,427	77,214	11,213	66,144	59,303	6,841	22,283	17,912	4,372
	1996	218,765	211,699	7,066	182,528	177,299	5,229	36,237	34,400	1,837
	1986	144,247	137,815	6,432	123,092	117,881	5,211	21,155	19,934	1,221
	1976	198,022	194,858	3,164	129,737	126,573	3,164	68,285	68,285	-
	1962	100,494	100,484	10	76,781	76,771	10	23,713	23,713	-
	1952	44,734	44,597	138	14,887	14,887	0	29,847	29,710	138

* Saw log and veneer data corrected for 1952.
** Includes poles, pilings, posts, cooperage and miscellaneous products.
*** 2016 fuelwood for South included in Other Products.

Table 42. Weight of bark and wood residue from primary wood-using mills by type of material, species group, region, subregion, and type of use, 2016

Region, subregion, and type of use	Total residue			Bark residue			Total coarse and fine			Coarse materials			Fine materials		
	Total	Soft-woods	Hard-woods	Total	Soft-woods	Hard-woods	Total	Soft-woods	Hard-woods	Total	Soft-woods	Hard-woods	Total	Soft-woods	Hard-woods
	Thousand dry tons														
North															
Northeast															
Fiber products	1,360	294	1,066	17	1	16	1,343	293	1,050	1,218	272	946	125	21	104
Fuel	1,932	570	1,362	857	231	626	1,075	339	736	603	219	384	472	120	352
Other uses	1,696	583	1,113	791	227	564	905	356	549	371	149	222	534	207	327
Not used	33	9	24	8	2	6	26	7	18	19	6	13	7	2	5
Total	5,021	1,456	3,564	1,672	461	1,211	3,348	995	2,353	2,210	645	1,565	1,138	350	788
North Central															
Fiber products	1,267	347	921	22	0	22	1,246	346	899	1,148	328	820	98	18	79
Fuel	2,579	522	2,057	1,163	263	900	1,416	259	1,157	614	75	539	802	184	618
Other uses	2,099	285	1,813	749	100	649	1,350	186	1,164	687	75	612	663	110	553
Not used	105	8	97	50	4	46	55	4	51	27	1	26	28	3	25
Total	6,050	1,162	4,889	1,984	367	1,617	4,066	794	3,272	2,476	478	1,997	1,591	316	1,275
North total															
Fiber products	2,627	641	1,986	39	1	37	2,588	639	1,949	2,365	599	1,766	223	40	183
Fuel	4,511	1,092	3,419	2,020	494	1,526	2,491	598	1,893	1,217	293	923	1,274	305	970
Other uses	3,794	868	2,926	1,540	327	1,213	2,255	541	1,713	1,058	224	834	1,197	317	880
Not used	138	17	121	57	6	51	81	11	70	46	6	40	35	5	30
Total	11,071	2,618	8,453	3,656	828	2,828	7,415	1,790	5,625	4,686	1,123	3,562	2,729	666	2,063
South															
Southeast															
Fiber products	6,486	5,370	1,116	32	31	2	6,454	5,339	1,114	5,633	4,566	1,067	821	773	48
Fuel	8,566	6,553	2,013	4,590	3,377	1,213	3,976	3,176	800	405	270	135	3,571	2,906	666
Other uses	2,442	1,925	517	1,313	1,023	290	1,129	903	226	381	271	110	748	631	117
Not used	147	37	110	125	29	96	22	8	14	3	2	1	19	6	13
Total	17,641	13,885	3,756	6,060	4,459	1,601	11,581	9,426	2,155	6,422	5,109	1,312	5,160	4,317	843
South Central															
Fiber products	6,863	5,431	1,431	15	0	15	6,848	5,431	1,416	6,255	4,883	1,372	593	548	45
Fuel	10,975	8,036	2,939	5,662	4,123	1,539	5,314	3,913	1,400	843	441	401	4,471	3,472	999
Other uses	1,624	646	978	480	163	317	1,144	483	661	573	217	356	571	266	305
Not used	107	9	98	20	3	17	87	6	81	52	4	48	35	2	33
Total	19,569	14,122	5,447	6,176	4,288	1,888	13,393	9,834	3,559	7,722	5,546	2,177	5,670	4,288	1,382
South total															
Fiber products	13,349	10,801	2,548	48	31	17	13,301	10,771	2,531	11,888	9,449	2,438	1,414	1,321	92
Fuel	19,541	14,589	4,952	10,251	7,500	2,752	9,290	7,089	2,201	1,247	712	536	8,042	6,378	1,665
Other uses	4,066	2,571	1,495	1,793	1,185	607	2,273	1,385	888	954	488	466	1,319	897	422
Not used	254	46	208	145	32	113	110	14	95	55	5	49	55	9	46
Total	37,210	28,007	9,203	12,236	8,748	3,489	24,974	19,259	5,715	14,144	10,655	3,489	10,830	8,605	2,225
Rocky Mountain															
Great Plains															
Fiber products	66	66	0	2	2	0	64	64	0	51	51	0	13	13	0
Fuel	47	44	3	14	14	0	33	30	3	21	18	2	12	12	1
Other uses	41	26	15	22	19	3	18	7	11	12	5	7	6	2	4
Not used	35	32	4	14	13	1	21	19	3	9	7	2	12	11	1
Total	189	167	22	52	48	5	136	119	17	93	81	11	44	38	6

Table 42. (cont.) Weight of bark and wood residue from primary wood-using mills by type of material, species group, region, subregion, and type of use, 2016

Region, subregion, and type of use	Total residue			Bark residue			Total coarse and fine			Coarse materials			Fine materials		
	Total	Soft-woods	Hard-woods	Total	Soft-woods	Hard-woods	Total	Soft-woods	Hard-woods	Total	Soft-woods	Hard-woods	Total	Soft-woods	Hard-woods
	Thousand dry tons														
Intermountain															
Fiber products	1,714	1,714	0	0	0	0	1,714	1,714	0	1,091	1,091	0	623	623	0
Fuel	876	876	0	552	552	0	324	324	0	181	181	0	143	143	0
Other uses	343	343	0	199	199	0	144	144	0	69	69	0	75	75	0
Not used	31	31	0	13	13	0	18	18	0	7	7	0	11	11	0
Total	2,965	2,965	0	764	764	0	2,201	2,201	0	1,348	1,348	0	852	852	0
Rocky Mountain total															
Fiber products	1,780	1,780	0	2	2	0	1,778	1,778	0	1,142	1,142	0	636	636	0
Fuel	924	920	3	566	566	0	357	354	3	202	199	2	156	155	1
Other uses	384	369	15	222	218	3	162	151	11	80	73	7	82	77	4
Not used	67	63	4	27	26	1	40	37	3	17	15	2	23	22	1
Total	3,154	3,132	22	817	812	5	2,337	2,320	17	1,441	1,429	11	896	891	6
Pacific Coast															
Alaska															
Fiber products	12	12	–	0	0	–	12	12	–	12	12	0	0	0	–
Fuel	13	12	1	4	4	0	9	8	1	5	5	0	4	3	0
Other uses	2	2	0	1	0	0	2	2	0	0	0	0	2	2	0
Not used	3	3	0	1	1	0	2	2	0	1	1	0	1	1	0
Total	30	29	1	5	5	0	25	24	1	19	18	0	6	6	0
Pacific Northwest															
Fiber products	5,946	5,869	77	68	65	3	5,878	5,805	74	4,561	4,496	65	1,317	1,308	9
Fuel	3,282	3,230	52	1,937	1,919	19	1,344	1,311	33	623	598	25	721	713	8
Other uses	1,041	1,013	28	645	630	15	396	382	13	214	206	8	182	177	5
Not used	6	6	0	2	2	0	4	4	0	1	1	0	3	3	0
Total	10,275	10,118	157	2,653	2,616	37	7,622	7,502	120	5,399	5,301	98	2,223	2,201	22
Pacific Southwest															
Fiber products	214	214	–	0	0	–	214	214	0	186	186	–	29	29	–
Fuel	1,224	1,224	–	366	366	–	858	858	0	550	550	–	307	307	–
Other uses	516	516	–	216	216	–	301	301	0	139	139	–	161	161	–
Not used	3	3	–	2	2	–	1	1	0	0	0	–	1	1	–
Total	1,957	1,957	0	583	583	0	1,374	1,374	0	876	876	0	499	499	0
Pacific Coast total															
Fiber products	6,173	6,096	77	68	65	3	6,105	6,031	74	4,759	4,694	65	1,346	1,337	9
Fuel	4,518	4,465	53	2,307	2,288	19	2,211	2,177	34	1,178	1,153	25	1,032	1,024	8
Other uses	1,560	1,531	28	861	846	15	698	685	14	353	345	8	345	340	5
Not used	12	12	0	4	4	0	7	7	0	3	3	0	5	5	0
Total	12,262	12,104	158	3,241	3,204	37	9,021	8,900	121	6,293	6,195	99	2,728	2,706	22
United States															
Fiber products	23,929	19,318	4,611	156	99	58	23,772	19,219	4,554	20,155	15,885	4,269	3,618	3,334	284
Fuel	29,494	21,066	8,427	15,145	10,848	4,297	14,349	10,218	4,130	3,844	2,357	1,487	10,505	7,861	2,643
Other uses	9,804	5,340	4,464	4,415	2,577	1,838	5,388	2,763	2,626	2,445	1,131	1,314	2,943	1,632	1,312
Not used	471	138	333	234	68	165	238	70	168	120	29	91	118	40	77
Total	63,697	45,861	17,836	19,950	13,592	6,358	43,747	32,269	11,478	26,564	19,402	7,162	17,183	12,867	4,316

Note: Data may not add to totals because of rounding.

