

GLOSSARY

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 ownership class of federal lands administered by the Bureau of Land Management, U.S. Department of the Interior.

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 owned 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 and rough trees.)

Diameter class: A classification of trees based on diameter outside bark measured at breast height (4-1/2 feet above ground). D.b.h. is the common abbreviation for "diameter at breast height." With 2-inch diameter classes, the 6-inch class, for example, includes trees 5.0 through 6.9 inches d.b.h.

Farmer: An ownership class of private lands owned by a person who operates a farm, either personally doing the work or directly supervising the work.

Federal: An ownership class of public lands owned 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 owned by companies or individuals operating wood-using plants.

Forest land: Land at least 10% stocked by forest trees of any size, including land that formerly had such tree cover and that will be naturally or artificially regenerated. Forest land includes transition zones, such as areas between heavily forested and nonforested lands that are at least 10% stocked with forest trees and forest areas adjacent to urban and built-up lands. Also included are pinyon-juniper and chaparral areas in the West and afforested areas. The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest if less than 120 feet wide.

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

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 red cedar comprises 25%-50% 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%-50%, 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%-50%, 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, the 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.
- Chaparral:** Forests of heavily branched, dwarfed trees or shrubs, usually evergreen, the crown canopy of which at maturity covers more than 50% of the ground and whose primary value is watershed protection. The more common chaparral constituents are species of *Quercus*, *Cercocarpus*, *Garrya*, *Ceanothus*, *Arctostaphylos*, and *Adenostoma*. Types dominated by such shrubs as *Artemisia*, *Chrysothamnus*, *Purshia*, *Gutierrezia*, or semidesert species are not commonly considered chaparral.
- 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 above 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 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.

International 1/4-inch: A log rule, or formula, for estimating the board-foot volume of logs. The mathematical formula is:

$$(0.22D^2 - 0.17D)(0.904762),$$

for 4-foot sections, where D = diameter inside bark at the small end of the section.

Land area: The area of dry land and land temporarily or partly covered by water, such as marshes, swamps, and river food 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.

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.

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 board feet: The gross board-foot volume of the saw log portion of live sawtimber trees less deductions for rot or other defect affecting use for lumber.

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: This 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., more than 1 acre, to qualify as nonforest land.)

Nonindustrial private: An ownership class of private lands where the owner does not operate wood-using plants.

Non-stocked areas: Timberland less than 10% stocked with growing stock trees.

Other federal: An ownership class of federal lands other than those administered by the Forest Service or the Bureau of Land Management.

Other forest land: Forest land other than timberland and productive reserved forest land. It includes available and reserved forest land, which is incapable of producing annually 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions, such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness. Urban forest land is also included.

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 Forest.

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. This does not include volume removed from inventory by reclassification of timberland to productive reserved forest land.

Other sources: Sources of roundwood products that are non-growing 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 persons; 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.

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.

Productive reserved forest land: Forest land that would otherwise be classified as timberland, except that it is withdrawn from timber utilization by statute or administrative regulation.

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.

Pulpwood: Roundwood, whole-tree chips, or wood residues that are used for the production of wood pulp.

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. This 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% 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 because of factors such as poor form, splits, or cracks accounts for more than 50% 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.

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.

Sawtimber: A classification of timber inventory that is composed of sawtimber trees of commercial species.

Sawtimber trees: Live trees containing at least one 12-foot saw log or two noncontiguous 8-foot logs, and meeting regional specifications for freedom from defect. Softwood trees must be at least 9.0 inches d.b.h., and hardwood trees must be at least 11.0 inches d.b.h.

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.

Nonstocked stands: Forest land that is stocked with less than 10% 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% 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% 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% 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 that is not withdrawn from timber utilization by statute or administrative regulation. (Note: Areas qualifying as timberland are capable of producing more than 20 cubic feet per acre per year of industrial wood in natural stands. Currently inaccessible and inoperable areas are included.)

Tops: The wood of a tree above the merchantable height (or above the point on the stem 4.0 inches diameter outside bark [d.o.b.]). 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.

