

## Forest Glossary

\*Note: Unless otherwise noted, the definitions conform to the usage of the USDA Forest Service.

### **Acre**

A unit of area that contains 43,560 square feet.

### **Aspect**

The direction of drainage for most of the plot, recorded as the azimuth of this direction. 0 indicates no slope.

#### Aspect Classes

North	337.6 - 22.5 degrees
Northeast	22.6 - 67.5 degrees
East	67.6 - 112.5 degrees
Southeast	112.6 - 157.5 degrees
South	157.6 - 202.5 degrees
Southwest	202.6 - 247.5 degrees
West	247.6 - 292.5 degrees
Northwest	292.6 - 337.5 degrees

### **Average annual mortality**

The average volume of either growing-stock or sawtimber that died in one year of natural causes for the time period between two successive forest inventories. In the western states, this variable represents the annual mortality at the time of the current inventory.

### **Average net annual growth**

The average change in volume of either growing-stock or sawtimber in one year for the time period between two successive forest inventories minus the average annual volume lost to mortality from natural causes (average annual mortality). In the western states, this variable represents the annual growth at the time of the current inventory.

### **Average annual removals**

The average volume of either growing-stock or sawtimber removed from the inventory in one year by harvesting, cultural operations (such as timber-stand improvement), land clearing, or changes in land use for the time period between two successive forest inventories. Not available for the western states.

### **Board foot**

A measure of product potential that relates to the amount of lumber that is 1 foot long, 1 foot wide, and 1 inch thick (or the equivalent) that can be obtained from a tree. Board foot in these tables are reported using the international 1/4-inch rule.

### **Central stem**

The portion of a tree between a 1-foot stump and the minimum 4.0-inch top diameter outside bark, or point where the central stem breaks into limbs.

### **Commercial species**

Tree species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality such as sourwood, osage-orange, redbud, mountain-mahogany, and mesquite.)

### **County**

Name of political divisions (counties, parishes, or other similar governmental units) in a State.

### **Crown class**

#### Open grown

Trees with crowns that have received full light from above and from all sides throughout all or most of their life, particularly during early development.

#### Dominant

Trees with crowns extending above the general level of the canopy and receiving full light from above and partly from the sides; larger than the average trees in the stand, and with crowns well developed, but possibly somewhat crowded on the sides.

#### Codominant

Trees with crowns forming part of the general level of the canopy and receiving full light from above, but comparatively little from the side- usually with medium size crowns more or less crowded on the sides.

#### Intermediate

Trees shorter than those in the preceding two classes, but with crowns either below or extending into the canopy formed by the dominant and codominant trees, receiving little direct light- from above, and none from the sides; usually with small crowns very crowded on the sides.

#### Overtopped

Trees with crowns entirely below the general level of the canopy and receiving no direct light either from above or the sides.

### **Crown ratio**

The percentage of the total tree height of live trees that supports a full, live, green, healthy foliage that is effectively contributing to tree growth, and reported by classes:

- 0 - 10 percent
- 10 - 20 percent
- 20 - 30 percent
- 30 - 40 percent
- 40 - 50 percent
- 50 - 60 percent
- 60 - 70 percent
- 70 - 80 percent
- 80 - 100 percent

### **Cubic foot**

A measure of volume that relates to an amount of wood that is 1 foot long, 1 foot wide, and 1 foot thick (or the equivalent).

### **Date of inventory**

A dating of a State's forest inventory based on the calendar year in which most of a State's inventory data were collected. Data variables prefixed with "past" refer to data from the inventory prior to the dated inventory.

### **Damage**

Damage is recorded for live trees if the presence of damage or pathogen activity is serious enough to reduce the quality or vigor of the tree. When a tree is damaged by more than one agent, the most severe damage is coded. Damage recorded for dead trees is the cause of death.

Cause of damage:

- No damage or unknown cause of death
- Insect
- Disease
- Fire
- Animal
- Weather
- Suppression
- Miscellaneous
- Logging/human
- Form (Not used in western states)

**Diameter at root collar (d.r.c.)**

The outside bark diameter of woodland tree species expressed in inches, to the last one-tenth inch, and measured at the base of the tree where the roots and main bole converge.

**Diameter class**

A classification of trees based on d.b.h. or d.r.c. The 2-inch diameter classes commonly used by FIA have an even inch as the approximate midpoint for a class and extend from 1.0 inch below to 0.9 inch above the stated midpoint. Thus, the 12-inch class includes trees 11.0 inches through 12.9 inches in diameter.

**Diameter outside bark (d.o.b.)**

Stem diameter including bark.

**Elevation**

The height above sea level.