Table 43. Average annual area of timberland planted in the United States by region and subregion, 1928-2015

Year	Total all regions	North-east	North Central	Total North	Southeast	South Central	Total South	Great Plains	Inter-mountain	Total Rocky Mountain	Pacific North-west	Pacific South-west	Total Pacifc Coast
						Acres							
2015	2,510,459	42,188	132,729	174,917	1,100,993	774,267	1,875,260	2,026	26,008	28,034	410,591	29,464	440,055
2014	2,347,433	22,947	92,703	115,650	1,077,395	769,087	1,846,482	7,501	12,216	19,717	329,181	36,405	365,586
2013	2,203,738	84,239	73,381	157,620	1,026,986	760,550	1,787,536	7,501	4,331	11,832	212,005	34,765	246,770
2012	2,288,158	20,081	105,215	125,296	977,262	727,272	1,704,534	11,889	14,875	26,764	405,520	26,043	431,563
2011	2,097,817	20,884	105,215	126,099	833,435	679,956	1,513,391	11,889	14,875	26,764	405,520	26,043	431,563
2010					756,376	727,925	1,484,302						
2009					950,040	877,051	1,827,091						
2008					1,022,131	902,000	1,924,131						
2007		Data not available			1,049,796	925,504	1,975,300	Data not available			Data not available		
2006					940,033	969,960	1,909,993						
2005					1,094,298	1,026,916	2,121,215						
2004					1,059,948	952,894	2,012,841						
2003	2,779,650	11,939	118,736	130,675	1,246,136	1,043,963	2,290,099	9,276	64,636	73,912	261,919	23,045	284,964
2002	2,979,641	44,428	162,611	207,039	1,303,158	1,154,744	2,457,902	29,447	34,649	64,096	232,062	18,542	250,604
2001	3,127,333	28,591	106,497	135,088	1,350,140	1,231,740	2,581,880	28,909	52,542	81,451	267,718	61,196	328,914
2000	3,185,268	45,481	128,883	174,364	1,434,085	1,337,365	2,771,450	24,424	57,226	81,650	127,730	30,074	157,804
1999	2,664,317	29,010	106,830	135,840	1,077,230	1,052,380	2,129,610	12,142	65,634	77,776	271,573	49,518	321,091
1998	2,651,538	29,869	93,165	123,034	1,018,613	1,081,617	2,100,230	12,266	68,690	80,955	283,410	63,910	347,320
1997	2,637,508	30,727	79,500	110,227	959,996	1,110,853	2,070,849	12,389	70,494	82,883	295,247	78,302	373,549
1996	2,406,455	30,739	112,897	143,636	933,361	906,101	1,839,462	20,316	93,212	113,528	279,254	30,575	309,829
1995	2,421,401	26,112	103,982	130,094	811,506	878,035	1,689,541	19,975	102,069	122,044	411,840	67,882	479,722
1994	2,477,012	25,472	100,507	125,979	916,257	887,792	1,804,049	16,066	105,177	121,243	355,837	69,904	425,741
1993	2,419,271	27,095	117,195	144,290	820,509	898,352	1,718,861	19,661	104,217	123,878	360,401	71,841	432,242
1992	2,544,311	34,194	119,362	153,556	834,353	956,152	1,790,505	21,068	109,619	130,687	389,650	79,913	469,563
1991	2,557,948	27,249	117,733	144,982	834,096	925,395	1,759,491	19,984	100,368	120,352	433,102	100,021	533,123
1990	2,861,642	32,078	135,846	167,924	990,806	1,036,812	2,027,618	23,787	89,500	113,287	461,598	91,215	552,813
1989	3,021,110	32,789	98,134	130,923	1,228,674	1,077,265	2,305,939	14,138	85,041	99,179	394,802	90,267	485,069
1988	3,393,841	31,037	109,533	140,570	1,387,581	1,327,647	2,715,228	14,733	69,586	84,319	376,114	77,610	453,724
1987	3,032,398	30,814	107,464	138,278	1,304,773	1,186,539	2,491,312	13,289	77,541	90,830	247,259	64,719	311,978
1986	2,752,544	31,054	106,247	137,301	1,110,364	1,004,091	2,114,455	13,634	79,883	93,517	350,375	56,896	407,271
1985	2,694,727	43,653	114,781	158,434	1,065,054	963,755	2,028,809	13,941	82,003	95,944	354,465	57,075	411,540
1984	2,552,375	36,624	129,731	166,355	949,646	907,175	1,856,821	13,531	96,839	110,370	360,413	58,416	418,829
1983	2,452,598	37,310	135,531	172,841	855,030	957,850	1,812,880	8,294	84,808	93,102	314,156	59,619	373,775
1982	2,374,207	41,171	95,159	136,330	730,574	974,935	1,705,509	14,052	100,843	114,895	347,695	69,778	417,473
1981	1,926,122	99,683	96,849	196,532	616,014	571,661	1,187,675	9,175	108,941	118,116	337,100	86,699	423,799
1980	2,262,080	43,560	128,575	172,135	705,798	784,452	1,490,250	16,044	118,852	134,896	356,410	108,389	464,799
1979	2,060,208	60,721	117,227	177,948	526,058	741,937	1,267,995	17,791	96,286	114,077	376,178	124,010	500,188
1978	2,087,889	86,456	139,985	226,441	636,227	619,142	1,255,369	12,238	73,770	86,008	410,062	110,009	520,071
1977	1,942,863	35,422	100,396	135,818	614,872	705,271	1,320,143	5,143	56,493	61,636	341,874	83,392	425,266
1976	1,858,877	60,642	103,030	163,672	574,219	616,103	1,190,322	3,255	75,274	78,529	360,774	65,580	426,354
1975	1,900,003	52,255	111,033	163,288	630,908	638,461	1,269,369	4,531	72,899	77,430	332,539	57,377	389,916
1974	1,575,667	55,956	108,908	164,864	516,286	520,266	1,036,552	4,276	63,436	67,712	261,001	45,538	306,539
1973	1,720,141	64,521	118,229	182,750	480,748	570,050	1,050,798	12,923	79,260	92,183	328,810	65,600	394,410
1972	1,646,325	80,370	125,379	205,749	516,809	497,472	1,014,281	3,957	67,603	71,560	291,183	63,552	354,735
1971	1,667,093	89,982	154,974	244,956	519,075	505,075	1,024,150	4,636	82,956	87,592	254,289	56,106	310,395
1970	1,576,672	87,689	115,509	203,198	442,550	498,804	941,354	3,288	72,797	76,085	297,512	58,523	356,035
1969	1,431,311	100,281	130,553	230,834	455,244	369,762	825,006	2,929	72,062	74,991	250,464	50,016	300,480
1968	1,438,609	101,152	156,656	257,808	475,413	339,114	814,527	4,770	67,313	72,083	239,583	54,608	294,191
1967	1,372,773	100,118	126,415	226,533	484,369	300,507	784,876	3,968	63,754	67,722	247,482	46,160	293,642

Table 43. (cont.) Average annual area of timberland planted in the United States by region and subregion, 1928-2015

Year	Total all regions	North-east	North Central	Total North	Southeast	South Central	Total South	Great Plains	Inter-mountain	Total Rocky Mountain	Pacific North-west	Pacific South-west	Total Pacifc Coast
						Acres							
1966	1,280,826	98,975	142,625	241,600	443,237	273,036	716,273	4,945	66,888	71,833	209,464	41,656	251,120
1965	1,285,330	81,603	165,245	246,848	441,303	285,027	726,330	5,479	61,999	67,478	208,695	35,979	244,674
1964	1,312,686	81,926	164,924	246,850	448,523	327,586	776,109	2,897	40,513	43,410	208,463	37,854	246,317
1963	1,325,334	84,619	163,232	247,851	439,930	378,042	817,972	5,877	32,576	38,453	182,563	38,495	221,058
1962	1,365,783	87,992	162,740	250,732	403,157	431,075	834,232	2,141	26,062	28,203	219,715	32,901	252,616
1961	1,760,662	109,395	172,271	281,666	661,245	563,012	1,224,257	2,844	16,637	19,481	212,216	23,042	235,258
1960	2,100,019	110,449	178,496	288,945	824,954	759,421	1,584,375	3,126	11,835	14,961	189,870	21,868	211,738
1959	2,116,691	106,108	159,636	265,744	834,141	823,770	1,657,911	3,582	10,588	14,170	165,230	13,636	178,866
1958	1,532,734	108,381	160,568	268,949	591,123	503,666	1,094,789	2,208	5,557	7,765	152,058	9,173	161,231
1957	1,138,356	98,219	150,172	248,391	467,151	324,375	791,526	1,672	5,521	7,193	81,444	9,802	91,246
1956	886,235	95,234	132,655	227,889	307,565	273,180	580,745	1,810	5,826	7,636	63,876	6,089	69,965
1955	779,304	113,112	123,754	236,866	280,644	206,480	487,124	1,163	3,510	4,673	45,760	4,881	50,641
1954	808,210	145,738	138,672	284,410	213,987	199,182	413,169	29,543	18,431	47,974	59,473	3,184	62,657
1953	710,097	68,956	124,291	193,247	186,653	236,505	423,158	25,470	7,865	33,335	54,137	6,220	60,357
1952	519,622	68,575	101,503	170,078	116,637	136,209	252,846	25,297	8,061	33,358	55,615	7,725	63,340
1951	453,078	60,004	88,623	148,627	101,310	145,930	247,240	21,191	6,895	28,086	24,513	4,612	29,125
1950	480,779	52,352	69,295	121,647	142,671	142,036	284,707	15,617	6,980	22,597	48,371	3,457	51,828
1949	341,522	30,403	58,985	89,388	108,961	96,813	205,774	11,235	8,851	20,086	25,444	830	26,274
1948	332,971	24,227	70,145	94,372	95,522	94,315	189,837	16,198	6,762	22,960	23,257	2,545	25,802
1947	168,166	22,188	66,283	88,471	27,284	26,944	54,228	13,644	5,115	18,759	5,250	1,458	6,708
1946	143,451	18,705	43,919	62,624	34,448	19,745	54,193	8,475	3,938	12,413	13,051	1,170	14,221
1945	135,362	13,941	33,788	47,729	32,081	19,408	51,489	18,794	5,494	24,288	9,170	2,686	11,856
1940	518,035	68,248	153,012	221,260	74,866	123,866	198,732	48,616	26,265	74,881	9,799	13,363	23,162
1939	479,108	56,882	146,777	203,659	72,484	103,011	175,495	59,970	17,615	77,585	12,917	9,452	22,369
1938	501,891	61,497	165,190	226,687	65,509	128,586	194,095	44,962	15,752	60,714	12,414	7,981	20,395
1937	401,205	79,262	145,086	224,348	41,310	75,514	116,824	28,325	10,187	38,512	8,705	12,816	21,521
1936	569,775	172,127	197,588	369,715	78,552	74,626	153,178	12,491	11,717	24,208	7,249	15,425	22,674
1935	423,254	137,091	182,678	319,769	29,099	36,075	65,174	13,128	11,063	24,191	4,331	9,789	14,120
1934	314,231	135,721	129,896	265,617	9,980	10,442	20,422	5,590	8,553	14,143	7,044	7,005	14,049
1932	218,803	111,061	70,357	181,418	8,142	7,333	15,475	7,570	6,647	14,217	4,096	3,597	7,693
1931	268,769	124,351	105,270	229,621	6,764	8,577	15,341	5,911	8,314	14,225	5,114	4,468	9,582
1930	240,221	100,505	85,756	186,261	9,579	16,597	26,176	4,627	8,476	13,103	8,899	5,782	14,681
1929	193,080	72,832	64,175	137,007	4,134	22,594	26,728	4,380	5,351	9,731	9,651	9,963	19,614
1928	196,822	80,343	63,654	143,997	778	18,959	19,737	3,565	3,870	7,435	9,792	15,861	25,653