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% moisture content).

APPENDIX A.—PROCEDURES FOR THE UPDATE

The resource statistics presented in this report are derived from information collected in periodic surveys of the forest resources in each state and Forest Service Region. Six Forest and Range Experiment Stations and nine National Forest Regions (appendix tables F and G) provided inventory data. With the exception of the two eastern Regions, the surveys on National Forests are conducted by the Regions, while the Experiment Stations survey the non-National Forest land.

All of the inventories used here were not actually conducted in 1992, but, instead, data were collected periodically. The average cycle nationally is 10 years; therefore, for a 5-year update, one would expect approximately one-half of the data to come from new inventories. If inventories were completed after January 1, 1989, the data were accepted as current, new inventories. If inventories were completed before 1989, their data either were updated to 1992, or were left as they were reported in the last assessment. The approach to updating differed by Region or Station, depending on the availability of models, techniques, and supporting data. A full accounting of the inventory status for National Forests and states (non-National Forest) for this update is given in Appendix D, which can be summarized as follows:

Ownership type	Type of inventory			Total
	Old not updated	Old updated	New	
	----- number -----			
National Forest	86	28	42	156
Non-Natl. Forest	8	22	20	50
Total	94	50	62	206

The resource estimates of area and timber volume shown in the tables of this report are our best estimates for 1992; but they are not all derived from new inventories. Asterisks are used in the tables to further highlight situations where estimates are unchanged from the last assessment.

The forest inventory information from Region and Station inventories was loaded into a relational data base management system. The data base tables were developed from three sets of data. One set contains area and volume inventory data (generally for individual sample plots or strata). Another contains volume by species and diameter class (generally for states or Na-

tional Forests). The third is timber product output data, which were obtained by the Stations and are for entire states.

The historical data for 1952, 1962, 1977, and 1987 were extracted from the last assessment document (Waddell et al. 1989). In some cases, the 1987 data were taken from the data bases created for the last assessment, but were modified slightly to correct some errors and, in some cases, to use more timely survey results for that period.

There have been a few other procedural changes since the 1990 assessment. For 1992 data, Indian lands now are considered private lands and are grouped with the "Other Private" owners in the tables. In the historical area table (table 7), where a separate breakout for Indian lands was available, the historical data for Indian lands was also added to the "Other Private" owner category. In some volume tables with historical data (tables 12, 13, 14, 15, 32, 33), Indian lands for previous dates still are included in the "Other Public" owner category, because a breakout for Indian lands was unavailable. This results in the appearance of some big changes between 1987 and 1992 for some states in those two owner categories. Those tables where changes occurred because of Indian land ownership conversion are footnoted.

For this update, the 1990 Bureau of the Census land area estimates are used for total land area for each state (table 1). Because these data form the foundation for forest land estimates, this change has caused some adjustments in forest statistics. Another change, which affects the area estimates for National Forests, is that the total area for each National Forest was adjusted to match the information compiled by the Forest Service's Lands staff (U.S. Department of Agriculture, Forest Service 1990), while the 1987 area estimates were adjusted to match earlier information (U.S. Department of Agriculture, Forest Service 1985).

Estimates of mortality, growth, and removals (i.e., components of change) are dated 1991 in this update report. Mortality and growth commonly are derived from periodic remeasurement of permanent plots; and, therefore, are annual estimates averaged over the period between measurements. Unless a new inventory was conducted, the mortality and growth estimates generally were not updated. Removals estimates were not derived from remeasurement data, but were obtained by Stations from timber products output surveys and various timber harvesting reports for each state. They

are not averaged over a period, but are for the most recent year that the surveys were conducted. In this sense, they are more reflective of the market conditions for a specific point in time, and may not be strictly comparable to other components of change estimates.

For additional information on the forest resources, inventory and updating techniques, and statistical reli-

ability of inventory data for specific states or National Forests, contact the Station and Region offices listed in the appendices F and G. For queries and retrievals from either the 1987 or 1992 data bases (used to create the tables in the last assessment or in this update), contact the Forest Inventory and Analysis Unit in Starkville, MS (Appendix F).