## Elevation Classes

0 - 1000 feet  
1001 - 2000 feet  
2001 - 3000 feet  
3001 - 4000 feet  
4001 - 5000 feet  
5001 - 6000 feet  
6001 - 7000 feet  
7001 - 8000 feet  
8000 - 9000 feet  
9000 - 10000 feet  
>10000 feet

**Forest Type**

A classification of forest land in which the named species, either singly or in combination, comprise a plurality of live tree stocking. These types are based on a standard set of local forest types in the Forest Service Handbook, and have been logically organized into broader forest type groups to facilitate reporting. The forest type groups and the forest types in each are as follows:

Douglas-fir

Douglas-fir  
Douglas-fir - Western hemlock  
Port Oxford-cedar - Douglas-fir

Hemlock - Sitka Spruce

Western red cedar  
Sitka spruce  
Mountain hemlock - subalpine fir  
Western hemlock  
Alaska-cedar

Larch

Larch - Douglas-fir  
Grand fir - larch - Douglas-fir  
Ponderosa pine - larch - Douglas -fir

Loblolly-shortleaf pine

Loblolly pine  
Shortleaf pine

Pond pine  
Spruce pine  
Pitch pine  
Table-mountain pine

Lodgepole Pine

Lodgepole pine

Longleaf-Slash Pine

Longleaf pine

Slash pine  
Ponderosa Pine

Ponderosa pine  
Jeffrey pine  
Ponderosa pine - sugar pine

Western White Pine

Western white Pine

White - Red - Jack Pine

Jack pine  
Red pine  
White pine  
White pine - hemlock  
Hemlock  
Scotch pine

Other Western Pine

Coulter pine  
Digger pine - oak  
Knobcone pine  
Bristlecone pine  
Whitebark pine  
Limber pine

Redwood

Redwood

Spruce – Fir

Balsam fir  
Black spruce  
Red spruce - balsam fir  
Northern white-cedar  
Tamarack  
White spruce  
Norway spruce  
Larch  
Red spruce

White fir and grand fir  
Red fir  
Pacific silver fir - hemlock

White pine - northern red oak - white ash Eastern  
redcedar - hardwood  
Longleaf pine - scrub oak  
Shortleaf pine - oak  
Virginia pine - southern red oak  
Loblolly pine - hardwood  
Slash pine - hardwood  
Other oak - pine

Oak-hickory

Post oak - black oak - bear oak  
Chestnut oak  
White oak - red oak - hickory  
White oak  
Northern red oak  
Yellow-poplar - white oak - northern red oak  
Southern scrub oak  
Sweetgum - yellow-poplar  
Mixed central hardwoods

Oak-gum-cypress

Swamp chestnut oak - cherrybark oak  
Sweetgum - Nuttall oak - willow oak  
Sugarberry - American elm - green ash  
Overcup oak - water hickory  
Atlantic white cedar  
Baldcypress - water tupelo  
Sweetbay - swamp tupelo - red maple  
Palm-mangrove - other tropical

Elm-ash-cottonwood

Black ash - American elm - red maple  
River birch - sycamore  
Cottonwood  
Willow  
Sycamore - pecan - American elm  
Red maple - lowland  
Mixed lowland hardwoods

Maple - Beech - Birch

Sugar maple - beech - yellow birch  
Black cherry  
Black walnut  
Red maple - northern hardwood  
Red maple - upland  
Northern hardwood - reverting field  
Mixed northern hardwoods

Aspen - Birch

Aspen  
Paper birch  
Gray birch  
Balsam poplar  
Poplar - birch

Canyon Eve oak  
Oak - Madrone  
Other oaks

Ohia

Pinyon – juniper

Chaparral

Nontyped

(Timberland currently unoccupied by any live trees, e. g. very recent clearcut areas).

### **Growing-stock tree**

Live timberland trees of commercial species that in the East contain at least one 12-foot saw log or two saw logs 8 feet or longer, or that in the West contain at least one 8-foot saw log, now or prospectively, and meet specified standards of size, quality, and merchantability. (Note: Excludes rough, rotten, and dead trees.)

### **Hardwoods**

Dicotyledonous trees, usually broad-leaved and deciduous.

### **Hard hardwoods**

Hardwood species with an average specific gravity greater than 0.50, such as oaks, hickories, or hard maples.

### **International 1/4-inch rule**

A log rule or formula for estimating the board foot volume of logs, allowing 1/2 inch of taper for each 4-foot length and 1/4 inch of kerf.

### **Land use class**

A classification that indicates the basic biological potential of the land and its current use and legal status. Initially, land is broken into two broad classes (forest and nonforest). These broad classes are then separated into the more specific classes:

#### **Forest Land**

Land currently growing forest trees of any size with a total stocking value of at least 16.7 (10 base 100 in the West), or lands formerly forested, currently capable of becoming forest land, and not currently developed for nonforest uses. These lands must be a minimum of 1 acre in area. Roadside, streamside, and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads, trails, streams, and clearings within forest areas are classified as forest land if they are less than 120 feet wide. Recently clearcut areas that are currently nonstocked are classed as forest land unless they are being used for a nonforest use such as agriculture. Forest land is divided into two categories (timberland and other forest land), and both of these categories may be further classified as reserved if harvesting of trees is prohibited by statutory or administrative restrictions.

#### **Timberland**

Forest land that is producing, or capable of producing, in excess of 20 cubic feet per acre per year of industrial roundwood products, and is not withdrawn from timber utilization by statute or administrative regulation.

#### **Other Forest Land**

Forest land not capable of producing crops of industrial wood. This may be the result of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, and rockiness. Trees on these sites are usually of poor form, small

### Reserved Timberland

Timberland that has statutory or administrative restrictions prohibiting the harvest of trees. Examples include land within the National Wilderness Preservation System, Research Natural Areas, National Parks and Monuments, and State Parks. In National Forests, reserved forest lands are referred to collectively as withdrawn forest land.

### Reserved Other

Other forest land that has statutory or administrative Forest Land restrictions prohibiting the harvest of trees. Examples include land within the National Wilderness Preservation System, Research Natural Areas, National Parks and Monuments, and State Parks. In National Forests, reserved forest lands are referred to collectively as withdrawn forest land.