[1] Data from Forest Service, State and Private Forestry Tree Planters Notes. This data reflects only acres planted which includes replanting of acres of previous plantings harvested and does not reflect all forest regeneration in the U.S. Most regeneration in the U.S. is by natural means including natural seeding, stump sprouts or root sprouts from existing trees.

Table 44. Number of live trees on timberland in the United States by subregion, species and diameter class, 1977 and 2017[a]

Subregion	Year	Species group	1.0 - 2.9	3.0 - 4.9	5.0 - 6.9	7.0 - 8.9	9.0 - 10.9	11.0 - 12.9	13.0 - 14.9	15.0 - 16.9	17.0 - 18.9	19.0 - 20.9	21.0 - 28.9	29.0+	All classes
			Million trees												
Northeast	1977	Hardwoods	18,094	8,560	4,267	2,402	1,343	744	406	215	114	61	60	10	36,275
	1977	Softwoods	8,329	4,603	2,448	1,267	630	304	139	68	32	15	14	2	17,851
	1977	All Species	26,424	13,162	6,714	3,670	1,973	1,047	546	283	146	76	74	12	54,127
	2017	Hardwoods	22,546	6,942	3,191	2,107	1,476	1,033	688	440	253	139	163	27	38,999
	2017	Softwoods	12,434	3,496	1,506	868	536	344	217	128	74	43	55	9	19,708
	2017	All Species	34,980	10,437	4,696	2,975	2,013	1,377	905	568	327	182	219	36	58,707
North Central	1977	Hardwoods	17,377	7,570	3,860	2,147	1,201	643	367	195	101	53	57	6	33,577
	1977	Softwoods	5,063	2,851	1,465	663	273	114	53	27	14	7	7	0	10,537
	1977	All Species	22,440	10,421	5,325	2,809	1,474	757	420	222	114	60	63	7	44,114
	2017	Hardwoods	24,057	7,327	3,443	2,158	1,426	940	611	386	233	132	165	32	40,904
	2017	Softwoods	7,131	2,985	1,501	847	460	237	125	67	34	19	21	3	13,431
	2017	All Species	31,188	10,311	4,944	3,005	1,886	1,178	736	453	268	151	186	35	54,334
Southeast	1977	Hardwoods	31,283	8,852	3,276	1,679	950	563	337	193	106	57	66	9	47,368
	1977	Softwoods	8,625	5,219	2,812	1,511	817	436	227	110	47	21	16	1	19,842
	1977	All Species	39,907	14,071	6,088	3,190	1,766	999	564	303	153	78	82	10	67,210
	2017	Hardwoods	27,026	6,814	2,678	1,504	958	646	436	296	188	113	147	27	40,827
	2017	Softwoods	6,006	3,432	2,518	1,743	986	572	312	164	82	40	39	4	15,897
	2017	All Species	33,032	10,247	5,196	3,248	1,943	1,219	748	459	270	152	186	31	56,724
South Central	1977	Hardwoods	41,716	12,686	4,654	2,327	1,364	811	500	298	162	88	105	14	64,726
	1977	Softwoods	8,632	4,655	2,391	1,392	811	479	266	140	70	34	28	2	18,898
	1977	All Species	50,347	17,341	7,045	3,718	2,175	1,290	766	439	232	121	133	16	83,624
	2017	Hardwoods	39,913	9,766	3,908	2,218	1,374	910	624	404	255	156	200	38	59,758
	2017	Softwoods	7,432	4,128	2,814	1,926	1,053	585	332	186	100	55	55	8	18,672
	2017	All Species	47,345	13,893	6,723	4,143	2,426	1,495	957	591	355	211	255	46	78,430
Great Plains	1977	Hardwoods	412	247	145	77	43	26	16	10	6	4	6	1	994
	1977	Softwoods	301	155	92	59	37	22	12	6	3	1	1	0	690
	1977	All Species	713	402	238	136	80	47	28	16	9	5	7	1	1,684
	2017	Hardwoods	550	246	155	104	67	42	27	18	11	7	11	5	1,243
	2017	Softwoods	295	126	79	64	43	28	17	8	5	3	2	0	669
	2017	All Species	846	372	234	168	110	70	44	26	16	10	13	5	1,912
Intermountain	1977	Hardwoods	1,447	961	672	324	154	64	30	15	7	4	4	0	3,683
	1977	Softwoods	9,600	5,671	3,580	2,191	1,290	745	445	265	165	103	154	31	24,240
	1977	All Species	11,046	6,633	4,252	2,515	1,444	808	475	280	172	107	158	31	27,923
	2017	Hardwoods	2,332	683	394	282	181	101	47	20	10	4	4	1	4,060
	2017	Softwoods	9,890	4,684	2,874	2,016	1,309	833	532	336	217	130	190	44	23,045
	2017	All Species	12,222	5,367	3,269	2,298	1,490	934	579	356	227	134	194	45	27,105
Pacific Northwest	1977	Hardwoods	3,060	1,628	592	353	208	114	66	39	23	14	19	4	6,120
	1977	Softwoods	11,369	5,406	2,389	1,502	985	676	479	359	273	206	476	328	24,449
	1977	All Species	14,429	7,034	2,981	1,854	1,194	790	545	399	296	220	496	333	30,569
	2017	Hardwoods	7,005	2,860	1,744	1,283	945	674	472	339	230	167	320	170	16,186
	2017	Softwoods	8,209	3,364	2,046	1,484	1,071	756	526	372	253	179	336	174	18,749
	2017	All Species	15,214	6,224	3,790	2,768	2,016	1,429	998	711	483	346	656	345	34,935

Table 44. (cont.) Number of live trees on timberland in the United States by subregion, species and diameter class, 1977 and 2017[a]

Subregion	Year	Species group	1.0 - 2.9	3.0 - 4.9	5.0 - 6.9	7.0 - 8.9	9.0 - 10.9	11.0 - 12.9	13.0 - 14.9	15.0 - 16.9	17.0 - 18.9	19.0 - 20.9	21.0 - 28.9	29.0+	All classes
			Million trees												
Pacific Southwest	1977	Hardwoods	1,233	526	200	117	66	41	26	16	11	8	13	4	2,262
	1977	Softwoods	2,745	1,382	416	257	176	197	97	72	52	40	92	61	5,588
	1977	All Species	3,978	1,908	616	374	242	238	123	89	63	49	106	64	7,850
	2017	Hardwoods	2,014	592	313	195	120	76	43	27	17	12	19	6	3,432
	2017	Softwoods	1,695	792	473	337	255	190	139	106	83	64	126	83	4,333
	2017	All Species	3,709	1,384	785	532	374	266	182	133	100	76	146	89	7,765
U.S. Total	1977	Hardwoods	54,665	29,942	15,593	8,840	5,019	2,973	1,718	1,048	656	426	788	426	122,094
	1977	Softwoods	114,621	41,030	17,666	9,426	5,329	3,005	1,748	982	530	289	331	48	195,006
	1977	All Species	169,285	70,972	33,259	18,267	10,348	5,978	3,467	2,030	1,186	716	1,119	474	317,101
	2017	Hardwoods	125,443	35,228	15,826	9,852	6,546	4,422	2,948	1,929	1,198	730	1,030	307	205,461
	2017	Softwoods	53,092	23,007	13,811	9,286	5,713	3,545	2,200	1,368	848	533	825	324	114,551
	2017	All Species	178,535	58,235	29,638	19,138	12,259	7,966	5,149	3,298	2,046	1,263	1,854	631	320,013

[a] Excludes interior Alaska.