APPENDIX B.—FOREST TYPE GROUP MAP

In the back of this publication, there is a map of the United States showing the distribution of forest land by the forest type groups recognized by the Forest Service.

In previous RPA assessments, no attempt was made to produce a map to provide a visual representation of forest cover. For the U.S. as a whole, the primary source of general forest cover distributions has been the 1967 Major Forest Types map compiled originally from older maps and field data (U.S. Department of Agriculture, Forest Service 1967; Eyre, ed. 1980). The data interpolation approach, used to produce the older maps, depicted generalized, rather than detailed, actual distributions of forest types. In many places, the forest coverage information provided by the 1967 map is out of date.

Recent advances in computer and remote sensing technologies enabled scientists to characterize land cover features and produce thematic maps over large regions. Application of these new technologies led the effort to produce a forest type group map for the current RPA assessment update. The map was produced by the

Forest Inventory and Analysis research unit of the Forest Service, Southern Forest Experiment Station (SO-FLA).

Because there have been no other satellite data based forest type maps available for the U.S., the new RPA forest type group map is significant, not only for the current RPA assessment update, but also for meeting needs of knowledge about a changing global environment. This map supports data tables and analysis reported in this document by presenting regional patterns of the most current forest type distributions. It also provides a needed update for older forest type maps, and establishes a precedent for use in future forest resource monitoring.

Verification was performed by comparison of area estimates from the map to recent Forest Service inventory area estimates at the state level. Average bias of percent forest estimates of the 50 states was 1.95%, with a standard deviation of 1.47%. The minimum bias was 0.07%, and the maximum bias was 7.32%.

Further information on the procedures for developing the map can be found in Zhu and Evans (1992).

APPENDIX C.—METRIC EQUIVALENTS FOR VARIOUS UNITS OF MEASURE

1 acre	= 0.404686 hectares
1,000 acres	= 404.686 hectares
1 board foot	= 0.00348 cubic meters
1,000 board feet	= 3.48 cubic meters
1 cubic foot	= 0.028317 cubic meters
1,000 cubic feet	= 28.317 cubic meters
1 inch	= 2.54 centimeters or 0.0254 meters
1 foot	= 30.48 centimeters or 0.3048 meters
1 mile	= 1.609 kilometers
1 square foot	= 0.0929 square meters
1 square foot per acre basal area	= 0.229568 square meters per hectare
1 ton	= 0.90718 metric tons
Breast height	= 1.4 meters above ground level

Although 1,000 board feet is theoretically equivalent to 2.36 cubic meters, this is true only when a board foot is actually a piece of wood with a volume 1/12 of cubic foot. The International 1/4-inch log rule is used by the Forest Service to estimate the product potential in board feet. The reliability of the estimate obtained by conversion will vary with the size of the log measured. The conversion given here, 3.48 cubic meters, is based on the cubic volume of a log 16 feet long and 15 inches in diameter inside bark (d.i.b.), at the small end. This conversion could be used for average comparisons when accuracy of 10% is acceptable. Because the board foot unit is not a true measure of wood volume, and because products other than dimension lumber are becoming important, this unit may eventually be phased out and replaced by the cubic meter.

APPENDIX D.—(CONTINUED)