### Nonforest Land

Land that has never supported forests or land formerly forested but now developed for uses such as agriculture, residence, commerce, industry, city parks, or improved roads. If located within forest arm, unimproved roads and nonforested strips must be more than 120 feet wide, and clearings and other openings in a forest area must be more than 1 acre to qualify as nonforest land. Nonforest land also includes streams, sloughs, estuaries, and canals more than 120 feet wide but less than one-eighth of a mile (660 feet) wide, or lakes, reservoirs, and ponds 1 to 40 acres in size.

### Census Water

Streams, sloughs, estuaries, and canals more than one-eighth of a statute mile (660 feet) wide, and lakes, reservoirs, and ponds more than 40 acres in size.

### Live trees

AU living trees. Included are all size classes, all tree classes, and both commercial and noncommercial species.

### Merchantable sections

Refers to sections of the central stem of growing-stock trees that meet either pulpwood or saw-log specifications.

### Net volume

Gross volume less deductions for rot, sweep, or other defects affecting use for roundwood products.

### Noncommercial species

Trees species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial roundwood products. Classified in volume tables as rough trees. Includes those western species classified as woodland hardwoods in the Westwide data base.

### Ownership

A classification of forestland based on the legal owner at the time of the current inventory. Also indicates private lands leased to forest industry. Individual ownership's are logically organized into ownership groups and classes for reporting purposes:

Ownership Group	Ownership Class	Description
National Forest	National Forest	Lands owned or administered by USDA Forest Service, National Forest System. Lands owned or administered by USDA Forest Service, National Forest System
Other Public	Bureau of Land Management	Lands administered by USDI Bureau of Land Management.
Misc. Federal Lands	Other Federal agencies	These include military reservations,

State Lands		Owned, or leased for more than 50 years
County/municipal Lands		Owned, or leased for more than 50 years
Forest Industry	Forest Industry	Lands owned by companies or individuals operating wood-using plants. These include lands leased to forest industry.
Other Private	Farmer Rancher	Lands owned by an individual who operates a farm or a ranch and who either does or directly supervises the work.
Private corporate		Lands owned by private corporations other than forest industry or farmers.
Private individual		Lands owned by individuals other than farmers.
Tribal trust		Lands held in trust by the Federal Government for a Native American tribe or individual.

### Physiographic class

A measure of soil and water conditions that affect tree growth on the plot.

Class	Definition
Xeric	Very dry soils where excessive drainage seriously limits both growth and species occurrence.
Xeromesic	Moderately dry soils where excessive drainage limits growth and species occurrence to some extent.
Mesic	Deep, well-drained soils. Growth and species occurrence limited only by climate.
Hydromesic	Moderately wet soils where insufficient drainage or infrequent flooding limits growth and species occurrence to some extent.
Hydric	Very wet sites where excess water seriously limits both growth and species occurrence.

### Rotten cull tree

Live trees of commercial species that in the East do not contain at least one 12-foot saw log or two saw logs 8 feet or longer, or that in the West do not contain at least one 8-foot saw log, now or prospectively, and/or do not meet regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent (66 percent at the Southeastern Station) of the cull volume in a tree is rotten.

### Rough cull tree

Live trees of commercial species that in the East do not contain at least one 12-foot saw log or two saw logs 8 feet or longer, or that in the West do not contain at least one 8-foot saw log, now or prospectively, and/or do not meet regional specifications for freedom from defect primarily because of roughness or poor form. Includes all trees of noncommercial species in the East and

Standing or downed dead trees that were formerly growing stock and are considered merchantable. Trees must be at least 5.0 inches in diameter to qualify.

### **Saw-log portion**

That portion of the central stem of sawtimber trees between the stump and the saw-log top.

### **Saw-log top**

The point on the central stem of sawtimber trees above which a saw log can not be produced. The minimum saw log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

### **Sawtimber tree**

A growing-stock tree that in the East contains at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, or that in the West contains at least an 8-foot saw log, and meets regional specifications for freedom from defect. Softwoods must be at least 9.0 inches diameter and hardwoods must be at least 11.0 inches diameter.

### **Select red oaks**

A group of several red oak species composed of cherrybark, Shumard, and northern red oaks. Other red oak species are included in the "other red oaks" group.

### **Select white oaks**

A group of several white oak species composed of white, swamp chestnut, swamp white, chinkapin, Durand, and bur oaks. Other white oak species are included in the "other white oaks" group.

### **Site class**

A classification of forest land in terms of inherent capacity to grow crops of industrial wood. The class identifies the average potential growth in cubic feet/acre/year (trees 5 inches diameter or larger to a 4-inch top) and is based on the culmination of mean annual increment of fully stocked natural stands.

Site productivity classes

165+ cubic feet/acre/year  
120-164 cubic feet/acre/year  
85-119 cubic feet/acre/year  
50-84 cubic feet/acre/year  
<50 cubic feet/acre/year

### **Slope**

The average percent deviation from horizontal.

Slope Classes

0 - 5 percent  
6 - 10 percent  
11 - 20 percent  
21 - 30 percent  
31 - 40 percent  
41 - 50 percent  
51 - 60 percent  
61 - 70 percent  
71 - 80 percent  
80+ percent

### **Softwoods**

Coniferous trees, usually evergreen, having needles or scale-like leaves.

## Soft hardwoods

Hardwood species with an average specific gravity less than 0.50, such as cottonwoods, basswoods, or willows.

