



## EXTENSION

# Forestry Terms for Mississippi Landowners

As a nonindustrial private forest (NIPF) owner, you are part of an important group that controls most of the state's timber resources. You and other NIPF owners hold the key to the future of Mississippi's forest economy.

As you begin or continue to manage your timber, you will come in contact with foresters who may use terms with which you are unfamiliar. This publication is meant to help you better understand special terms and abbreviations commonly used in forestry. This publication is designed to help you make decisions about productive management of your timber.

## Types of Foresters

**Acquisition Forester** — A forester whose main job is to locate forestland for his company or organization to buy.

**Area Forester (County Forester)** — A forester of the Mississippi Forestry Commission (MFC) who provides assistance to landowners within a one-, two-, or three-county area, administers agency cost share programs, and manages land for school districts.

**Consulting Forester** — A self-employed forester who, for a fee, assists private landowners with forest management practices. Some consultants provide general assistance; others specialize. You can get a directory of consulting foresters from the Mississippi Forestry Commission, or the Mississippi Board of Registration for Foresters (<https://www.borf.ms.gov/>)

**District Forester (of the Mississippi Forestry Commission)** — An administrative forester responsible for coordinating the agency's operations for a specific region of the state. The state is divided into four districts for administrative purposes.

**Extension Forestry Associate/Specialist** — A forester who works for Mississippi State University Extension to develop and provide technical information for state forestry interests. His/her primary responsibility is nonformal education, including preparing materials for local and regional educational activities. He/she works through local Extension personnel and uses local facilities.

**Forest Ranger** — A USDA Forest Service forester in charge of part of a national forest called a district. Forest rangers, or district rangers, supervise the management activities of their districts, including fire control, tree planting, recreational activities, and thinning and harvesting. District rangers do not provide assistance to private landowners.

**Industrial Forester** — A forester employed by a forest-based industry. This individual may manage company-owned woodlands to produce forest products, work with private landowners to purchase forest products for the company, or both. Some industrial foresters work with individual landowners to give advice and help promote approved forest management practices.

**Procurement Forester** — An industrial forester who buys timber from private and public landowners for use by his/her employer.

**Professional Forester** — In the usual context, this term refers to a person who has graduated from a professionally accepted, 4-year, college forestry curriculum.

**Registered Forester** — Any person who has been registered and licensed by the Mississippi Board of Registration for foresters created by the Forester's Registration Act of 1977. Qualifications for registration may be gained by ecompletion of a four-year, college forestry curriculum.

## Forestry Terms

### A

**Absentee Landowners** — Landowners who do not live in the county where their land is located.

**Acidic Soils** — Soils with a pH value less than 7. Such soils come from materials with low amounts of calcium or magnesium, such as sand or sandstone. Many tree species grow well in acidic soils. See also **Soil pH**.

**Acre** — An area of land containing 43,560 square feet. A square acre would be 208.71 feet on each side. A circular acre would have a radius of 117.75 feet.

**Ad Valorem Tax** — Annual taxes assessed on the basis of land value.

**Aesthetics** — Considerations for the appearance of a forest.

**Afforestation** — Establishing a new forest on a previously nonforested site, such as a retired agricultural field or pasture.

**Alkaline Soils** — Soils having a pH greater than 7. Such soils are formed from materials having high amounts of calcium or magnesium, such as limestone. Some hardwoods and eastern redcedar do well in alkaline soils. See also **Soil pH**.

**Allowable Cut** — The volume of wood that can be cut from a forest during a given period without exceeding the forest's net growth during that same time period.

**American Tree Farm System** — Supported by the American Forest Foundation. Membership encourages sound, sustainable forest management. Membership is free but requires a written forest management plan. Membership also requires third-party inspection by a trained tree farm inspector.

**Amortization** — A method of recovering capital costs over a set period of time through deductions. Special rules for amortization of regeneration costs can be used to recover all or part of such expenses within 8 tax years.

**Artificial Regeneration** — Establishing a new forest by planting tree seedlings or direct seeding.

### B

**Basal Area** — (a) Of a tree: the cross-sectional area (in square feet) of the trunk at breast height (4½ feet above the ground). For example, the basal area of a tree 14 inches in diameter at breast height is about 1 square foot. Basal area = 0.005454 times diameter squared.

(b) Of an acre of forest: the sum of basal areas of the individual trees growing on an acre. For example, a well-stocked pine stand might contain 80 to 120 square feet of basal area per acre.

**Basis, Adjusted** — The original investment cost, plus capital additions minus capital recoveries. Examples of capital additions include improvements not recovered by deductions, special treatment, or depreciation. Capital recoveries include casualty losses, depreciation, and cost recovery allowances.