Table 45. Reserved and roadless forest land area in the United States by major region and forest type group, 2012[a]

	All Regions			North		South		Rocky Mountain		Pacific Coast	
	Grand total	Reserved forest	Roadless forest	Reserved forest	Roadless forest	Reserved forest	Roadless forest	Reserved forest	Roadless forest	Reserved forest	Roadless forest
Stand-age class	*Thousand acres*										
White-red-jack pine	625	598	26	572	19	27	8	n/a	n/a	n/a	n/a
Spruce-fir	1,357	1,247	110	1,241	110	6	–	n/a	n/a	n/a	n/a
Longleaf-slash pine	507	475	32	–	–	475	32	n/a	n/a	n/a	n/a
Loblolly-shortleaf pine	647	623	24	134	2	489	22	n/a	n/a	n/a	n/a
Oak-pine	685	585	100	200	4	385	96	n/a	n/a	n/a	n/a
Oak-hickory	4,451	3,763	688	1,993	108	1,770	580	n/a	n/a	n/a	n/a
Oak-gum-cypress	1,713	1,691	22	70	–	1,622	22	n/a	n/a	n/a	n/a
Elm-ash-cottonwood	888	867	21	576	10	291	11	n/a	n/a	n/a	n/a
Maple-beech-birch	4,061	3,808	253	3,616	214	192	39	n/a	n/a	n/a	n/a
Aspen-birch	971	898	74	898	74	–	–	n/a	n/a	n/a	n/a
Other eastern types	504	485	19	93	15	392	5	n/a	n/a	n/a	n/a
Eastern nonstocked	240	235	5	55	–	180	5	n/a	n/a	n/a	n/a
Total East	16,650	15,275	1,375	9,447	556	5,827	819	n/a	n/a	n/a	n/a
Douglas-fir	9,159	3,696	5,462	n/a	n/a	n/a	n/a	2,005	4,545	1,691	917
Ponderosa pine	2,266	1,346	920	n/a	n/a	n/a	n/a	851	690	495	230
Western white pine	172	153	19	n/a	n/a	n/a	n/a	6	–	148	19
Fir-spruce	16,278	8,634	7,643	n/a	n/a	n/a	n/a	6,092	6,712	2,542	932
Hemlock-Sitka spruce	2,420	1,678	742	n/a	n/a	n/a	n/a	41	351	1,637	392
Larch	326	169	157	n/a	n/a	n/a	n/a	91	97	78	60
Lodgepole pine	7,934	4,147	3,787	n/a	n/a	n/a	n/a	3,018	3,406	1,130	381
Redwood	111	111	–	n/a	n/a	n/a	n/a	–	–	111	-
Other western softwoods	5,384	3,268	2,116	n/a	n/a	n/a	n/a	971	1,267	2,297	849
Western hardwoods	7,027	3,295	3,732	n/a	n/a	n/a	n/a	1,266	2,942	2,029	790
Pinyon-juniper	5,729	2,691	3,038	n/a	n/a	n/a	n/a	2,337	2,730	353	309
Western nonstocked	3,660	2,130	1,531	n/a	n/a	n/a	n/a	1,630	1,310	500	221
Total West	60,466	31,319	29,147	n/a	n/a	n/a	n/a	18,307	24,049	13,012	5,099
Grand Total	77,116	46,594	30,522	9,447	556	5,827	819	18,307	24,049	13,012	5,099

[a] The values presented include only roadless areas within Forest Service ownership in the coterminous U.S.

Table 46. Reserved and roadless forest land area in the United States by major region and stand-age class, 2017[a]

	All Regions			North		South		Rocky Mountain		Pacific Coast	
Stand-age class	Grand total	Reserved forest	Roadless forest	Reserved forest	Roadless forest	Reserved forest	Roadless forest	Reserved forest	Roadless forest	Reserved forest	Roadless forest
	Thousand acres										
0 to 19	10,249	6,122	4,127	372	8	676	15	4,131	3,616	944	487
20 to 39	4,069	2,649	1,420	484	17	735	39	1,105	1,150	325	214
40 to 59	4,539	3,397	1,142	1,168	56	1,205	51	559	809	464	226
60 to 79	9,523	6,441	3,082	2,496	168	1,669	264	1,164	2,181	1,112	470
80 to 99	12,276	7,292	4,984	2,919	257	1,130	313	1,801	3,765	1,442	649
100 to 149	18,581	9,715	8,866	1,877	43	407	134	4,754	7,517	2,678	1,171
150 to 199	8,355	4,666	3,689	110	8	6	3	2,814	2,980	1,737	697
200 and older	8,455	5,517	2,939	22	–	–	–	1,978	2,030	3,516	908
Undetermined	1,068	794	275	1	–	–	–	–	–	793	275
Grand Total	77,116	46,594	30,522	9,447	556	5,827	819	18,307	24,049	13,012	5,099

[a] The values presented include only roadless areas within Forest Service ownership in the coterminous U.S.

Table 47. Urban land as a percent of all land and urban percent growth (2000-2010) by region within the lower 48 States

Region	Urban land 2000	Increase in percent urban land 2000-2010	Percent increase in urban land 2000-2010	Urban land area growth 2000-2010
	Percent	*Percent*	*Percent*	*Acres*
Northeast	10.7	1.1	11.3	1,664,100
Southeast	9.4	2.1	28.0	3,046,000
Pacific Southwest	5.3	0.3	5.4	283,000
North Central	4.1	0.5	13.1	1,237,800
South Central	3.4	0.6	23.3	2,509,600
Rocky Mountain	0.8	0.2	25.8	944,800
Great Plains	0.6	0.1	17.7	183,500
Pacific Northwest	0.5	0.1	11.4	244,500
Total	3.0	0.4	17.5	10,113,300

Source: Nowak, D.J.; Greenfield, E.J.; in press. U.S. urban forest statistics, values and projections. J. For.

Table 48. Estimated regional carbon storage and gross annual sequestration, including percent urban tree cover in the conterminous United States, c. 2014

Region	Carbon storage in urban trees		Gross carbon sequestration		Average tree cover on urban land
	Tons	*Tons/acre*	*Tons/year*	*Tons/acre/year*	*Percent*
Northeast	266,200,000	16.2	8,900,000	0.54	47.3
Southeast	234,550,000	16.8	11,290,000	0.81	49.0
South Central	157,540,000	11.9	7,080,000	0.53	34.6
North Central	130,520,000	12.2	4,210,000	0.39	35.6
Pacific Southwest	60,490,000	11.0	3,150,000	0.57	32.0
Rocky Mountain	29,950,000	6.5	1,050,000	0.23	18.9
Pacific Northwest	28,510,000	11.9	910,000	0.38	34.7
Great Plains	11,110,000	9.1	390,000	0.32	26.5
Total	918,870,000	13.5	36,980,000	0.54	39.4

Source: Nowak, D.J.; Greenfield, E.J.; in press. U.S. urban forest statistics, values and projections. J. For.

Table 49. Area burned and number of fires in the United States, 1960-2015

Year	Area burned	Fires
	Acres	*Number*
2015	10,125,149	68,151
2014	3,595,613	63,312
2013	4,319,546	47,579
2012	9,326,238	67,774
2011	8,711,367	74,126
2010	3,422,724	71,971
2009	5,921,786	78,792
2008	5,292,468	78,949
2007	9,328,045	85,705
2006	9,873,745	96,385
2005	8,689,389	66,753
2004	8,097,880	65,461
2003	3,960,842	63,629
2002	7,184,712	73,457
2001	3,570,911	84,079
2000	7,393,493	92,250
1999	5,626,093	92,487
1998	2,329,704	81,043
1997	2,856,959	66,196
1996	6,065,998	96,363
1995	1,840,546	82,234
1994	4,073,579	79,107
1993	1,797,574	58,810
1992	2,069,929	87,394
1991	2,953,578	75,754
1990	5,452,874	122,763
1989	3,264,126	121,714
1988	7,398,888	154,573
1987	4,152,561	143,877
1986	3,308,095	139,980
1985	4,434,736	133,840
1984	2,266,106	118,636
1983	5,080,553	161,649
1982	2,382,036	174,755
1981	4,814,206	249,370
1980	5,260,825	234,892
1979	2,986,826	163,196
1978	3,910,913	218,842
1977	3,152,644	173,998
1976	5,109,926	241,699
1975	1,791,327	134,872
1974	2,879,095	145,868
1973	1,915,273	117,957
1972	2,641,166	124,554
1971	4,278,472	108,398
1970	3,278,565	121,736
1969	6,689,081	113,273
1968	4,231,996	125,075
1967	4,658,586	125,301
1966	4,574,389	122,174
1965	2,652,122	113,976
1964	4,197,309	117,230
1963	7,120,768	165,430
1962	4,078,894	116,418
1961	3,036,219	99,554
1960	4,478,188	104,120

Source: National Interagency Fire Center, Boise ID. http://www.nifc.gov/stats/index.html

Table 50. Caribbean and Pacific Islands population, land area, population per square mile, forest area, percent forest cover and date of latest forest inventory

Region and island group	Population[a]	Land area	Population per square mile	Forest area	Percent forest cover	Number of field plots	Inventory date
	Persons	*Acres*	*Persons*	*Acres*			
Caribbean							
Puerto Rico	3,725,789	2,192,325	1,088	1,219,177	56%	506	2014
US Virgin Islands	106,405	82,164	792	46,967	57%	106	2014
Pacific							
American Samoa	57,663	48,434	762	39,156	81%	20	2012
Guam	173,456	132,230	818	69,851	53%	48	2013
Republic of Palau	21,032	108,227	122	102,130	94%	56	2014
Commonwealth of the Northern Marriana Islands	51,395	74,907	436	60,207	80%	37	2015
Federated States of Micronesia	106,487	161,917	421	143,466	89%	79	2005
Republic of the Marshall Islands	68,480	33,120	1323	23,252	70%	58	2006
Hawaii	1,360,301	4,109,962	210	1,471,180	36%	246	2015
Islands total	5,671,008	6,943,286	523	3,175,386	46%	1,156	

[a] Population figures are from the 2010 U.S. Census.