## Species and species groups

The common name of individual trees, and their assignments into broader species groups for reporting, taxonomic, and utilitarian reasons:

Common Name:	Species Name:	Broad Species:	Softwood-Hardwood Group:
Fir Sp.	Spruce - Fir	Other Softwood	Softwood
Balsam Fir	Spruce - Fir	Other Softwood	Softwood
White Fir	Spruce - Fir	Other Softwood	Softwood
Fraser Fir	Spruce - Fir	Other Softwood	Softwood
Grand Fir	Spruce - Fir	Other Softwood	Softwood
Corkbark Fir	Spruce - Fir	Other Softwood	Softwood
Subalpine Fir	Spruce - Fir	Other Softwood	Softwood
California Red Fir	Spruce - Fir	Other Softwood	Softwood
Atlantic White-Cedar	Other Softwoods	Other Softwood	Softwood
Cypress Sp.	Other Softwoods	Other Softwood	Softwood
Arizona Cypress	Other Softwoods	Other Softwood	Softwood
Pinchot Juniper	Pinyon - juniper	Other Softwood	Softwood
Redberryjuniper	Pinyon - juniper	Other Softwood	Softwood
Redcedar 1/	Other Softwoods	Other Softwood	Softwood
California juniper	Pinyon - juniper	Other Softwood	Softwood
AUigatorjuniper	Pinyon - juniper	Other Softwood	Softwood
Western juniper	Pinyon - juniper	Other Softwood	Softwood
Utah juniper	Pinyon - juniper	Other Softwood	Softwood
Rocky Mountain Juniper	Pinyon - juniper	Other Softwood	Softwood
Southern Redcedar	Other Softwoods	Other Softwood	Softwood
Eastern Redcedar	Other Softwoods	Other Softwood	Softwood
Oneseed Juniper	Pinyon - juniper	Other Softwood	Softwood
Larch (Introduced)	Other Softwoods	Other Softwood	Softwood
Tamarack (Native)	Other Softwoods	Other Softwood	Softwood
Subalpine Larch	Other Softwoods	Other Softwood	Softwood
Western Larch	Western Larch	Other Softwood	Softwood
Incense-Cedar	Incense Cedar	Other Softwood	Softwood
Spruce	Spruce - Fir	Other Softwood	Softwood
Norway Spruce	Spruce - Fir	Other Softwood	Softwood
Engelmann Spruce	Spruce - Fir	Other Softwood	Softwood
White Spruce	Spruce - Fir	Other Softwood	Softwood
Black Spruce	Spruce - Fir	Other Softwood	Softwood
Blue Spruce	Spruce - Fir	Other Softwood	Softwood
Red Spruce	Spruce - Fir	Other Softwood	Softwood
Whitebark Pine	Other Pines	Pine	Softwood
Bristlecone Pine	Other Pines	Pine	Softwood
Jack Pine	Jack Pine	Pine	Softwood
Twoneedle Pinyon	Pinyon - juniper	Other Softwood	Softwood
Sand Pine	Other Pines	Pine	Softwood
Lodgepole Pine	Lodgepole Pine	Pine	Softwood
Shortleaf Pine	Loblolly & Shorleaf P.	Pine	Softwood
Slash Pine	Longleaf & Slash Pine	Pine	Softwood
Apache Pine	Other Pines	Pine	Softwood
Lirnber Pine	Other Pines	Pine	Softwood
Southwestern White Pine	Other Pines	Pine	Softwood
Spruce Pine	Other Pines	Pine	Softwood
Jeffrey Pine	Ponderosa & Jeffrey P.	Pine	Softwood
Sugar Pine	Sugar Pine	Pine	Softwood
Chihuahuan Pine	Other Pines	Pine	Softwood
Western White Pine	Western White Pine	Pine	Softwood
Longleaf Pine	Longleaf & Slash Pine	Pine	Softwood
Ponderosa Pine	Ponderosa & Jeffrey P.	Pine	Softwood
Table Mountain Pine	Other Pines	Pine	Softwood
Red Pine	Eastern White & Red P.	Pine	Softwood
Pitch Pine	Other Pines	Pine	Softwood