**Basis, Original** — The original capital investment in property such as land or timber. For purchases, the original basis is the purchase price plus acquisition costs. For inherited property, basis is the fair market value of the property at the time of the decedent's death or alternative evaluation date. For gifted property, the basis remains as the donor's basis.

**Basis, Timber** — The original capital investment in timber, plus capital additions (reforestation costs not amortized, certain fertilizer and herbicide treatments, precommercial timber treatment, and capitalized carrying charges) minus capital recoveries (basis recovered through depletion or loss).

**Bedding** — Mechanical site preparation creating raised planting beds for tree seedlings. Bedding is commonly used on wet soils to elevate planted seedling root systems out of water.

**Best Management Practices (BMPs)** — Voluntary practices designated by a state or planning agency to control nonpoint source pollution to streams or water bodies in order to meet environmental quality goals.

**Biltmore stick** — A flat stick, similar to a yardstick, calibrated so that tree diameter can be read directly when the stick is held at a predetermined distance from the user's eye.

**Bioalcohols** — Biologically produced alcohols (ethanol, propanol, or butanol) by fermentation of sugars or starches in biomass.

**Biodiesel** — Fuel derived from transesterification of vegetable oil or animal fat.

**Biofuels** — Fuels derived from carbon fixation of living plants. Forms include solid biomass, liquid fuels (e.g., biodiesel or bioethanol), or gas (e.g., syngas).

**Board Foot** — A unit of wood equaling 144 cubic inches. The term is used to measure and express the amount of wood in trees, sawlogs, veneer logs, or lumber. The formula used to calculate the number of board feet in a piece of wood is (length in feet x width in inches x thickness in inches) divided by 12.

**Bole** — The main trunk of a tree.

**Browse** — Leaves, buds, and twigs of shrubs and trees that are eaten by wildlife, especially deer.

**Buffer** — A designated zone or strip of land of a specified width along the border of an area. Buffer strips of standing trees may be used to shield an area from view, or buffer strips of felled trees may be used to prevent the spread of forest pests.

## C

**Cambium** — A thin layer of cells between the inner bark and the woody part of a tree. The cambium is responsible for diameter growth of most kinds of trees except palms.

**Canopy** — The layer of tree crowns in a forest.

**Canopy Position** — The relative position of a tree crown in an even-aged stand. Positions are based on the height of trees (from tallest to shortest) as dominant, codominant, intermediate, or suppressed.

**Capital Expenses** — Cost of capital improvements the owner makes to the property. Capital improvements have a long life. They are usually recovered when the property is sold or by depreciation over the useful life of the improvement, assuming the landowner is not eligible and does not qualify to deduct these expenses in the year they occur.

**Capital Gain (Long-Term)** — Gain from the sale or exchange of a capital asset, which has been held for more than one year and contributed to taxable income. Capital gains are historically taxed at lower rates than ordinary income and are not subject to the self-employment tax.

**Capitalization** — Adding capital costs or expenses to a capital account. Taxpayers recover the capitalized costs by depreciation,

depletion, amortization, or disposal of property through sale or exchange.

**Carbon Credit** — A market system whereby a forest landowner may be paid for growing timber because plants fix carbon dioxide from the air into wood.

**Carrying Charge (Holding Costs)**— Expenses related to operating a property, such as property taxes, interest charges, fees related to owning a property, or insurance. These expenses may be wholly or partially deducted each year as long as revenue is generated. Alternatively, carrying charges may be capitalized rather than expensed annually by adding to a timber or land account.

**Certified Forest** — See **Forest Certification**.

**Chain** — A unit of measure used by foresters and surveyors; 1 chain is equal to 66 feet; 10 square chains equals 1 acre.

**Chip-n-Saw** — A machine that makes small logs into cants, converting the cant into lumber and the outer slabs into chips. This term also refers to the size of logs used for making this product, which are straight logs 9 to 13 inches DBH.

**Clearcut** — A harvesting and regeneration method that removes all trees, regardless of their size, on an area. Clearcutting produces an even-aged forest stand.

**Climax Forest** — The final stage of plant succession, in which species composition remains relatively stable. The climax forest for most of Mississippi would be the oak-hickory forest type. Pine is an intermediate species prior to the climax forest.

**Codominant** — Trees with medium-sized crowns forming the general level of the crown cover. They receive full light from above but are crowded and thus receive comparatively little light from the sides.

**Competition** — The struggle among adjacent trees for growth requirements such as sunlight, nutrients, water, and growing space. Within a stand, both roots and crowns of trees are in competition.

**Cone** — The fruit of the tree in the pine family. Cones have overlapping scales and contain seeds.

**Conifer** — Trees species with needle-like or scale-like foliage and cone-like fruits. They are usually evergreen and often are called softwoods. (Bald cypress is a deciduous conifer).