State/Administrative Forest or Non-national forest lands	Old inventory - not updated	Old inventory - updated	New Inventory
Connecticut: Non-national forest lands		•	
Delaware: Non-national forest lands		•	
Florida: Non-national forest lands NFS in Florida (Region 8)	• •		
Georgia: Non-national forest lands Chattahoochee-Oconee (Region 8)			• •
Hawaii: Non-national forest lands	•		
Idaho: Non-national forest lands Bitterroot (Region 1) Boise (Region 4) Cache (Region 4) Caribou (Region 4) Challis (Region 4) Clearwater (Region 1) Coeur D'Alene (Region 1) Kaniksu (Region 1) Kootenai (Region 1) Nez Perce (Region 1) Payette (Region 4) Salmon (Region 4) Sawtooth (Region 4) St. Joe (Region 1) Targhee (Region 4) Wallowa (Region 6)	• • • • • • • • • • • • • • • • •		•
Illinois: Non-national forest lands Shawnee (Region 9)		• •	
Indiana: Non-national forest lands Hoosier (Region 9)		• •	
Iowa: Non-national forest lands			•
Kansas: Non-national forest lands		•	
Kentucky: Non-national forest lands Daniel Boone (Region 8) Jefferson (Region 8)			• • •
Louisiana: Non-national forest lands Kisatchie (Region 8)			• •

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APPENDIX D.—(CONTINUED)

State/Administrative Forest or Non-national forest lands	Old inventory - not updated	Old inventory - updated	New inventory
Maine: Non-national forest lands White Mountain (Region 9)		• •	
Maryland: Non-national forest lands		•	
Massachusetts: Non-national forest lands		•	
Michigan: Non-national forest lands Hiawatha (Region 9) Huron-Manistee (Region 9) Ottawa (Region 9)		• • • •	
Minnesota: Non-national forest lands Chippewa (Region 9) Superior (Region 9)			• • •
Mississippi: Non-national forest lands NFS in Mississippi (Region 8)			• •
Missouri: Non-national forest lands Mark Twain (Region 9)			• •
Montana: Non-national forest lands Beaverhead (Region 1) Bitterroot (Region 1) Custer (Region 1) Deerlodge (Region 1) Flathead (Region 1) Gallatin (Region 1) Helena (Region 1) Kaniksu (Region 1) Kootenai (Region 1) Lewis & Clark (Region 1) Lolo (Region 1)	• • • • • • • • • • • •		•
Nebraska: Non-national forest lands Nebraska (Region 2)	•	•	
Nevada: Non-national forest lands Eldorado (Region 5) Humboldt (Region 4) Inyo (Region 5) Toiyabe (Region 4)	• • •		• •
New Hampshire: Non-national forest lands White Mountain (Region 9)		• •	

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APPENDIX D.—(CONTINUED)

State/Administrative Forest or Non-national forest lands	Old inventory - not updated	Old Inventory - updated	New Inventory
New Jersey: Non-national forest lands		•	
New Mexico: Non-national forest lands Apache (Region 3) Carson (Region 3) Cibola (Region 3) Coronado (Region 3) Gila (Region 3) Lincoln (Region 3) Santa Fe (Region 3)		• • • • • • •	• •
New York: Non-national forest lands Finger Lakes (Region 9)		• •	
North Carolina: Non-national forest lands NFS in North Carolina (Region 8)			• •
North Dakota: Non-national forest lands		•(Volume)	
Ohio: Non-national forest lands Wayne (Region 9)			• •
Oklahoma: Non-national forest lands Ouachita (Region 8)		• •	
Oregon: Non-national forest lands Deschutes (Region 6) Fremont (Region 6) Klamath (Region 5) Malheur (Region 6) Mt. Hood (Region 6) Ochoco (Region 6) Rogue River (Region 6) Siskiyou (Region 6) Siuslaw (Region 6) Umatilla (Region 6) Umpqua (Region 6) Wallowa (Region 6) Whitman (Region 6) Willamette (Region 6) Winema (Region 6)	• • • • • • • • • • • • • • • •	•(West)	•(East) •
Pennsylvania: Non-national forest lands Allegheny (Region 9)			• •
Rhode Island: Non-national forest lands		•	

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APPENDIX D.—(CONTINUED)