Table 51. Number of live trees on forest land in the Caribbean and Pacific Islands by diameter class

Region and island group	Total	Diameter (inches) 1.0-4.9	5.0-8.9	9.0-12.9	13.0-16.9	17.0-20.9	21.0+
	Thousand trees						
Caribbean							
Puerto Rico	1,421,466	1,274,703	98,641	30,702	9,775	4,077	3,568
US Virgin Is.	92,201	88,786	2,652	553	139	20	50
Pacific							
American Samoa	28,898	22,575	3,878	1,483	520	177	266
Guam	72,994	62,071	8,021	2,204	521	98	80
Republic of Palau	95,721	74,660	14,007	4,215	1,560	617	662
Commonwealth of the Northern Marriana Islands	83,814	76,927	5,811	787	178	56	55
Federated States of Micronesia	94,125	66,890	15,113	7,571	1,984	967	1,600
Republic of the Marshall Islands	12,426	8,742	1,580	1,229	758	90	27
Hawaii	214,634	182,036	23,234	6,035	1,795	640	895
Islands total	2,116,279	1,857,389	172,938	54,779	17,229	6,742	7,203

Table 52. Caribbean and Pacific Islands growing stock volume on forest land by diameter class

Region and island group	Total	Diameter (inches) 1.0-4.9	5.0-8.9	9.0-12.9	13.0-16.9	17.0-20.9	21.0+
	Thousand trees						
Caribbean							
Puerto Rico	191,265	–	21,745	43,298	37,803	33,382	55,038
US Virgin Is.	857	–	308	172	87	–	290
Pacific							
American Samoa	62,501	–	11,320	16,777	11,646	5,405	17,353
Guam	50,981	–	20,096	17,194	7,324	2,533	3,834
Republic of Palau	261,562	–	57,127	60,484	45,224	30,924	67,802
Commonwealth of the Northern Marriana Islands	32,563	–	12,670	7,101	4,193	2,241	6,357
Federated States of Micronesia	577,122	–	67,867	128,682	69,559	59,034	251,980
Republic of the Marshall Islands	54,691	–	7,487	19,232	21,217	3,852	2,903
Hawaii	-	–	n/a	n/a	n/a	n/a	n/a
Islands total	1,231,542	–	198,621	292,940	197,053	137,371	405,558

Table 53. Caribbean and Pacific Islands aboveground live tree biomass on forest land by diameter class

Region and island group	Total	Diameter (inches) 1.0-4.9	5.0-8.9	9.0-12.9	13.0-16.9	17.0-20.9	21.0+
	Thousand trees						
Caribbean							
Puerto Rico	34,084	7,668	8,929	8,967	5,893	4,145	6,737
US Virgin Is.	713	480	225	131	78	18	82
Pacific							
American Samoa	1,101	69	116	175	57	22	14
Guam	1,008	278	235	303	100	51	30
Republic of Palau	5,259	13	44	164	52	18	237
Commonwealth of the Northern Marriana Islands	540	382	144	141	89	–	60
Federated States of Micronesia	10156	1165	1081	2029	1095	928	3858
Republic of the Marshall Islands	1194	351	117	300	331	60	35
Hawaii	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Islands total	54,055	10,405	10,891	12,210	7,695	5,243	11,052

[a] Estimated aboveground dry stem weight biomass.

Table 54. Area and number of owners of private forest in the United States by region, subregion, and state, 2006

Region, subregion, and state	Acres *Thousands*	Sampling error *Percent*	Owners *Thousands*	Sampling error *Percent*
North				
Northeast				
Connecticut	1,383	7.4	108	21.7
Delaware	351	11.6	55	57.1
Maine	16,575	1.3	252	13.1
Maryland	1,957	4.8	157	24.5
Massachusetts	2,179	5.8	293	18.8
New Hampshire	3,646	3.8	128	23.8
New Jersey	1,322	5.7	122	28.1
New York	14,438	1.9	687	12.9
Pennsylvania	11,738	1.7	497	6.8
Rhode Island	303	10.8	38	29.8
Vermont	3,864	2.7	88	19.2
West Virginia	10,418	1.6	251	22.4
Northeast total	68,175	0.7	2,677	5.5
North Central				
Illinois	3,730	3.6	184	13.3
Indiana	3,888	3.2	225	10.8
Iowa	2,552	4.5	150	17.6
Michigan	12,117	1.2	498	9.1
Minnesota	7,114	1.8	202	8.5
Missouri	12,393	1.6	359	7.2
Ohio	6,973	2.6	345	10.0
Wisconsin	11,117	1.2	362	6.8
North Central total	59,885	0.7	2,325	3.5
North total	128,060	0.5	5,002	3.4
South				
Southeast				
Florida	11,427	2.4	509	22.6
Georgia	22,440	1.1	524	10.9
North Carolina	15,497	1.9	525	12.1
South Carolina	11,189	1.8	301	13.9
Virginia	13,000	1.2	410	13.3
Southeast total	73,553	0.7	2,269	7.0
South Central				
Alabama	21,264	1.1	412	11.5
Arkansas	15,156	1.4	346	22.7
Kentucky	10,647	1.6	473	14.5
Louisiana	12,512	1.8	131	17.9
Mississippi	17,320	1.3	370	48.6
Oklahoma	7,000	2.8	71	13.9
Tennessee	12,310	1.6	534	11.6
Texas	16,204	1.2	354	12.0
South Central total	112,412	0.6	2,690	9.8
South total	185,965	0.4	4,960	5.4

Table 54. (cont.) Area and number of owners of private forest in the United States by region, subregion, and state, 2006

Region, subregion, and state	Acres *Thousands*	Sampling error *Percent*	Owners *Thousands*	Sampling error *Percent*
Rocky Mountain				
Great Plains				
Kansas	1,994	5.1	103	18.9
Nebraska	1,092	7.2	57	33.1
North Dakota	510	10.7	24	48.6
South Dakota	492	10.9	12	37.4
Great Plains total	4,088	3.7	196	15.2
Intermountain				
Arizona	7,381	3.5	45	40.5
Colorado	5,360	5.0	186	39.1
Idaho	2,553	10.2	34	54.6
Montana	7,026	5.1	40	22.9
Nevada	212	36.8	15	64.1
New Mexico	6,331	3.1	81	81.7
Utah	3,013	5.5	66	59.5
Wyoming	1,942	5.4	24	47.5
Intermountain total	33,819	1.8	491	22.5
Rocky Mountain total	37,906	1.7	687	16.7
Pacific Coast				
Alaska				
Alaska	35,875	2.5	82	89.3
Alaska total	35,875	2.5	82	89.3
Pacific Northwest				
Oregon	11,059	2.6	149	16.8
Washington	9,806	3.0	215	18.9
Pacific Northwest total	20,864	2.0	364	13.1
Pacific Southwest				
California	13,202	2.4	202	19.1
Hawaii	1,155	0.2	25	53.5
Pacific Southwest total	14,357	2.2	227	18.0
Pacific Coast total	71,097	1.5	673	14.3
United States	423,029	0.4	11,322	3.1

Table 55. Area and number of owners of private forest in the United States by size of forest landholdings and region, 2006

Region	Size of forest landholdings	Area		Ownerships	
		Acres	Sampling error	Number	Sampling error
	Acres	*Thousands*	*Percentage*	*Thousands*	*Percentage*
North					
	1-9	9,183	7.2	3,040	5.6
	10-19	8,344	7.8	671	4.4
	20-49	20,391	3.7	713	3.1
	50-99	21,580	3.8	335	3.0
	100-199	18,890	4.2	156	3.1
	200-499	15,726	5.3	64	4.2
	500-999	6,190	10.8	12	10.9
	1,000-4,999	6,658	10.8	6	18.9
	5,000-9,999	1,588	28.7	<1	33.3
	10,000+	19,509	3.3	6	69.2
	Total	128,060	0.5	5,002	3.4
South[a]					
	1-9	8,303	9.8	2,909	9.5
	10-19	8,301	9.3	669	6.1
	20-49	17,159	5.2	590	4.1
	50-99	19,150	4.9	297	3.9
	100-199	20,350	5.2	180	9.3
	200-499	24,972	4.5	98	6.2
	500-999	14,009	7.2	25	7.2
	1,000-4,999	21,649	5.4	14	5.7
	5,000-9,999	5,573	15.4	1	11.7
	10,000+	39,081	2.5	2	56.8
	Total	178,547	0.4	4,786	5.7
Rocky Mountain[b]					
	1-9	1,436	43.6	451	25.3
	10-19	648	62.0	54	24.1
	20-49	2,940	22.9	94	15.1
	50-99	1,798	28.3	28	13.8
	100-199	2,479	23.5	21	14.4
	200-499	3,903	20.0	14	15.8
	500-999	3,353	24.1	5	18.2
	1,000-4,999	9,014	17.0	4	14.2
	5,000-9,999	4,005	36.4	1	35.7
	10,000+	8,118	19.0	<1	26.9
	Total	37,694	1.8	672	17.0
Pacific Coast[c]					
	1-9	1,740	48.3	421	22.4
	10-19	1,182	37.2	102	17.7
	20-49	2,100	22.3	69	12.2
	50-99	1,491	31.2	23	16.1
	100-199	2,050	24.8	16	15.3
	200-499	2,698	19.4	10	13.5
	500-999	2,027	21.4	3	15.9
	1,000-4,999	4,907	11.3	3	27.8
	5,000-9,999	1,511	53.7	<1	29.7
	10,000+	15,909	5.9	<1	27.7
	Total	35,616	2.3	648	14.8