**Conservation** — The protection, improvement, and wise use of natural resources for economic gain and enjoyment both now and in the future.

**Controlled Burning** — See **Prescribed Burning**.

**Coppice** — A forest stand originating from sprouts; the coppice method refers to the way these forests are regenerated.

**Cord** — A stack of round or split wood containing 128 cubic feet including wood, bark, and air space. A standard cord measures 4 feet by 4 feet by 8 feet. A face or short cord is 4 feet by 8 feet of any bolt wood shorter than 4 feet.

**Cost-Share** — A government program that provides landowners assistance in paying for management operations. In general, this is a contract for specific management activities meeting sponsor objectives. Payment of the cost-share is usually after completion of management activities and on-site inspection. Payments usually range approximately 50 to 75 percent of the total management activity cost, but can vary more depending on the program and agency funding source.

**Crop Tree** — A tree selected to be grown to maturity and final harvest cut. It is usually chosen because of its quality, species, and location to other trees.

**Crown** — The branches and foliage of a tree.

**Cruise** — An inventory of timber on forestland describing its location and and estimate of its quantity by species, products, size, quality, or other characteristics. Several different sampling techniques can be used in a cruise.

**Cubic Foot** — A wood volume measurement containing 1,728 cubic inches, such as a piece of wood measuring 1 foot per side. A cubic foot of wood contains about 6 to 10 usable board feet of lumber rather than 12 board feet because some wood is lost as sawdust and shavings during processing.

**Cull** — A tree or log of merchantable size made useless because of shape, disease, insect infestation, or injury.

**Cunit** — A pulpwood measurement meaning 100 cubic feet of solid wood.

**Cutting Cycle** — The planned time interval between timber removals in the same stand, usually in uneven-aged forest management. For example, a cutting cycle of 10 years in a hardwood stand means conducting harvesting and thinning every 10 years.

**Cutting Contract** — A written, legally binding document used to accomplish the sale of standing timber. The contract specifies various provisions covering the expectations and desires of both the buyer and seller.

## D

**DBH** — Abbreviation for diameter at breast height (4½ feet above the ground). Diameter is commonly measured here for use in forest inventories. DBH is usually measured in inches.

**Deciduous Tree** — A tree that loses all its leaves at some time during the year, usually the winter. These are primarily hardwood species.

**Deck, Log** — A pile of logs ready for loading onto a truck or a train.

**Defect** — That portion of a tree or log that is not measured because it is unusable for the intended product. Defects include rot, crookedness, cavities, excessive number of limbs, etc.

**Delivered Price** — Price per cord, thousand board feet, or ton of wood at the first point of concentration or the wood yard. Price includes expenses of labor, transportation, and cost of standing trees.

**Dendrology** — The scientific study of trees and woody plants, including their identification, nomenclature, and classification.

**Development Costs** — Ordinary and necessary expenses associated with day-to-day management of forestland. These expenses must be profit related, although the property may not be currently providing income to qualify for deduction or capitalization. As of the 2017 TCJA, investors must capitalize but business owners may deduct in the year the expense occurs.

**Diameter tape (D-Tape)** — A specially calibrated tape used to read tree diameter by measuring tree circumference.

**Diameter Limit Cutting** — A selection method of harvesting whereby all merchantable trees larger than a specified diameter are harvested. In some cases minimum diameter may be the stump diameter. This cutting method can be abused as a form of high grading and is not recommended for hardwood stands. It should be used only in certain situations for pine management, such as in uneven-aged silviculture.

**DIB (or d.i.b.)** — Abbreviation for diameter inside the bark. It usually refers to the scaling diameter (the diameter inside the bark of the small end) of a log rather than a standing tree.

**Dibble (bar)** — A tool for hand-planting bare-root seedlings. It's about 4½ feet long with a 10-inch long and 3 to 4-inch wide blade. Also called a planting bar.

**Direct Seeding** — A method of artificial regeneration whereby tree seeds are sown on the surface or slightly buried in a prepared site.

**DOB (or d.o.b.)** — Abbreviation for diameter outside the bark. Used in estimating a standing tree's volume.

**Dominant Tree** — A tree with a crown that extends above the general level of the canopy and receives full light from above and partly from the side. A dominant tree is taller and larger than the average trees in the stand.

**Doyle Log Rule** — A formula estimating the board feet volume of a log, developed by Edward Doyle around 1825. For a 16-foot log, the formula is  $\text{volume} = (\text{diameter} - 4)^2$ , where diameter is measured in inches at the small end. This rule underscales small logs and overscales large logs. Until 1996, the Doyle Rule was the legal rule in Mississippi.