State/Administrative Forest or Non-national forest lands	Old inventory - not updated	Old inventory - updated	New inventory
South Carolina: Non-national forest lands Francis Marion-Sumter (Region 8)	• •		•(Hugo) •(Hugo)
South Dakota: Non-national forest lands Black Hills (Region 2) Custer (Region 1)	• • •		
Tennessee: Non-national forest lands Cherokee (Region 8)			• •
Texas: Non-national forest lands NFS in Texas (Region 8)		• •	
Utah: Non-national forest lands Ashley (Region 4) Cache (Region 4) Caribou (Region 4) Dixie (Region 4) Fishlake (Region 4) Manti-LaSal (Region 4) Sawtooth (Region 4) Uinta (Region 4) Wasatch (Region 4)	• • • • • • • • • •		
Vermont: Non-national forest lands Green Mountain (Region 9)		• •	
Virginia: Non-national forest lands George Washington (Region 8) Jefferson (Region 8)		• • •	
Washington: Non-national forest lands Colville (Region 6) Gifford Pinchot (Region 6) Kaniksu (Region 1) Mt. Baker (Region 6) Okanogan (Region 6) Olympic (Region 6) Snoqualmie (Region 6) Umatilla (Region 6) Wenatchee (Region 6)	• • • • • • • • •		•
West Virginia: Non-national forest lands George Washington (Region 8) Jefferson (Region 8) Monongahela (Region 9)			• • • •

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APPENDIX D.—(CONTINUED)

State/Administrative Forest or Non-national forest lands	Old inventory - not updated	Old inventory - updated	New inventory
Wisconsin: Non-national forest lands Chequamegon (Region 9) Nicolet (Region 9)		• • •	
Wyoming: Non-national forest lands Ashley (Region 4) Blghorn (Region 2) Black Hills (Region 2) Bridger-Teton (Region 4) Caribou (Region 4) Medicine Bow (Region 2) Shosone (Region 2) Targhee (Region 4) Wasatch (Region 4)	• • • • • • • • • •		

APPENDIX E.—COMMON AND SCIENTIFIC NAMES OF TREE SPECIES

Common name	Scientific name	Common name	Scientific name
Eastern Softwoods:		American beech	<i>Fagus grandifolia</i> Ehrh.
True firs	<i>Abies</i> Mill.	Ash	<i>Fraxinus</i> L.
Balsam fir	<i>A. balsamea</i> (L.) Mill.	Black walnut	<i>Juglans nigra</i> L.
Fraser fir	<i>A. fraseri</i> (Pursh) Poir.	Sweetgum	<i>Liquidambar styraciflua</i> L.
Eastern redcedar	<i>Juniperus virginiana</i> L.	Yellow-poplar	<i>Liriodendron tulipifera</i> L.
Tamarack	<i>Larix laricina</i> (Du Roi) K. Koch	Tupelo, gum	<i>Nyssa</i> L.
Spruce	<i>Picea</i> A. Dietr.	Black tupelo	<i>N. sylvatica</i> Marsh. var. <i>sylvatica</i>
Jack pine	<i>Pinus banksiana</i> Lamb.	Sycamore	<i>Platanus occidentalis</i> L.
Shortleaf pine	<i>P. echinata</i> Mill.	Aspen	<i>Populus</i> L.
Slash pine	<i>P. elliotii</i> Engelm.	Balsam poplar	<i>P. balsamifera</i> L.
Longleaf pine	<i>P. palustris</i> Mill.	Eastern cottonwood	<i>P. deltoides</i> Bartr. ex Marsh.
Red pine	<i>P. resinosa</i> Ait.	Black cherry	<i>Prunus serotina</i> Ehrh.
Eastern white pine	<i>P. strobus</i> L.	Oak	<i>Quercus</i> L.
Loblolly pine	<i>P. taeda</i> L.	White oak	<i>Q. alba</i> L.
Baldcypress	<i>Taxodium</i> Rich.	Swamp white oak	<i>Q. bicolor</i> Willd.
Northern white-cedar ...	<i>Thuja occidentalis</i> L.	Scarlet oak	<i>Q. coccinea</i> Muenchh.
Eastern hemlock	<i>Tsuga canadensis</i> (L.) Carr.	Northern pin oak	<i>Q. ellipsoidalis</i> E. J. Hill
		Southern red oak	<i>Q. falcata</i> Michx.
		Cherrybark oak	<i>Q. falcata</i> var. <i>pagodifolia</i> Ell.
Eastern Hardwoods:		Bear oak	<i>Q. ilicifolia</i> Wangenh.
Maple	<i>Acer</i> L.	Shingle oak	<i>Q. imbricaria</i> Michx.
Red (soft) maple	<i>A. rubrum</i> L.	Overcup oak	<i>Q. lyrata</i> Walt.
Sugar (hard) maple	<i>A. saccharum</i> Marsh.	Bur oak	<i>Q. macrocarpa</i> Michx.
Birch	<i>Betula</i> L.	Blackjack oak	<i>Q. marilandica</i> Muenchh.
Yellow birch	<i>B. alleghaniensis</i> Britton	Swamp chestnut oak	<i>Q. michauxii</i> Nutt.
Paper birch	<i>B. papyrifera</i> Marsh.	Chinkapin oak	<i>Q. muehlenbergii</i> Engelm.
Gray birch	<i>B. populifolia</i> Marsh.	Water oak	<i>Q. nigra</i> L.
Hackberry	<i>Celtis occidentalis</i> L.	Pin oak	<i>Q. palustris</i> Muenchh.