Table 55. (cont.) Area and number of owners of private forest in the United States by size of forest landholdings and region, 2006

Region	Size of forest landholdings	Area		Ownerships	
		Acres	Sampling error	Number	Sampling error
	Acres	*Thousands*	*Percentage*	*Thousands*	*Percentage*
United States[a, b, c]					
	1-9	20,661	7.2	6,821	5.2
	10-19	18,475	6.3	1,496	3.7
	20-49	42,591	3.4	1,465	2.5
	50-99	44,020	3.2	683	2.4
	100-199	43,770	3.5	372	4.8
	200-499	47,300	3.6	185	3.8
	500-999	25,578	5.9	45	5.4
	1,000-4,999	42,229	5.0	28	6.3
	5,000-9,999	12,677	15.2	2	13.6
	10,000+	82,617	2.6	9	47.9
	Total	379,917	0.4	11,108	3.2

[a] Excluding western Texas, and western Oklahoma.
[b] Excluding Nevada.
[c] Excluding interior Alaska and Hawaii.
Note: Totals may not add due to rounding.

Appendix B: Inventory Procedures, Accuracy of the Data

Inventory Procedures

The following sections provide information on the data and procedures used to develop this report. This guidance is to assist the reader in understanding the nuances of compiling a report of such a comprehensive nature.

Timing of Inventory Data

The tables in appendix A are dated 2017 for area and volume and 2016 for growth, mortality, and removals. These dates are used as nominal dates for national assessment reporting. The actual inventory for resource variables by subregion and State is listed in table A-1. Until recently, forest inventory in the United States has been a cyclic process with new inventories conducted in each State every 10 to 12 years. The Forest Inventory and Analysis (FIA) program began collecting data annually in 1999 and now annually collects data nationwide. For more information on the FIA procedures, refer to the FIA Field Manuals and Strategic Plan found in the "Library" section at http://fia.fs.fed.us.

Adjustments to Historic Data

Historic data presented in this report for previous national assessments may be adjusted from those found in the original publications. In general, this adjustment is due to changes in data classifications, regional reporting boundaries, or, occasionally, errors in reporting. Other than reporting errors, adjustments rarely exceed 1 to 2 percent of the value of the original data. As noted at the beginning of this report, data have been adjusted to reflect international definitions of forest land. This adjustment primarily affects the Southwestern United States and should not affect current or historic timberland estimates. These adjustments were made to facilitate trend analyses based on standard definitions.

The Database

In 1987, the first national database was developed for the assessment. It was a summary database that placed all inventory data in a common format at the State/owner level of resolution. In 1992, the summary database was made available online. After 1997, the national standard FIA Database (FIADB) was used as a basis for the Resources Planning Act (RPA) summary database.

The complete RPA logical database for 2017 is composed of three physical databases. The first is the FIADB national standard database with data available for all forest lands except interior Alaska and Hawaii. Due to insufficient field data, these areas were compiled in summary format from modeled inventory data. The second database is the national timber products output database composed of data from surveys of primary wood-using facilities (e.g., sawmills, pulpmills, veneer mills, and chip mills) and of residential fuelwood and post producers (Smith 1991, May 1998). This database provides county-level removals data for the United States. The third database is the national summary database that draws on each of the other physical databases and on "value-added" data from the Bureau of the Census, such as total county land area, county minimum and maximum latitude and longitude, and population. The national summary database can provide data at the county level for most of the United States. Exceptions to this general rule are areas of Hawaii and interior Alaska, where data are stored in aggregate. New this year, data may be queried directly in the FIA online tool EVALIDator by selecting "RPA forest definition" radio button when that option appears. Due to rapid technological changes, data will not be offered via a DVD as in past efforts, but remains available online. Please note, as data are updated daily in EVALIDator, numbers retrieved post-publication may not match publication numbers, exactly. For more information on extracting data using EVALIDator, log on to http://fia.fs.fed.us.

Accuracy of the Data

All of the forest inventory data for the national assessment are collected under the guidance of the Forest Service and compiled by the agency's FIA program. The FIA program collects data in cooperation with State forestry agencies or National Forest System regions.

Inventories conducted by FIA are designed to meet the statistical guidelines for accuracy within one standard deviation at the 67-percent confidence level for each State. Table A-2 provides estimates of sampling errors for key variables presented in the

resource tables. Because these estimates are for the State level, the accuracy of data for any national or multistate totals for these categories will be greater. Individual States with relatively small areas of forest or volumes of growing stock will be of lower accuracy and the reader is cautioned to consider grouping States, such as those in New England, for analysis.

List of Scientific Names

Common Name	Scientific Name
Birds Plants	
Red cockaded woodpecker	*Picoides borealis*
Acacia	*Acacia spp.*
African tulip tree	*Spathodea campanulata*
Alder	*Alnus spp.*
Alligator juniper	*Juniperus deppeana*
American elm	*Ulmus americana*
American ginseng	*Panax quinquefolius L*
Arizona pinyon pine	*Pinus monophylla var.fallax*
Arizona white oak	*Quercus arizonica*
Ash	*Fraxinus spp.*
Ashe juniper	*Juniperus ashei*
Aspen	*Populus spp.*
Baldcypress / cypress	*Taxodium distichum*
Balsam fir	*Abies balsamae*
Beargrass	*Xerophyllum tenax (Pursh) Nutt.*
Beech	*Fagus grandifolia*
Bigtooth maple	*Acer grandidentatum*
Birch	*Betula spp.*
Bkau or apgau	*Maranthes corymbosa*
Bluewood	*Condalia hookeri*
Border pinyon	*Pinus discolor*
Breadfruit	*Artocarpus altilis and Artocarpus mariannensis*
California juniper	*Juniperus californica*
Catclaw acacia	*Acacia greggi*
Common pinyon	*Pinus edulis*
Cottonwood	*Populus spp.*
Curlleaf mountain-mahogany	*Cerocarpus ledifolius*
Cycad	*Cycas micronesica*
Desert ironwood	*Olneya tesota*
Douglas-fir	*Pseuditsuga menziesii*
Drooping juniper	*Juniperus flaccida*
Elm	*Ulmus spp.*
Emory oak	*Quercus emoryi*
Engelmann spruce	*Picea engelmannii*
Fiddlehead ferns	*Matteuccia struthiopteris (L.) Todaro*
Fir	*Abies spp.*
Four-leaf pine	*Pinus quadirfolia*
Gambel oak	*Quercus gambelii*
Genip tree	*Melicoccus bijugatus*

Common Name	Scientific Name
Gray oak	*Quercus grisea*
Hemlock	*Tusga spp.*
Hickory	*Carya spp.*
Honey mesquite	*Prosopis glandulosa*
Jack pine	*Pinus banksiana*
Juniper	*Juniperis spp*
Knockaway	*Ehretia anacua*
Lagundi	*Vitex parviflora*
Laurel / redbay	*Persea spp.*
Loblolly pine	*Pinus taeda*
Lodgepole pine	*Pinus contorta*
Longleaf pine	*Pinus palustris*
Lowbush blueberry	*Vaccinium spp. L.*
Maota	*Dysoxylum maota*
Mango tree	*Mangifera indica*
Maple	*Acer spp.*
Melalleuca	*Melaleuca quinquenervia*
Mesquite	*Mesquite spp.*
Mexican blue oak	*Quercus oblongifolia*
Mexican pinyon pine	*Pinus cembroides*
Mountain hemlock	*Tsuga mertensiana*
Netleaf oak	*Quercus rugosa*
New Mexico locust	*Robinia neomexicana*
Noni	*Morinda citrifolia*
Oak	*Quercus spp.*
ʼōhiʼa lehua	*Metrosideros polymorpha*
Oneseed juniper	*Juniperus monosperma*
Paper birch	*Betula papyrifera*
Papershell pinyon pine	*Pinus remota*
Pinchot juniper	*Juniperus pinchotii*
Pine	*Pinus spp.*
Pinyon pine	*Pinus edulis*
Ponderosa pine	*Pinus ponderosa*
Ramps (leeks)	*Allium tricoccum Aiton*
Redberry juniper	*Juniperus coahuilensis*
Red maple	*Acer rubrum*
Red pine	*Pinus resinosa*
Redwood	*Sequoia sempervirens*
Rocky Mountain juniper	*Juniperus scopulorum*
Rocky Mountain maple	*Acer glabrum*
Rose-apple tree	*Syzygium jambos*