## E

**Easement** — An interest or right to limited use of land granted to another party by the owner.

**Ecology** — The branch of science dealing with interrelationships of plants, animals, and their environment.

**Engineered Lumber (Wood)** — A fabricated wood product whereby pieces of wood are glued together to form a variety of products for construction. Examples of engineered wood include glulam, oriented strand board (OSB), and plywood.

**Entomology, Forest** — The science that deals with insects' relation to forests and forest products.

**Environment** — The existing condition of the surroundings that results from a combination of climate, soil, topography, and other plants and animals. An organism's environment influences its form and survival.

**Erosion** — The accelerated displacement of soil downhill, usually by water, due to removal of vegetation or soil disturbance.

**Even-Aged Forest** — A forest of trees that are about the same age (within +/- 20% of rotation length. See Rotation). An even-aged forest may be naturally or artificially regenerated.

**Even-Aged Forest Management** — Forest management with periodic harvesting of all trees on part of the forest at one time or in several cuttings over a short time. This type of harvest produces stands containing trees all the same or nearly the same age.

**Evergreen Tree** — A tree that retains some or all of its leaves throughout the year, especially through the winter.

## F

**Firebreak/Fire Lane** — A natural or manmade barrier to prevent the spread of fire. Firebreaks are usually created by removal of brush, trees, leaves, and other vegetation.

**Forest** — A plant community dominated by trees and woody plants. From a management standpoint, a forest is a collection of stands administered as a unit.

**Forest Certification** — A system whereby a forest landowner agrees to adhere to a list of tenets for sustainable forest management. Such certification requires a written management plan and periodic inspections by a qualified third party. There are many forest certification systems, such as the American Tree Farm System and Sustainable Forestry Initiative.

**Forestland** — Land that is currently producing (or, in some cases, capable of producing) a forest.

**Forest Management** — Applying technical forestry principles and practices with business techniques (such as accounting or investment analysis) to growing a forest to provide the landowner with desired products and conditions.

**Forest Management Plan** — A written document that includes overall guidelines, plans, and recommended practices for current and future management to meet the owner's objectives. A plan usually also includes the owner's name, legal description, and map of the forest.

**Forest Resource Development Plan (FRDP)** — A Mississippi cost-sharing program administered by MFC for approved forest management practices by private landowners. Funded by taxes on timber harvesting.

**Forest Type** — Groups of tree species commonly found growing in the same stand because their environmental requirements are similar. Examples of forest types in Mississippi are oak-hickory type, longleaf-slash pine type, elm-ash-cottonwood type, and oak-gum-cypress type.

**Forestry** — The science, art, and practice of managing forests and their associated resources for human benefit.

## G

**Genetically Improved Seedlings** — Seedlings selectively bred to increase growth potential, disease resistance, or other desirable characteristic.

**Girdling** — A cut or damage completely encircling the tree trunk, going through the bark and cambium and penetrating the sapwood. Girdling usually kills the tree by stopping the flow of nutrients between the roots and crown.

**Global Positioning System (GPS)** — A manmade system of earth-orbiting satellites, land-based tracking stations, and hand-held receivers that use radio waves to locate or navigate positions on the earth. This system calculates distances by measuring differences in time signals transmitted and received from satellites using atomic clocks that are accurate to nanoseconds.

**Grading** — Evaluating and sorting trees, logs, or lumber according to quality.

**Group Selection** — Harvesting small groups of trees based on physical condition, degree of maturity, to establish regeneration. This produces an uneven-aged stand.

**Growing Stock** — All live trees (except culls) in a forest or stand, including sawtimber, pole timber, saplings, and seedlings.

## H

**Habitat** — An area containing all necessary resources for plants or animals to live, grow, and reproduce; the natural environment of a specific plant or animal.

**Hardwood** — A term describing broadleaf, usually deciduous, trees such as oaks, maples, ashes, or elms. This is a general term referring to the high density of wood from such trees.

**Harvest** — In general use, removing some or all the trees on an area. Harvesting is done to achieve management objectives, such as generating income, preparing for regeneration, or enhancing wildlife habitat.

**Harvesting Methods** — See **Clearcut**, **Seed Tree Method**, **Selection Method**, and **Shelterwood Harvest**.

**Heartwood** — Older xylem in the tree center that no longer conducts water in the tree.

**Height, Merchantable** — Refers to the height (length) of a usable tree trunk. It is measured up to the point on the trunk where diameter is too small to obtain a particular product. The product being cut determines merchantable height. For example, if the minimum usable diameter of a pulpwood stick is 4 inches, merchantable height of a pine tree would be its height up to a trunk diameter of 4 inches, inside or outside the bark.

**Height, Total** — Tree height from ground level to the top of the crown (i.e., the tip of the terminal bud).

**Herbicides** — Chemicals that kill plants. These chemicals are sprayed on plants and absorbed by the leaves and/or roots of target vegetation.