APPENDIX E.—(CONTINUED)

Common name	Scientific name
Willow oak	<i>Q. phellos</i> L.
Chestnut oak	<i>Q. prinus</i> L.
Northern red oak	<i>Q. rubra</i> L.
Shumard oak	<i>Q. shumardii</i> Buckl.
Post oak	<i>Q. stellata</i> Wangenh. var. <i>stellata</i>
Black oak	<i>Q. velutina</i> Lam.
Willow	<i>Salix</i> L.
Basswood	<i>Tilia</i> L.
Elm	<i>Ulmus</i> L.

Western Softwoods:

True firs	<i>Abies</i> Mill.
Pacific silver fir	<i>A. amabilis</i> Dougl. ex Forbes
White fir	<i>A. concolor</i> (Gord. & Glend.) Lindl. ex Hildebr.
Grand fir	<i>A. grandis</i> (Dougl. ex D. Don) Lindl.
Subalpine fir	<i>A. lasiocarpa</i> (Hook.) Nutt.
Juniper	<i>Juniperus</i> L.
Incense-cedar	<i>Libocedrus decurrens</i> Torr.
Engelmann spruce	<i>Picea engelmannii</i> Parry ex Engelm.
Blue spruce	<i>P. pungens</i> Engelm.
Sitka spruce	<i>P. sitchensis</i> (Bong.) Carr.
Lodgepole pine	<i>Pinus contorta</i> Dougl. ex Loud.
Pinyon pine	<i>P. edulis</i> Engelm.

Common name	Scientific name
Apache pine	<i>P. engelmannii</i> Carr.
Limber pine	<i>P. flexilis</i> James
Jeffrey pine	<i>P. jeffreyi</i> Grev. & Balf.
Sugar pine	<i>P. lambertiana</i> Dougl.
Chihuahua pine	<i>P. leiophylla</i> var. <i>chihuahuana</i> (Engelm.) Shaw
Western white pine	<i>P. monticola</i> Dougl. ex D. Don
Ponderosa pine	<i>P. ponderosa</i> Dougl. ex Laws.
Arizona pine	<i>P. ponderosa</i> var. <i>arizonica</i> (Engelm.) Shaw
Douglas-fir	<i>Pseudotsuga menziesii</i> (Mirb.) Franco
Redwood	<i>Sequoia sempervirens</i> (D. Don) Endl.
Western redcedar	<i>Thuja plicata</i> Donn ex D. Don
Western hemlock	<i>Tsuga heterophylla</i> (Raf.) Sarg.
Mountain hemlock	<i>T. mertensiana</i> (Bong.) Carr.

Western Hardwoods:

Red alder	<i>Alnus rubra</i> Bong.
Tanoak	<i>Lithocarpus densiflorus</i> (Hook & Arn.) Rehd.
Cottonwood	<i>Populus</i> L.
Oak	<i>Quercus</i> L.