Virginia Pine	Other Pines	Pine	Softwood
Austrian Pine	Other Pines	Pine	Softwood
Singleleaf Pinyon	Pinyon - Juniper	Other Softwood	Softwood
Border Pinyon	Pinyon - juniper	Other Softwood	Softwood
Arizona Pine	Ponderosa & Jeffrey P.	Pine	Softwood
Douglas-Fir	Douglas-Fir	Other Softwood	Softwood
Baldcypress	Cypress	Other Softwood	Softwood
Pondcypress	Cypress	Other Softwood	Softwood
Pacific Yew	Other Softwoods	Other Softwood	Softwood
Northern White-Cedar	Other Softwoods	Other Softwood	Softwood
Western Redcedar	Western Redcedar	Other Softwood	Softwood
Hemlock	Eastern Hemlock	Other Softwood	Softwood
Eastern Hemlock	Eastern Hemlock	Other Softwood	Softwood
Carolina Hemlock	Eastern Hemlock	Other Softwood	Softwood
Western Hemlock	Western Hemlock	Other Softwood	Softwood
Mountain Hemlock	Other Softwoods	Other Softwood	Softwood
Acacia	Noncommercial	Hard Hardwood	Hardwood
Florida Maple	Hard Maple	Hard Hardwood	Hardwood
Boxelder	Other Soft Hardwoods	Soft Hardwood	Hardwood
Black Maple	Hard Maple	Hard Hardwood	Hardwood
Striped Maple	Noncommercial	Soft Hardwood	Hardwood
Red Maple	Soft Maple	Soft Hardwood	Hardwood
Silver Maple	Soft Maple	Soft Hardwood	Hardwood
Sugar Maple,	Hard Maple	Hard Hardwood	Hardwood
Mountain Maple	Noncommercial	Hard Hardwood	Hardwood
Rocky Mountain Maple	Noncommercial	Hard Hardwood	Hardwood
Bigtooth Maple	Noncommercial	Hard Hardwood	Hardwood
Buckeye, Horsechestnut	Other Soft Hardwoods	Soft Hardwood	Hardwood
Ohio Buckeye	Other Soft Hardwoods	Soft Hardwood	Hardwood
Yellow Buckeye	Other Soft Hardwoods	Soft Hardwood	Hardwood
Buckeye (Other)	Other Soft Hardwoods	Soft Hardwood	Hardwood
Alianthus	Noncommercial	Soft Hardwood	Hardwood
Serviceberry	Noncommercial	Hard Hardwood	Hardwood
Pawpaw	Noncommercial	Soft Hardwood	Hardwood
Birch Sp.	Other Hard Hardwoods	Hard Hardwood	Hardwood
Yellow Birch	Yellow Birch	Hard Hardwood	Hardwood
Sweet Birch	Other Hard Hardwoods	Hard Hardwood	Hardwood
River Birch	Other Soft Hardwoods	Soft Hardwood	Hardwood
Water Birch	Other Soft Hardwoods	Soft Hardwood	Hardwood
Paper Birch	Other Soft Hardwoods	Soft Hardwood	Hardwood
Gray Birch	Other Soft Hardwoods	Soft Hardwood	Hardwood
Chittamwood	Noncommercial	Hard Hardwood	Hardwood
American Hornbeam	Noncommercial	Hard Hardwood	Hardwood
Hickory Sp.	Hickory	Hard Hardwood	Hardwood
Water Hickory	Hickory	Hard Hardwood	Hardwood
Bitternut Hickory	Hickory	Hard Hardwood	Hardwood
Pignut Hickory	Hickory	Hard Hardwood	Hardwood
Pecan	Hickory	Hard Hardwood	Hardwood
Shellbark Hickory	Hickory	Hard Hardwood	Hardwood
Shagbark Hickory	Hickory	Hard Hardwood	Hardwood
Black Hickory	Hickory	Hard Hardwood	Hardwood
Mockernut Hickory	Hickory	Hard Hardwood	Hardwood
American Chestnut	Other Hard Hardwoods	Hard Hardwood	Hardwood
Allegheny Chinkapin	Other Soft Hardwoods	Soft Hardwood	Hardwood
Ozark Chinkapin	Other Soft Hardwoods	Soft Hardwood	Hardwood
Chinkapin	Noncommercial	Hard Hardwood	Hardwood
Catalpa	Other Soft Hardwoods	Soft Hardwood	Hardwood
Southern Catalpa	Noncommercial	Hard Hardwood	Hardwood
Northern Catalpa	Other Soft Hardwoods	Soft Hardwood	Hardwood
Hackberry Sp.	Other Soft Hardwoods	Soft Hardwood	Hardwood
Sugarberry	Other Soft Hardwoods	Soft Hardwood	Hardwood
Hackberry	Other Soft Hardwoods	Soft Hardwood	Hardwood
Eastern Redbud	Noncommercial	Soft Hardwood	Hardwood
Curlleaf -Mahogany	Noncommercial	Hard Hardwood	Hardwood
True -Mahogany	Noncommercial	Hard Hardwood	Hardwood
Hairy -Mahogany	Noncommercial	Hard Hardwood	Hardwood
Birchleaf -Mahogany	Noncommercial	Hard Hardwood	Hardwood