**High Grading** — The practice of removing only the biggest and best trees from a stand during a harvest operation, leaving only culls and undesirable species to dominate the site.

## I

**Improvement Cut** — A type of intermediate cut to improve the remaining stand. See **TSI** and **Intermediate Cut**.

**Increment Borer** — A hollow-bit drill used to bore into a tree trunk to remove a wood core that shows the tree's growth rings. The wood sample is used to estimate tree age or growth rate.

**Intermediate Cut** — Removing immature trees from the forest sometime between reproduction and maturity to improve quality of the remaining forest stand. An intermediate cut may or may not generate income (see **Thinning**).

**Intermediate Trees** — Trees shorter than dominant and codominant trees but with crowns extending into the canopy formed by dominant and codominant trees. These trees receive little light from above and none from the sides. They usually have small crowns that are considerably crowded on the sides.

**Inventory** — Measurement of volume in a forest stand. See **Cruise**.

## L

**Log** — (a) A piece of the woody stem (trunk or limb) of a tree.

(b) The trunk portion of a tree.

(c) In the eastern U.S., a tree section exactly 16.3 feet in length, including trim allowance.

**Logger** — An individual whose occupation is harvesting timber. Loggers usually are in business for themselves, own their own equipment, and have one or more employees.

**Logging** — The practice of harvesting timber.

**Log Scale** — A measuring stick estimating the useable volume of a log. See **Scale, Log**.

**Log Rule** — A formula or table that gives the board foot contents for logs of various diameters and lengths. The Doyle Rule is the most frequently used.

**Log Yard** — See **Yard**.

**Lump Sum Sale** — See **Sale, Lump Sum**.

## M

**MBF** — One thousand board feet; a unit of measure for tree volume or sawn lumber.

**MCP seedlings** — Genetically improved seedlings in which both the male and female crosses are controlled.

**Market** — See **Timber Market**.

**Marketing** — See **Timber Marketing**.

**Marking** — See **Timber Marking**.

**Mature Tree** — A tree that has reached the desired size or age for its intended use. Size or age will vary depending on species and intended use.

**Merchandising** — The practice of selling and using timber for the highest value product possible.

**Merchantable Height** — See **Height, Merchantable**.

**Mill Scale** — See **Scale, Mill**.

**Mineral Rights** — The ownership of minerals (coal, oil, gas, etc.) under a given surface and the legal right to enter that area to mine and remove them. Mineral rights include the right to use as much of the land surface as may be reasonably necessary for the conduct of mining operations.

**Mississippi Forestry Commission (MFC)** — A public service agency created by the Mississippi Legislature. In compliance with all applicable laws and regulations, its mission is to provide leadership in forest protection, forest management, and information about the forests of Mississippi through an informed, well-trained workforce reflecting the needs of the public.

**Mississippi Stewardship Program (MSP)** — Administered by the MFC. For qualifying landowners, a service forester will write a 10-year forest management plan. Qualifying landowners must have 10–250 acres of property and desire to manage for multiple uses.

**Mortality** — The number or volume of growing stock trees dying from natural causes during a certain period of time.

**Multiple Use** — Land management for more than one purpose, such as wood production, water, wildlife, recreation, forage, aesthetics, or clean air.

## N

**Natural Stand** — A stand of trees resulting from natural seed fall or sprouting.

**National Forests** — Public lands administered and managed by the USDA Forest Service. These are dedicated to the long-term benefit of present and future generations. Mississippi contains six national forests totaling more than 1,135,000 acres.

**Net Growth** — The net increase in volume of timber for a certain area of land for a certain period of time. This includes the gross increase in volume of trees from beginning to end of the time period, plus the volume of trees that become merchantable during the period, minus the volume of trees that die or become unmerchantable.

## O

**Ordinary Income** — Income derived other than from a capital gain. Examples of ordinary income include salaries, wages, tips, bonuses, interest, dividends, rent, or royalties.

**Oriented Strand Board (OSB)** — Panels made from large wood chips that are glued and pressed into sheets.

**Overstory** — The uppermost layer of crown cover from mature trees on a site.

## P

**Pathology, Forest** — The science that deals with diseases of forest trees, stands, and their products.

**Phloem** — Tissue of the inner bark that conducts carbohydrates within the tree.

**Pine Straw** — Fallen pine needles that are raked, baled, and sold for landscaping mulch.

**Pioneer Species** — Those plants that are the first to establish themselves on bare ground. These plants demand full sunlight for best growth, and often have light seed that can be carried by the wind. Examples of trees that are pioneer species include most southern pines, ashes, and yellow poplar.