Common Name	Scientific Name
Screwbean mesquite	*Prosopis pubescens*
Shortleaf pine	*Pinus echinata*
Siberian elm	*Ulmus pumila*
Silverleaf oak	*Quercus hypoleucoides*
Singleleaf pinyon	*Pinus monophylla*
Sitka spruce	*Picea sitchensis*
Slash pine	*Pinus elliottii*
Spruce	*Picea spp.*
Sugar maple	*Acer sacchurum*
Sweet acacia	*Acacia farmesiana*
Sweetgum / gum	*Liquidambar styraciflua*
Tanoak	*Notholithocarpus densiflorus*
Tan tree	*Leucaena leucocephala*
Tallowtree	*Triadica sebifera*
Texas madrone	*Arbutus xalapensis*
Tree cactus	*Pilosocereus royenii*
Tree-of-heaven	*Ailanthus altissima*
Utah juniper	*Juniperus osteoperma*
Velvet mesquite	*Prosopis velutina*
Western hemlock	*Tsuga heterophylla*
Western larch	*Larix occidentalis*
Western white pine	*Pinus monticola*
White pine	*Pinus strobus*
Yellow-cedar	*Cupressus nootkatensis*

Common Name	Scientific Name
Other	
Asian longhorned beetle	*Anoplophora glabripennis*
Beech scale	*Cryptococcus fagisuga*
Cactus moth	*Cactoblastis cactorum*
Cycad scale	*Aulacaspis yasumatsui*
Emerald ash borer	*Agrilus planipennis*
Fir engraver	*Scalytus ventralis*
Harrisia cactus mealybug	*Hypogeococcus pungens*
Mountain pine beetle	*Dendroctonus ponderosae*
Palm leaf skeletonizer	*Homaledra sabalella*
Rhinoceros beetle	*Oryctes rhinoceros*
Rust fungus	*Puccinia psidii*
Spruce beetle	*Dendroctonus rufipennis*
Western pine beetle	*Dendroctonus brevicomis*

Glossary of Terms

annual mortality—The average annual volume of sound wood in growing-stock trees that died from natural causes during the period between inventories.

annual removals—The net volume of growing-stock trees removed from the inventory during a specified year by harvesting, cultural operations such as timber stand improvement, or land clearing.

Bureau of Land Management (BLM)—An agency of the U.S. Department of the Interior that administers Federal lands.

coarse materials—Wood residues suitable for chipping, such as slabs, edgings, and trimmings.

commercial species—Tree species suitable for industrial wood products.

county and municipal—An ownership class of public lands administered by counties or local public agencies, or lands leased by these governmental units for more than 50 years.

cull tree—A live tree, 5.0 inches in diameter at breast height (d.b.h.) or larger, that is unmerchantable for saw logs now or prospectively because of rot, roughness, or species. (See definitions for *rotten tree* and *rough tree*.)

diameter class—A classification of trees based on diameter outside bark measured at breast height (4.5 feet above ground). The common abbreviation for "diameter at breast height" is d.b.h. With 2-inch diameter classes, the 6-inch class, for example, includes trees 5.0 through 6.9 inches d.b.h.

ecoregions—Areas of relative homogeneity in ecological systems and their components where similar climate, altitude, and predominant natural vegetation are important classification criteria. A group of ecoregions with associated landforms and climate forms ecozones.

Federal—An ownership class of public lands administered by the U.S. Government.

fiber products—Products derived from wood and bark residues, such as pulp, composition board products, and wood chips for export.

fine materials—Wood residues not suitable for chipping, such as planer shavings and sawdust.

forest industry—An ownership class of private lands administered by companies or individuals operating wood-using plants.

forest land—Land at least 120 feet (37 meters) wide and at least 1 acre (0.4 hectare) in size with at least 10 percent cover (or equivalent stocking) by live trees including land that formerly had such tree cover and that will be naturally or artificially regenerated. Trees are woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) d.b.h., or 5 inches (12.7 cm) diameter at root collar, and a height of 16.4 feet (5 meters) at maturity *in situ*. The definition here includes all areas recently having such conditions and currently regenerating or capable of attaining such condition in the near future. Forest land also includes transition zones, such as areas between forest and nonforest lands that have at least 10 percent cover (or equivalent stocking) with live trees and forest areas adjacent to urban and built-up lands. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest if they are less than 120 feet (37 meters) wide or an acre (0.4 hectare) in size. Forest land does not include land that is predominantly under agricultural or urban land use.

forest type—A classification of forest land based on the species presently forming a plurality of the live-tree stocking.

forest-type group—A combination of forest types that share closely associated species or site requirements and generally are combined for brevity of reporting.

Major eastern forest-type groups

white-red-jack pine—Forests in which eastern white pine, red pine, or jack pine, singly or in combination, comprise a plurality of the stocking. Common associates include hemlock, aspen, birch, and maple.

spruce-fir—Forests in which spruce or true firs, singly or in combination, comprise a plurality of the stocking. Common associates include white cedar, tamarack, maple, birch, and hemlock.

longleaf-slash pine—Forests in which longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. Common associates include other southern pines, oak, and gum.

loblolly-shortleaf pine—Forests in which loblolly pine, shortleaf pine, or southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. Common associates include oak, hickory, and gum.

oak-pine—Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking, but in which pine or eastern redcedar comprises 25 to 50 percent of the stocking. Common associates include gum, hickory, and yellow-poplar.

oak-hickory—Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand is classified as oak-pine. Common associates include yellow-poplar, elm, maple, and black walnut.

oak-gum-cypress—Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand is classified as oak-pine. Common associates include cottonwood, willow, ash, elm, hackberry, and maple.

elm-ash-cottonwood—Forests in which elm, ash, or cottonwood, singly or in combination, comprise a plurality of the stocking. Common associates include willow, sycamore, beech, and maple.

maple-beech-birch—Forests in which maple, beech, or yellow birch, singly or in combination, comprise a plurality of the stocking. Common associates include hemlock, elm, basswood, and white pine.

aspen-birch—Forests in which aspen, balsam poplar, paper birch, or gray birch, singly or in combination, comprise a plurality of the stocking. Common associates include maple and balsam fir.

Major western forest-type groups

Douglas-fir—Forests in which Douglas-fir comprises a plurality of the stocking. Common associates include western hemlock, western redcedar, true firs, redwood, ponderosa pine, and larch.

hemlock-Sitka spruce—Forests in which western hemlock and/or Sitka spruce comprise a plurality of the stocking. Common associates include Douglas-fir, silver fir, and western redcedar.

redwood—Forests in which redwood comprises a plurality of the stocking. Common associates include Douglas-fir, grand fir, and tanoak.

ponderosa pine—Forests in which ponderosa pine comprises a plurality of the stocking. Common associates include Jeffrey pine, sugar pine, limber pine, Arizona pine, Apache pine, Chihuahua pine, Douglas-fir, incense-cedar, and white fir.

western white pine—Forests in which western white pine comprises a plurality of the stocking. Common associates include western redcedar, larch, white fir, Douglas-fir, lodgepole pine, and Engelmann spruce.

lodgepole pine—Forests in which lodgepole pine comprises a plurality of the stocking. Common associates include alpine fir, western white pine, Engelmann spruce, aspen, and larch.

larch—Forests in which western larch comprises a plurality of the stocking. Common associates include Douglas-fir, grand fir, western redcedar, and western white pine.

fir-spruce—Forests in which true firs, Engelmann spruce, or Colorado blue spruce, singly or in combination, comprise a plurality of the stocking. Common associates include mountain hemlock and lodgepole pine.

western hardwoods—Forests in which aspen, red alder, or other western hardwoods, singly or in combination, comprise a plurality of the stocking.

pinyon-juniper—Forests in which pinyon or juniper, or both, comprise a plurality of the stocking.

other softwoods—Forests in which other softwood species not mentioned previously comprise a plurality of the stocking. These are primarily black spruce forests in interior Alaska.

fuelwood—Wood used for conversion to some form of energy, primarily in residential use.

growing-stock—A classification of timber inventory that includes live trees of commercial species meeting specified standards of quality or vigor. Cull trees are excluded. When associated with volume, includes only trees 5.0 inches d.b.h. and larger.

hardwood—A dicotyledonous tree, usually broad-leaved and deciduous.

industrial wood—All commercial roundwood products, except fuelwood.

land area—The area of dry land and land temporarily or partly covered by water, such as marshes, swamps, and river flood plains; streams, sloughs, estuaries, and canals less than 200 feet wide; and lakes, reservoirs, and ponds less than 4.5 acres in area.

live cull—A classification that includes live, cull trees. When associated with volume, it is the net volume in live, cull trees that are 5.0 inches d.b.h. and larger.

logging residues—The unused portions of growing-stock trees cut or killed by logging and left in the woods.

lowland forest types—Generally refers to the elm-ash-cottonwood and oak-gum-cypress forest types.

national forest—An ownership class of Federal lands, designated by Executive order or statute as national forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Native American land—(a) Lands held in trust by the United States or individual States for Native American Tribes or individual Native Americans or (b) lands owned in fee by Native American Tribes whether subject to Federal or State restrictions against alienation or not.

net annual growth—The average annual net increase in the volume of trees during the period between inventories. Components include the increment in net volume of trees at the beginning of the specific year surviving to its end, plus the net volume of trees reaching the minimum size class during the year, minus the volume of trees that died during the year and minus the net volume of trees that became cull trees during the year.

net volume in cubic feet—The gross volume in cubic feet less deductions for rot, roughness, and poor form. Volume is computed for the central stem from a 1-foot stump to a minimum 4.0-inch top diameter outside bark, or to the point where the central stem breaks into limbs.