Source: Little, Elbert L., Jr. 1979. Checklist of United States trees (native and naturalized). Agric. Handb. 541. Washington, DC. U.S. Department of Agriculture, Forest Service. 375 p.

APPENDIX F.—FOREST SERVICE RESEARCH STATIONS WITH RESPONSIBILITIES FOR FOREST INVENTORIES^a

Address	States of responsibility
Northeastern Forest Experiment Station 5 Radnor Corporate Center 100 Matsonford Road, Suite 200 Radnor, PA 19087-4585	Connecticut, Delaware, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, and West Virginia
North Central Forest Experiment Station 1992 Folwell Avenue St. Paul, MN 55108	Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin
Southeastern Forest Experiment Station 200 Weaver Blvd. P.O. Box 2860 Asheville, NC 28802	Florida, Georgia, North Carolina, South Carolina, and Virginia
Southern Forest Experiment Station Forestry Sciences Laboratory 701 Loyola Ave. New Orleans, LA 70113	Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, Texas, and Puerto Rico
Pacific Northwest Research Station P.O. Box 3890 Portland, OR 97208	Alaska, California, Hawaii, Oregon, and Washington
Intermountain Forest and Range Experiment Station Federal Building 324 25th Street Ogden, UT 84401	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming

^aFor additional information contact the Forest Inventory and Analysis Unit at the Research Station.

APPENDIX G.—ADDRESSES OF NATIONAL FOREST SYSTEM REGIONAL OFFICES IN THE UNITED STATES^a

Address	Region	Location of National Forests
Forest Service, USDA Northern Region Federal Building P.O. Box 7669 Missoula, MT 59807	Region 1	Montana, northern Idaho, North Dakota, and northwestern South Dakota
Forest Service, USDA Rocky Mountain Region 740 Simms Street Lakewood, CO 80401	Region 2	Colorado, Kansas, Nebraska, South Dakota, and eastern Wyoming
Forest Service, USDA Southwestern Region Federal Building 517 Gold Avenue S.W. Albuquerque, NM 87102	Region 3	Arizona and New Mexico
Forest Service, USDA Intermountain Region Federal Building 324 25th Street Ogden, UT 84401	Region 4	Southern Idaho, Nevada, Utah, and western Wyoming
Forest Service, USDA Pacific Southwest Region 630 Sansome Street San Francisco, CA 94111	Region 5	California
Forest Service, USDA Pacific Northwest Region 333 S.W. 1st Avenue P.O. Box 3623 Portland, OR 97208	Region 6	Oregon and Washington
Forest Service, USDA Southern Region 1720 Peachtree Road, N.W. Atlanta, GA 30367	Region 8	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Tennessee, Texas, Virginia, West Virginia, and Puerto Rico
Forest Service, USDA Eastern Region 310 West Wisconsin Avenue, Room 500 Milwaukee, WI 53203	Region 9	Connecticut, Delaware, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, West Virginia, and Wisconsin
Forest Service, USDA Alaska Region P.O. Box 21628 Juneau, AK 99802-1628	Region 10	Alaska

^a For additional information contact the Timber Management Staff at the Regional Office.

Abstract

Powell, Douglas S.; Faulkner, Joanne L.; Darr, David R.; Zhu, Zhiliang; MacCleery, Douglas W. 1993. Forest resources of the United States, 1992. General Technical Report RM-234. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 132 p. + map. [Revised, June 1994]

The 1987 Resources Planning Act (RPA) Assessment forest resources statistics are updated to 1992, to provide current information on the Nation's forests. Resource tables present estimates of forest area, volume, mortality, growth, removals, and timber products output. Resource data are analyzed, and trends since 1987 are noted. A forest type map produced from satellite imagery is included to provide a visual display of the location of forest land.

Keywords: RPA, assessment, inventory, forest statistics, area, volume, forest history, AVHRR, map.

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