**Plantation** — An artificially forested area established by planting or direct seeding. It is often made up of a single species.

**Plywood** — An engineered wood product whereby thin sheets of veneer (plies) are glued together. The grain on each ply is rotated 90 degrees from adjacent plies to increase overall strength of the wood sheet.

**Pole Timber** — See **Pulpwood**.

**Precommercial Thinning** — Removal of trees too small for merchandising. See **Thinning**.

**Prescribed Burn/Fire** — The controlled use of fire to achieve forest management objectives. Prescribed fire can be used to reduce hazardous fuel levels, control unwanted vegetation, improve visibility, and enhance wildlife habitat, or remove debris for reforestation.

**Prescription, Stand** — A document, usually written by a forester, prescribing present and future treatments for a forest stand to accomplish certain forest management objectives and long-term goals.

**Preservation** — (a) Of wood: treating wood products with chemicals to prevent damage by insects or decay organisms.

(b) Of land: maintaining a natural environment undisturbed by human influence or activities.

**Pruning** — Removing live or dead branches from standing trees. With forest trees, pruning is generally done up the bole to produce a higher-quality, knot-free wood. Self-pruning occurs naturally as lower limbs die from shade and fall off the tree.

**Pulpwood** — Timber harvested primarily for conversion into wood chips for pulp in the manufacture of paper. Chips can also be used in fiberboard, oriented strand board, or other wood fiber products. Pulpwood size trees are usually a minimum of 5 inches DBH.

## R

**Reforestation** — Reestablishing a forest from seed or seedlings where forest vegetation has been removed.

**Regeneration** — A stand of young tree seedlings. See **Reproduction**.

**Regeneration Cut** — A cutting operation to remove mature trees and leave favorable environmental conditions for establishment of reproduction either naturally or artificially.

**Release Cutting** — Cutting made to regulate species composition and improve the quality of young stands by reducing competition from unwanted vegetation.

**Remote Sensing** — A means of acquiring information using air- or space-borne equipment and techniques to determine the characteristics of an area. Aerial photographs and digital satellite imagery are the most common examples of remote sensing data.

**Reproduction** — (a) Young trees that will grow to become the older trees of the future forest.

(b) The process of forest replacement or renewal. This may be done either artificially by planting seedlings or sowing seed, or naturally through seedfall or sprouting.

**Right-of-Way** — The legal right to access property across another owner's land.

**Roots** — The underground part of the tree that absorbs nutrients and water, anchors it in the soil, and stores starch reserves.

**Rotation** — The number of years required to establish and grow an even-aged stand of trees to a specified size, product, or condition of maturity.

**Roundwood** — Timber products that are round, such as firewood, logs, pilings, posts, and pulpwood.

## S

**Sale Area** — Land area containing trees that are to be sold; the area that will be affected by harvesting operations.

**Sales, Bid** — Prospective buyers are invited to submit price bids on timber offered for sale. The bidder with the top price is usually selected to buy the timber. Bid sales may be either lump-sum, per unit, or pay-as-cut.

**Sale, Lump-Sum** — A certain volume of standing trees is sold for a cash price to be paid before cutting. The trees may be marked and tallied, or the entire tract may be cruised and the volume computed. Lump-sum sales may be bid or negotiated.

**Sale, Negotiated** — The timber owner and buyer discuss and agree on an acceptable price for standing timber. Buyers do not compete with each other over price directly, as in a bid sale. Negotiated sales are generally for lump-sum or per-unit payment terms.

**Sale, Pay-As-Cut or Per-Unit** — Standing timber is sold to the buyer by the unit (ton, cord, or MBF). The landowner retains title until the timber is cut. Payment is made according to the amount of timber cut and measured. Per-unit sales may be bid or negotiated.

**Salvage Cut** — Harvesting dead trees or those in danger of being killed (by insect, disease, flooding, etc.) to save their economic value.

**Sampling** — Taking detailed measurements of selected small parts of a forest to gain information about the whole forest.

**Sanitation Cut** — Harvesting or killing trees infected or highly susceptible to insects or diseases to protect the rest of the forest stand.

**Sapling** — A small tree, usually between 1 and 4 inches DBH.

**Sapwood** — Younger xylem near the bark that conducts water within the tree.

**Sawlog** — A log large enough to be cut into lumber, usually at least 12 inches diameter for pine and 14 inches diameter for hardwood.

**Sawtimber** — A tree large enough to be sawn into lumber. See **Sawlog**.

**Scale, Log** — The volume of roundwood products, such as logs, expressed in board feet, or cubic feet.

**Scale, Mill** — The volume of sawn wood products, such as lumber. Sometimes called mill tally.

**Scale Stick** — A flat stick, similar to a yardstick, calibrated so that log volume can be read directly when the stick is placed on the small end of a log of known length.