American Beech	Beech	Hard Hardwood	Hardwood
Ash	Ash	Hard Hardwood	Hardwood
White Ash	Ash	Soft Hardwood	Hardwood
Black Ash	Ash	Hard Hardwood	Hardwood
Green Ash	Ash	Soft Hardwood	Hardwood
Pumpkin Ash	Ash	Soft Hardwood	Hardwood
Blue Ash	Ash	Hard Hardwood	Hardwood
Waterlocust	Other Hard Hardwoods	Hard Hardwood	Hardwood
Honeylocust	Other Hard Hardwoods	Hard Hardwood	Hardwood
Loblolly-Bay	Other Soft Hardwoods	Soft Hardwood	Hardwood
Kentucky Coffeetree	Other Hard Hardwoods	Hard Hardwood	Hardwood
Silverbell	Other Soft Hardwoods	Soft Hardwood	Hardwood
American Holly	Other Hard Hardwoods	Hard Hardwood	Hardwood
Butternut	Other Soft Hardwoods	Soft Hardwood	Hardwood
Black Walnut	Black Walnut	Hard Hardwood	Hardwood
Sweetgum	Sweetgum	Soft Hardwood	Hardwood
Yellow-Poplar	Yellow-Poplar	Soft Hardwood	Hardwood
Osage-Orange	Noncommercial	Hard Hardwood	Hardwood
Magnolia Sp.	Other Soft Hardwoods	Soft Hardwood	Hardwood
Cucumbertree	Other Soft Hardwoods	Soft Hardwood	Hardwood
Southern Magnolia	Other Soft Hardwoods	Soft Hardwood	Hardwood
Sweetbay	Other Soft Hardwoods	Soft Hardwood	Hardwood
Bigleaf Magnolia	Noncommercial	Hard Hardwood	Hardwood
Apple Sp.	Noncommercial	Hard Hardwood	Hardwood
Mulberry Sp.	Other Hard Hardwoods	Hard Hardwood	Hardwood
White Mulberry	Other Hard Hardwoods	Hard Hardwood	Hardwood
Red Mulberry	Other Hard Hardwoods	Hard Hardwood	Hardwood
Water Tupelo	Tupelo And Black Gum	Soft Hardwood	Hardwood
Ogeechee Tupelo	Noncommercial	Hard Hardwood	Hardwood
Blackgum	Tupelo And Black Gum	Soft Hardwood	Hardwood
Swamp Tupelo	Tupelo And Black Gun	Soft Hardwood	Hardwood
Eastern Hophornbeam	Noncommercial	Hard Hardwood	Hardwood
Sourwood	Noncommercial	Hard Hardwood	Hardwood
Paulownia, Empress Tree	Other Soft Hardwoods	Soft Hardwood	Hardwood
Redbay	Other Soft Hardwoods	Soft Hardwood	Hardwood
Sycamore	Other Soft Hardwoods	Soft Hardwood	Hardwood
Cottonwood Sp.	Cottonwood And Aspen	Soft Hardwood	Hardwood
Balsalm Poplar	Cottonwood And Aspen	Soft Hardwood	Hardwood
Eastern Cottonwood	Cottonwood And Aspen	Soft Hardwood	Hardwood
Bigtooth Aspen	Cottonwood And Aspen	Soft Hardwood	Hardwood
Swamp Cottonwood	Cottonwood And Aspen	Soft Hardwood	Hardwood
Plains Cottonwood	Cottonwood And Aspen	Soft Hardwood	Hardwood
Quaking Aspen	Cottonwood And Aspen	Soft Hardwood	Hardwood
Black Cottonwood	Cottonwood And Aspen	Soft Hardwood	Hardwood
Fremont Cottonwood	Cottonwood And Aspen	Soft Hardwood	Hardwood
Silver Poplar	Cottonwood And Aspen	Soft Hardwood	Hardwood
Narrowleaf Cottonwood	Cottonwood And Aspen	Soft Hardwood	Hardwood
Cherry, Plum Spp.	Noncommercial	Hard Hardwood	Hardwood
Pin Cherry	Noncommercial	Soft Hardwood	Hardwood
Black Cherry	Other Soft Hardwoods	Soft Hardwood	Hardwood
Chokecherry	Noncommercial	Hard Hardwood	Hardwood
Bitter Cherry	Noncommercial	Hard Hardwood	Hardwood
Plums, Cherries (Other)	Noncommercial	Hard Hardwood	Hardwood
Canada Plum	Noncommercial	Hard Hardwood	Hardwood
Wild Plum	Noncommercial	Hard Hardwood	Hardwood
Oak Deciduous	Noncommercial	Hard Hardwood	Hardwood
White Oak	Select White Oaks	Hard Hardwood	Hardwood
Arizona White Oak	Noncommercial	Hard Hardwood	Hardwood
Swamp White Oak	Select White Oaks	Hard Hardwood	Hardwood
Scarlet Oak	Other Red Oaks	Hard Hardwood	Hardwood
Durand Oak	Select White Oak	Hard Hardwood	Hardwood
Northern Pin Oak	Other Red Oaks	Hard Hardwood	Hardwood
Emory Oak	Noncommercial	Hard Hardwood	Hardwood
Southern Red Oak	Other Red Oaks	Hard Hardwood	Hardwood
Cherrybark Oak	Select Red Oaks	Hard Hardwood	Hardwood
Gambel Oak	Noncommercial	Hard Hardwood	Hardwood
Bear Oak, Scrub Oak	Noncommercial	Hard Hardwood	Hardwood