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

nonforest land—Land that has never supported forests and lands formerly forested where use of timber management is precluded by development for other uses. (Note: Includes area used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1- to 4.5-acre areas of water classified by the Bureau of the Census as land. If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide, and clearings, etc., must be more than 1 acre in area, to qualify as nonforest land.)

nonstocked areas—Timberland less than 10 percent stocked with all-live trees.

other Federal—An ownership class of Federal lands other than those administered by the Forest Service or the Bureau of Land Management. This category includes the National Park Service, U.S. Fish and Wildlife Service, U.S. Departments of Defense and Energy, and miscellaneous Federal ownerships.

other forest land—Forest land other than timberland and productive reserved forest land. It includes available forest land, which is incapable of annually producing 20 cubic feet (1.4 cubic meters) per acre (0.4 hectare) of industrial wood under natural conditions because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness.

other land—Nonforest land less the area in streams, sloughs, estuaries, and canals between 120 and 200 feet wide and lakes, reservoirs, and ponds between 1 and 4.5 acres in area.

other private—An ownership class of private lands that are not owned by forest industry or farmers.

other products—A miscellaneous category of roundwood products that includes such items as cooperage, pilings, poles, posts, shakes, shingles, board mills, charcoal, and export logs.

other public—An ownership class that includes all public lands except national forests. This category generally includes State, county, and municipal ownerships.

other red oaks—A group of species in the genus *Quercus* that includes scarlet oak, northern pin oak, southern red oak, bear oak, shingle oak, laurel oak, blackjack oak, water oak, pin oak, willow oak, and black oak.

other removals—Unutilized wood volume from cut or otherwise killed growing-stock, from cultural operations such as precommercial thinnings or from timberland clearing. Does not include volume removed from inventory through reclassification of timberland to productive reserved forest land.

other sources—Sources of roundwood products that are nongrowing-stock. These include salvable dead trees, rough and rotten trees, trees of noncommercial species, trees less than 5.0 inches d.b.h., tops, and roundwood harvested from nonforest land (e.g., fence rows).

other white oaks—A group of species in the genus *Quercus* that includes overcup oak, chestnut oak, and post oak.

ownership—The property owned by one ownership unit, including all parcels of land in the United States.

ownership unit—A classification of ownership encompassing all types of legal entities having an ownership interest in land, regardless of the number of people involved. A unit may be an individual; a combination of individuals; a legal entity such as a corporation, partnership, club, or trust; or a public agency. An ownership unit has control of a parcel or group of parcels of land.

planted forest—Planted forests are areas comprised of at least 40 percent of its composition in planted trees of either native or exotic species. Planted forests may be divided into two groups:

> **Plantations—**Forest stands consisting nearly exclusively of planted trees, of native or exotic species, and managed to generally maintain this composition at maturity. Management practices may include extensive site preparation prior to planting and suppression of competing vegetation.
>
> **Augmented forest—**Forest stands consisting of at least 40 percent planted trees, of native or exotic species, but not intensively managed to assure dominance of these trees in the stand at maturity. Management practices, however, may include suppression of competing vegetation at the time of planting. Frequently found in the West where trees are planted to ensure regeneration-stocking levels are adequate to fully occupy the stand in the future.

poletimber trees—Live trees at least 5.0 inches in d.b.h., but smaller than sawtimber trees.

primary wood-using mill—A mill that converts roundwood products into other wood products. Common examples are sawmills that convert saw logs into lumber and pulpmills that convert pulpwood into wood pulp.

productivity class—A classification of forest land in terms of potential annual cubic-foot volume growth per acre at culmination of mean annual increment in fully stocked natural stands.

private corporate—An ownership class of forest land that is administered by entities that are legally incorporated.

private noncorporate—An ownership class of private lands that are not owned by corporate interests. Includes Native American lands, unincorporated partnerships, clubs, and lands leased by corporate interests.

pulpwood—Roundwood, whole-tree chips, or wood residues that are used for the production of wood pulp.

reserved forest land—Forest land withdrawn from timber utilization through statute, administrative regulation, or designation without regard to productive status.

residues—Bark and woody materials that are generated in primary wood-using mills when roundwood products are converted to other products. Examples are slabs, edgings, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and pulp screenings. Includes bark residues and wood residues (both coarse and fine materials) but excludes logging residues.

rotten tree—A live tree of commercial species that does not contain a saw log now or prospectively primarily because of rot (that is, when rot accounts for more than 50 percent of the total cull volume).

rough tree—(a) A live tree of commercial species that does not contain a saw log now or prospectively primarily because of roughness (that is, when sound cull due to such factors as poor form, splits, or cracks accounts for more than 50 percent of the total cull volume) or (b) a live tree of noncommercial species.

roundwood products—Logs, bolts, and other round timber generated from harvesting trees for industrial or consumer use.

rural-urban continuum—A classification of U.S. counties by urban characteristic as described by Butler and Beale (1993). Classes are generically defined as follows:

Major metro

> **Major metro—**Central: Central counties of metropolitan areas of 1 million population or more.
>
> **Major metro—**Fringe: Fringe counties of metropolitan areas of 1 million population or more.

Intermediate and small metro

> **Intermediate metro—**Counties in metropolitan areas of 250,000 to 1 million population.
>
> **Small metro—**Counties in metropolitan areas of less than 250,000 population.

Large town

> **Large town metro—**Urban population of 20,000 or more, adjacent to a metropolitan area.
>
> **Large town nonmetro—**Urban population of 20,000 or more, not adjacent to a metropolitan area.

Small town

> **Small town metro—**Urban population of 2,500 to 19,999, adjacent to a metropolitan area.
>
> **Small town nonmetro—**Urban population of 2,500 to 19,999, not adjacent to a metropolitan area.

Rural

> **Rural metro—**Completely rural (no places with a population of 2,500 or more) adjacent to a metropolitan area.
>
> **Rural nonmetro—**Completely rural (no places with a population of 2,500 or more) not adjacent to a metropolitan area.

salvable dead tree—A downed or standing dead tree that is considered currently or potentially merchantable by regional standards.

saplings—Live trees 1.0 inch through 4.9 inches d.b.h.

saw log—A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark of 6 inches for softwoods and 8 inches for hardwoods, or meeting other combinations of size and defect specified by regional standards.

seedlings—Live trees less than 1.0 inch d.b.h. and at least 1 foot in height.

select red oaks—A group of species in the genus *Quercus* that includes cherrybark oak, northern red oak, and Shumard oak.

select white oaks—A group of species in the genus *Quercus* that includes white oak, swamp white oak, bur oak, swamp chestnut oak, and chinkapin oak.

softwood—A coniferous tree, usually evergreen, having needles or scale-like leaves.

sound dead—The net volume in salvable dead trees.

stand size class—A classification of forest land based on the size class of all-live trees in the area. The classes include the following:

> **nonstocked stands—**Forest land that is stocked with less than 10 percent of full stocking with all-live trees. Examples are recently cut-over areas or reverting agricultural fields.
>
> **seedling-sapling stands—**Forest land that is stocked with at least 10 percent of full stocking with all-live trees with one-half or more of such stocking in seedlings or saplings or both.
>
> **poletimber stands—**Forest land that is stocked with at least 10 percent of full stocking with all-live trees with one-half or more of such stocking in poletimber or sawtimber trees or both, and in which the stocking of poletimber exceeds that of sawtimber.
>
> **sawtimber stands—**Forest land that is stocked with at least 10 percent of full stocking with all-live trees with one-half or more of such stocking in poletimber or sawtimber trees or both, and in which the stocking of sawtimber is at least equal to that of poletimber.

State—An ownership class of public lands owned by States or lands leased by States for more than 50 years.

stocking—The degree of occupancy of land by trees, measured by basal area or number of trees by size and spacing, or both, compared to a stocking standard; that is, the basal area or number of trees, or both, required to fully utilize the growth potential of the land.

timberland—Forest land that is producing or is capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation. (Note: Areas qualifying as timberland are capable of producing in excess of 20 cubic feet (1.4 cubic meters) per acre (0.4 hectare) per year of industrial wood in natural stands. Currently inaccessible and inoperable areas are included.)

> **natural timberland—**Productive forests composed of trees established by natural regeneration of existing seed sources, root suckers, stump sprouts, etc. Establishment may be either afforestation on land that until then was not classified as forest, or by reforestation of land classified as forest after a disturbance or following harvest.
>
> **planted timberland—**Productive forests composed of trees established through planting and/or seeding of native or introduced species. Establishment may be either afforestation on land that until then was not classified as forest, or by reforestation of land classified as forest after a disturbance or following harvest.

tops—The wood of a tree above the merchantable height (or above the point on the stem 4.0 inches diameter outside bark). It includes the usable material in the uppermost stem.

unreserved forest land—Forest land that is not withdrawn from harvest by statute or administrative regulation. Includes forest lands that are not capable of producing in excess of 20 cubic feet per acre per year of industrial wood in natural stands.

veneer log—A roundwood product from which veneer is sliced or sawn and that usually meets certain standards of minimum diameter and length and maximum defect.

weight—The weight of wood and bark, oven-dry basis (approximately 12-percent moisture content).

woodland—Land at least 120 feet (37 meters) wide and at least 1 acre (0.4 hectare) in size with sparse trees capable of achieving 16.4 feet (5 meters) in height with a tree canopy cover of 5 to 10 percent combined with shrubs at least 6 feet (2 meters) in height to achieve an overall cover of greater than 10 percent of woody vegetation. Trees are woody plants having a more or less erect perennial stem(s) capable of achieving at least 3 inches (7.6 cm) d.b.h., or 5 inches (12.7 cm) diameter at root collar, and a height of 16.4 feet (5 meters) at maturity *in situ*. The definition here includes all areas recently having such conditions and currently regenerating or capable of attaining such condition in the near future. It does not include land that is predominantly under agricultural or urban land use.

xerophytic plants—Plants growing where soil moisture conditions are very dry most of the time.