**Scale, Weight** — The measurement of wood by a unit of weight, usually tons, instead of by volume, such as cords or MBF. In Mississippi, the weight of pulpwood has been set by statute. For example, the weight scale of pulpwood is set at 2.6 tons/cord for pine and 2.8 tons/cord for mixed hardwood.

**Second Growth** — Forests that reproduce naturally after removal of the original forest.

**Section** — A legal unit of land typically containing 640 acres. This is equivalent to one square mile or 16-forty-acre sections.

**Seed Tree Method** — A natural regeneration technique in which most of a mature stand of trees is harvested, but a few scattered high-quality trees are left to provide seed to establish a new forest stand. This approach produces an even-aged stand.

**Seedling** — (a) A tree, usually less than 1 inch in DBH, which has grown from a seed, not a sprout.

(b) A nursery-grown tree that has been lifted and replanted in the field, not the nursery (see **Transplant**).

**Selection Method** — Harvesting individual trees or small groups of trees at periodic intervals, usually 5 to 15 years to produce. This produces an uneven-aged stand.

**Severance Tax** — A tax on forest products after they are cut. It is usually paid by the first processor. In Mississippi, standing timber is not taxed for ad valorem purposes until it is cut.

**Shade Tolerance** — A tree's capacity to develop and grow in the shade, and in competition with other trees.

**Shelterwood Harvest** — A method of natural regeneration whereby mature timber is harvested, but a significant portion of trees are retained to provide seed for the next forest stand. This technique may involve two or more cuttings to produce high-quality, seed-bearing trees. This method produces an even-aged forest.

**Shrub** — A low-growing perennial plant with a woody stem and a low-branching habit.

**Silviculture** — The art, science, and practice of establishing, tending, and reproducing forest stands of desired characteristics. It is based on knowledge of species' characteristics and environmental requirements.

**Site** — A tract of land with reasonably uniform soil and climatic factors. A site is typically not thought of on a landscape scale, but stand sized or smaller.

**Site Index** — A measure of forest site quality based on the height in feet of dominant trees at a specified age, usually 50 years for hardwoods and 25 for planted pines. A site index of 95 means that the expected height of the dominant trees at an index age of 50 years would be 95 feet on a particular area of land.

**Site Preparation** — Preparing an area of land for planting, direct seeding, or natural reproduction, such as by mechanical clearing, chemical vegetation control, or prescribed burning.

**Skidding** — Pulling logs from the stump to a trail, log deck, or mill.

**Slash** — Tree tops, branches, bark, or other residue left on the ground after logging, pruning, or other forest operations.

**Softwood** — A tree, usually evergreen, cone bearing, and with needles or scalelike leaves such as pines, spruces, firs, and cedars. This term refers to the generally lower wood density of such trees.

**Soil** — A mixture of organic matter, minerals, air, and liquids that serves as a medium for plant growth and as a means for water storage, supply, and purification. Soil serves to provide all of these for both plant species and as a habitat for a variety of organisms.

**Soil pH** — The concentration of hydrogen ions in the soil, measured on a logarithmic scale. Neutral soil pH is 7. Lower values are acidic, and higher values are alkaline. Soil pH is important when determining the chemical nature of plant nutrients in the soil and their relative availability for plant absorption.

**Soil Texture** — The composition of mineral soil based on the proportion of sand, silt, and clay particles. Soil texture can be determined in the lab or field by the feel of soil when rubbed between fingers. Sand particles feel gritty, silt feels smooth like flour, and clay feels sticky.

**Species** — A group of related organisms with common characteristics that are biologically classified into the same category. These organisms are capable of interbreeding.

**Sprout** — A tree growing from the base, stump, or root of another tree.

**Stand, Timber** — A group of trees set apart from others based on species composition, age, structure, quality, or geography.

**Stocking** — The number of trees in a forest stand on a given area of land. Often, stocking level is compared to the desirable number of trees for best growth and management, such as partially stocked, well stocked, or overstocked.

**Stumpage** — The value or volume of a tree or group of trees as they stand uncut in the woods.

**Succession** — The replacement of one plant community by another until ecological stability, or the climax forest, is achieved. For example, an abandoned farm, if left to nature, would gradually go through different states of vegetative cover and finally reach the climax forest stage after a few hundred years.

**Sucker** — See **Sprout**.

**Super/Superior Trees** — See **Genetically Improved Seedlings**.

**Suppressed** — These trees have crowns entirely below the general level of the canopy and receive no direct light from above or from the sides.

**Sustainable Forestry** — Practicing forest stewardship to combine management, harvest of products, and reforestation with conservation of soil, air, water, wildlife, and aesthetics for current and future generations.