Bur Oak	Select White Oaks	Hard Hardwood	Hardwood
Blackjack Oak	Other Red Oaks	Hard Hardwood	Hardwood
Swamp Chestnut Oak	Select White Oaks	Hard Hardwood	Hardwood
Chinkapin Oak	Select White Oaks	Hard Hardwood	Hardwood
Water Oak	Other Red Oaks	Hard Hardwood	Hardwood
Nuttall Oak	Other Red Oaks	Hard Hardwood	Hardwood
Mexican Blue Oak	Noncommercial	Hard Hardwood	Hardwood
Pin Oak	Other Red Oaks	Hard Hardwood	Hardwood
Willow Oak	Other Red Oaks	Hard Hardwood	Hardwood
Chestnut Oak	Other White Oaks	Hard Hardwood	Hardwood
Northern Red Oak	Select Red Oaks	Hard Hardwood	Hardwood
Shumard Oak	Select Red Oaks	Hard Hardwood	Hardwood
Post Oak	Other White Oaks	Hard Hardwood	Hardwood
Delta Post Oak	Other White Oaks	Hard Hardwood	Hardwood
Black Oak	Other Red Oaks	Hard Hardwood	Hardwood
Live Oak	Other White Oaks	Hard Hardwood	Hardwood
Bluejack Oak	Noncommercial	Hard Hardwood	Hardwood
Silverleaf Oak	Noncommercial	Hard Hardwood	Hardwood
Oak - Evergreen	Noncommercial	Hard Hardwood	Hardwood
Scrub Oak	Noncommercial	Hard Hardwood	Hardwood
Black Locust	Other Hard Hardwoods	Hard Hardwood	Hardwood
New Mexico Locust	Noncommercial	Hard Hardwood	Hardwood
Willow	Other Soft Hardwoods	Soft Hardwood	Hardwood
Peachleaf Willow	Noncommercial	Soft Hardwood	Hardwood
Black Willow	Other Soft Hardwoods	Soft Hardwood	Hardwood
Diamond Willow	Noncommercial	Soft Hardwood	Hardwood
Chinese Tallowtree	Noncommercial	Hard Hardwood	Hardwood
Sassafras	Other Soft Hardwoods	Soft Hardwood	Hardwood
American Mountain-Ash	Noncommercial	Hard Hardwood	Hardwood
European Mountain-Ash	Noncommercial	Hard Hardwood	Hardwood
Basswood	Basswood	Soft Hardwood	Hardwood
American Basswood	Basswood	Soft Hardwood	Hardwood
White Basswood	Basswood	Soft Hardwood	Hardwood
Elm	Other Soft Hardwoods	Soft Hardwood	Hardwood
Winged Elm	Other Soft Hardwoods	Soft Hardwood	Hardwood
American Elm	Other Soft Hardwoods	Soft Hardwood	Hardwood
Cedar Elm	Other Soft Hardwoods	Soft Hardwood	Hardwood
Siberian Elm	Other Soft Hardwoods	Soft Hardwood	Hardwood
Slippery Elm	Other Soft Hardwoods	Soft Hardwood	Hardwood
September Elm	Other Soft Hardwoods	Soft Hardwood	Hardwood
Rock Elm	Other Hard Hardwoods	Hard Hardwood	Hardwood
Tung-Oil Tree	Noncommercial	Hard Hardwood	Hardwood
Sparkleberry	Noncommercial	Hard Hardwood	Hardwood
Chinaberry	Noncommercial	Hard Hardwood	Hardwood
Water-Elm	Noncommercial	Hard Hardwood	Hardwood
Smoketree	Noncommercial	Hard Hardwood	Hardwood
Mesquite	Noncommercial	Hard Hardwood	Hardwood
Tesota (Arizona Ironwood)	Noncommercial	Hard Hardwood	Hardwood
Unknown Or Not Listed	Noncommercial	Hard Hardwood	Hardwood

### Stand age class

The age of the forest stand by 10 year classes. The mixed class contains stands in which the age of the trees varied greatly or an age determination was not available.

#### Stand age classes

- I - 10 years
- 11 - 20 years
- 21 - 30 years
- 31 - 40 years
- 41 - 50 years
- 51 - 60 years
- 61 - 70 years
- 71 - 80 years
- > 80 years

**Stand size class**

A classification of forestland based on the size class of trees having the predominance of all live tree stocking.

**Sawtimber**

Stands with an all live stocking value of at least 16.7 (10, base 100, in the West) on which more than 50 percent of the stocking is in trees 5 inches diameter or larger, and the stocking of sawtimber size trees is equal to or greater than the stocking of poletimber size trees. Includes large diameter woodland stands with trees predominantly 9.0 inches d.r.c. or greater.

**Poletimber**

Stands with an all live stocking value of at least 16.7 (10, base 100, in the West) on which more than 50 percent of the stocking is in trees 5 inches diameter or larger, and the stocking of sawtimber size trees is less than the stocking of poletimber size trees. Includes small diameter woodland stands with trees predominantly between 3.0 and 8.9 inches d.r.c.

**Seedling-sapling**

Stands with an all live stocking value of at least 16.7 (10, base 100, in the West) on which at least 50 percent of the stocking is in trees less than 5 inches diameter. Includes seedling/sapling woodland stands with trees predominantly less than 3.0 inches d.r.c.

**Nonstocked**

Stands with an all live stocking value of less than 16.7 (10, base 100, in the West).

**Stand volume class**

A characterization of the forest based on either the total per-acre volume of growing-stock or the total per-acre volume of sawtimber. Three broad sawtimber volume classes have been established for reporting purposes:

**Stand volume classes**

<1500 board feet per acre (International 1/4-inch rule)

1500 - 5000 board feet per acre

>5000 board feet per acre

**State**

A political subdivision of the United States of America.

**Stocking**

A measure of the extent to which the growth potential of the site is utilized by trees. Stocking is determined by comparing the stand density in terms of number of trees or basal area with a specified standard, and is reported as an absolute stocking value that ranges from 0 to 167.

**Growing stock stocking**

An absolute stocking value based only on the growing-stock trees on the plot.

**Stocking class**

A classification of a forest based on either all live or growing-stock stocking values:

Overstocked - Stands in which stocking of either all live or growing-stock trees is 130.0 or more.

Fully stocked - Stands in which stocking of either all live or growing-stock trees is from 100.0 to 129.9.

Medium stocked - Stands in which stocking of either all live or growing trees is from 60.0 to 99.9.

Poorly stocked - Stands in which stocking of either all live or growing-stock trees is from 16.7 to

## **Treatment opportunity class**

Identifies the physical opportunity to improve stand conditions by applying management practices. The treatment opportunity classes are defined as follows:

### Regeneration

The area is characterized by the absence of a manageable stand because of inadequate without site stocking of growing stock. Growth will be much below the potential for the site if the preparation area is left alone. Prospects are not good for natural regeneration. Artificial regeneration will require little or no site preparation.