**Sustainable Forestry Initiative (SFI)** — A thorough system of principles, objectives, performance measures, and inspections that assures the practice of sustainable forestry on privately owned land. SFI is supported by the American Forest and Paper Association and its member companies.

**Sustainability** — How well a forest can maintain its long term health, productivity, diversity, and overall integrity.

**Sustained Yield** — Management of forestland to produce a constant supply of timber or revenue. Under this type of management, volume removals should not exceed volume growth.

**Syngas** — Carbon monoxide and other hydrocarbons produced by the partial combustion of biomass.

## T

**Tally** — To keep a record of selected trees or forest measurements. Tally usually refers to the recording of certain tree measurements such as height, diameter, or number of trees.

**Tax Credit** — A dollar-for-dollar reduction in the amount of tax owed the government. The legislature creates tax credits and their procedures for social or economic objectives. Mississippi has an available tax credit for reforestation costs.

**Thinning** — Generally a cutting in an immature stand to reduce the number of trees per acre. This permits more site resources (water, nutrients, and sunlight) to be used by remaining trees. Thinning is done for many reasons, including generating revenue, improving timber quality and health, accelerating growth, preventing bark beetle attack, and enhancing wildlife habitat.

**Timber** — (a) Growing trees capable of being used for wood products.

(b) A large, sawn piece of lumber used in forming part of a structure, such as bridges or barns.

**Timber Deed** — A legal document showing the transfer of property interest in timber on a tract of land.

**Timber Market** — The economic interactions of demand and supply setting the price for timber.

**Timber Marketing** — Activities, such as inventory and advertising sent to potential buyers, aimed at getting a satisfactory price for timber.

**Timber Marking** — Designating trees to be cut or trees not to be cut. Timber is usually marked with a spot or slash of brightly colored spray paint at the base of the tree and another spot or slash at eye level.

**Timber Sale** — Activities dealing with the exchange of timber for money.

**Timber Stand Improvement (TSI)** — Improving the quality of a forest stand by removing cull trees and brush, thereby leaving a stand of good, higher-quality trees. Culls may be removed by cutting, or treatment with herbicides, girdling, or prescribed fire.

**Ton** — Two thousand pounds; a unit of measure currently used to buy and sell logs. The use of tons in timber transactions has grown to preclude traditional volume measurements like cords and board feet.

**Topography** — The physical and natural features of an area of land. Topography usually refers to the elevation, aspect, slope, and configuration of the surface of the area.

**Tract** — A parcel of land considered separately from adjoining land because of differences in ownership, timber type, management objective, or other characteristics.

**Transplant** — A seedling lifted from the seedbed and replanted at least once in the nursery.

**Tree** — A woody plant having a well-defined stem, a more or less definitely formed crown, and usually a height of at least 15 feet.

**Tree Farm** — (a) A privately owned forest (woodland) in which producing timber crops is a major management goal.

(b) Additionally, a privately owned forest may be recognized as a certified Tree Farm by the American Tree Farm System organization sponsored by the American Forest Foundation, Washington, D.C.

**Tree Injectors** — Tools or equipment specially designed to inject chemicals into a tree trunk. Common injectors can be hand operated by an individual.

## U

**Understory** — The lowest level of vegetation cover in a forest. This vegetation is usually grasses, forbes, shrubs, and small trees.

**Uneven-Aged Stand** — A forest stand with trees of different ages and sizes. All-aged or uneven-aged contrasts with “even-aged.”

**Uneven-Aged Management** — Managing a forest by periodically removing individual trees or small groups of trees. This approach to natural regeneration maintains the integrity of the forest by mimicking small scale disturbance. See **Selection Method** and **Uneven-Aged Stand**.

**Unmanned Aerial Vehicle System (UAVS)** — An aerial platform flown remotely. The vehicle may be flown using preprogrammed instructions or by a pilot on the ground. The platform often typically has a camera with a GPS receiver for mapping purposes.

## V

**Volume Table** — A table estimating the volume of wood in a standing tree based on measurements of the tree. It is most commonly based on DBH and merchantable height.

## W

**Windthrow** — An area or group of trees blown over by high wind. Also known as a blowdown.

**Wood Pulp** — Mechanically ground or chemically digested wood used to manufacture paper or fiberboard. Wood pulp is made up mostly of wood fiber.

**Woodland** — Land capable of supporting tree growth, but often at lower densities than commonly found in forests, with wide spacing between trees.

## X

**Xylem** — Wood produced by the cambium beneath the bark that conducts water within the tree.

## Y

**Yard** — A place where logs, pulpwood bolts, etc., are collected and stored before being processed or transported to the mill.

**Yield Table** — A tabulation including volume, basal area, and number of trees per acre found in full stands on specified sites at specified ages.

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