### Regeneration

The area is characterized by the absence of a manageable stand because of inadequate with site stocking of growing stock. Growth will be much below the potential for the site if the preparation area is left alone. Either natural or artificial regeneration will require site preparation.

### Stand conversion

The area is characterized by stands of undesirable, chronically diseased, or off-site species. Growth and quality will be much below the potential for the site if the area is left alone. The best prospect is for conversion to a different forest type or species.

### Thinning

The stand is characterized by a dense stocking growing stock. Stagnation appears likely of seedlings if left alone. Stocking must be reduced to help crop trees attain dominance and saplings.

### Thinning

The stand is characterized by a dense stocking of growing stock Stocking must be reduced to poletimber to prevent stagnation or to confine growth to selected, high quality crop trees.

### Other

The stand is characterized by an adequate stocking of seedlings, saplings, and/or poletimber stocking growing stock, mixed with competing vegetation either overtopping or otherwise inhibiting control the development of crop trees. The undesirable material must be removed to release overtopped trees; to prevent stagnation; or to improve composition, form, or growth of the residual stand.

### Other

The stand would benefit from other special treatments such as fertilization to improve intermediate the growth potential of the site, and pruning to improve the quality of individual treatments crop trees.

### Clearcut

The area is characterized by a mature or over-mature harvest sawtimber stand of sufficient harvest volume to justify a commercial harvest. The best prospect is to harvest the stand and regenerate.

### Partial cut

The stand is characterized by poletimber or sawtimber size trees with sufficient harvest merchantable volume for a commercial harvest, which will meet intermediate stand treatment needs or prepare the stand for natural regeneration. The stand is of a favored species composition and may be even or uneven aged. Included are such treatments as commercial thinning, seed tree or shelterwood regeneration, and use of the selection system to maintain an uneven age stand.

### Salvage harvest

The stand is characterized by excessive damage to merchantable timber because of fire, insects, disease, wind, ice, or other destructive agents. The best prospect is to remove damaged or threatened material.

### No treatment

A woody plant usually having one or more perennial stems, a more or less definitely formed crown of foliage, and of at least 12 feet at maturity.

### **Tree class**

A classification of a tree based on its general quality. For cut, dead, and salvable dead trees, tree class reflects conditions at the time the tree died or was cut. The following classes are represented: Growing-stock trees, Rough trees, and Rotten trees.

### **Tree grade**

A classification of sawtimber-size trees based on external characteristics as indicators of quality or value. Trees of the highest quality and value are classed as Tree grade 1, with successively higher tree grades assigned to trees of successively lower quality and value. Tree grade is not measured on all sawtimber size trees on every plot. Sawtimber size trees that are not graded because of the sampling design have a tree grade of 9 (Not graded). Sawtimber size trees that are graded but do not contain a gradeable log are given a tree grade 5. Trees smaller than sawtimber receive a tree grade of zero. Procedures used to grade trees are different for each Eastern FIA project.

Tree grades

Tree grade 1

Tree grade 2

Tree grade 3

Tree grade 4-Graded and contains a gradeable log but does not meet grade 3 standards

Tree grade 5-Graded but does not contain a gradeable log (local use trees)

Tree grade 9-Not graded

### **Tree Size Class**

A classification of trees based on diameter.

Seedlings

Trees less than 1.0 inch in diameter and greater than 1 foot taU for hardwoods, greater than 6 inches tall for softwoods, and greater than 0.5 inch in diameter at ground level for longleaf pine.

Saplings

Trees 1.0 inch to 4.9 inches in diameter.

Poletimber

Softwood trees 5.0 inches to 8.9 inches in diameter, and hardwood trees 5.0 to 10.9 inches in diameter.

Sawtimber

Softwood trees 9.0 inches and larger in diameter, and hardwood trees 11.0 inches and larger in diameter.

Survey unit

Forest Inventory and Analysis survey unit, a multicounty division of a State based on broad geo/physical characteristics of the land used primarily for reporting purposes.

### **Timber class**

A breakdown of inventory volume in live and salvable dead trees by tree size and tree class.

### **Upper stem portion**

That portion of the central stem of sawtimber trees between the saw-log top and the minimum top diameter of 4.0 inches outside bark, or to the point where the central stem breaks into limbs.

### **Volume of growing stock**

The net volume in cubic feet of growing-stock trees at least 5.0 inches in diameter from a 1-foot

The net volume in cubic feet of growing-stock, rough, and rotten trees at least 5.0 inches in diameter from a 1-foot stump to a minimum 4.0-inch top d.o.b. of the central stem or to the point where the central stem breaks into limbs. For pinyon - juniper and noncommercial species in the west, volume is calculated on all trees with a d.r.c. of 3 inches or larger.

**Volume of saw log portion of sawtimber**

The net volume in cubic-feet of the saw log portion of sawtimber trees.

**Volume of sawtimber**

The net volume in board feet (International 1/4-inch rule) of the saw log portion of sawtimber trees.

**Volume of timber**

The net volume in cubic feet of growing-stock, rough, rotten and salvable dead trees at least 5.0 inches in diameter from a 1-foot stump to a minimum 4.0 inch top d.o.b. of the central stem or to the point where the central stem breaks into limbs.