

major harvesting operations within the same stand—usually within uneven-aged stands. For example, on a 10-year cutting cycle in a hardwood stand, trees are harvested every 10 years.

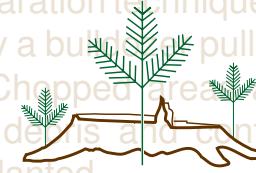
**CUTTING CONTRACT** — A written, legally binding document used in the sale of standing timber. The contract specifies the provisions covering the expectations and desires of both buyer and seller.

## D **Understanding Forestry Terms**

**DAYLIGHTING** — A practice in which trees shading an access road are removed to increase the sunlight on the roadway and along its periphery. This inexpensive practice maximizes forest edge and cover for wildlife and maintains passable roads for land.

**DIRECT or BROADCAST SEEDING** — (a) Sowing seed for broad coverage from the air or on the ground. (b) Seeding of forest stands, roadways, or specified lots for wildlife.

**DRUM CHOPPING** — A site preparation technique in which logging debris is leveled by a bulldozer pulling a large drum filled with water. Chopped areas are often burned to further reduce debris and control sprouting before seedlings are planted.



## E

**ECOLOGY** — The science or study of the relationships between organisms and their environment.

**EDGE** — The transition between two different types or ages of vegetation.

**EROSION** — The wearing away of land or soil by the action of wind, water, or ice.

**EVAPOTRANSPIRATION** — The evaporation of water from the soil and the transpiration of water from the plants that live in that soil. Approximately one-quarter of a forest's annual rainfall returns to the air through evapotranspiration.

## F

**FIREBREAK** — Any nonflammable barrier used to slow or stop fires. Several types of firebreaks are mineral soil barriers; barriers of green, slow-burning vegetation; and mechanically cleared areas.

Water levels are physically altered to control fire and

directly into the ground without beds or, in some cases, without first moving logging debris.

## G

**GIRDLING** — A physical cutting or disruption of the cambial sap flow within a tree. Girdling by humans or animals can often kill a tree.

**GREEN TREE RESERVOIR (GTR)** — A wooden structure that is intentionally flooded to benefit migratory ducks and waterfowl. GTRs may be planted with a grain crop, such as millet, the summer before the winter flooding. The GTR can be an effective, low-cost method of luring waterfowl into forested tracts.

## H

**HABITAT** — (a) An area in which a specific plant or animal can naturally live, grow, and reproduce. (b) For wildlife, habitat is the combination of food, water, cover, and space.

## Woodland Owner Notes

**HARDWOODS (DECIDUOUS TREES)** — Trees with broad, flat leaves as opposed to coniferous evergreen trees. Hardwood hardness varies among the hardwood species, and some are actually softer than some softwoods.

**HIGH-GRADING** — A harvesting technique that removes only the biggest and most valuable trees from a stand and provides high returns at the expense of future growth potential. Poor quality shade-loving trees tend to dominate in these continually high-graded sites.

## I

**North Carolina Cooperative Extension Service** — An intermediate cut made in a stand to improve form, quality, health, or wildlife potential of the remaining stand.

**North Carolina State University**

**INCENTIVE** — A reward for improving forest management. Incentives include reimbursement of some expenses but can also take the form of an abatement of property or income tax.

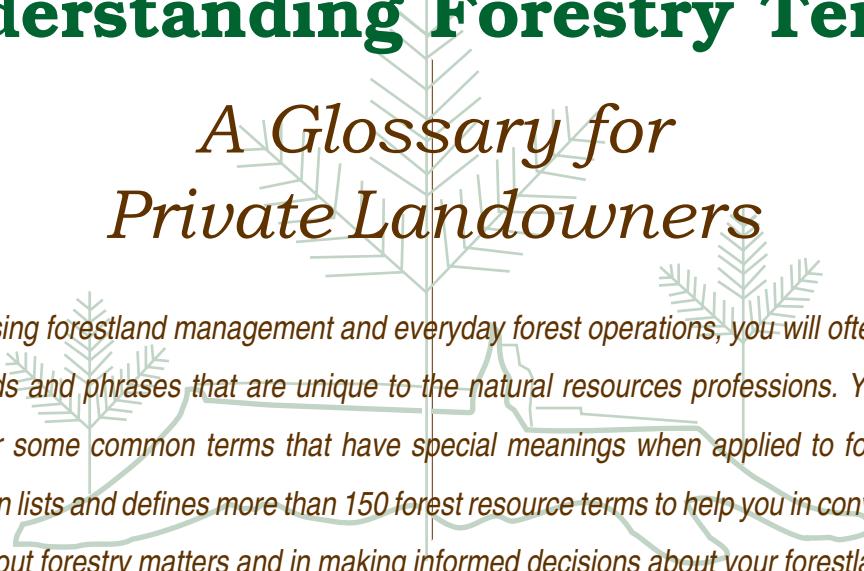
## J

**J-ROOT or L-ROOT** — An improperly planted seedling that takes a J-shaped configuration



# Understanding Forestry Terms

## A Glossary for Private Landowners



In discussing forestland management and everyday forest operations, you will often hear and read words and phrases that are unique to the natural resources professions. You will also encounter some common terms that have special meanings when applied to forestry. This publication lists and defines more than 150 forest resource terms to help you in conversing with others about forestry matters and in making informed decisions about your forestland.

### A

**ACRE**—An area of land measuring 43,560 square feet. A square 1-acre plot measures 209 feet by 209 feet; a circular acre has a radius of 117.75 feet.

**AESTHETICS**—(a) Sensitivity to or appreciation of the forest's beauty through recognition of its unique and varied components. (b) Beauty through an orderly appearance.

**ALL-AGED or UNEVEN-AGED MANAGEMENT**—The practice of managing a forest by periodically selecting and harvesting individual trees or groups of trees from the stand while preserving its natural appearance. Most common in hardwood forests.

**ALL-AGED or UNEVEN-AGED STAND**—A forest stand composed of trees of different ages and sizes.

**ANNUAL**—A plant that lives or grows for only one year or one growing season.

**ANNUAL WILDLIFE SEED MIXTURE**—A mixture of soybean, millet, cow pea, sorghum, lespedeza, buckwheat, and other seeds from which single-season plants are grown to serve as food or protective cover for wildlife. Some mixtures reseed naturally, while others require reseeding, light disking, and fertilization.

that measures 14 inches in diameter at breast height is about 1 square foot. (b) The sum basal areas of the individual trees within 1 acre of forest. For example, a well-stocked pine stand might have a basal area of 80 to 120 square feet per acre.

**BEDDING**—Land prepared before planting in the form of small mounds. The prepared land concentrates topsoil and elevates the root zone of seedlings above temporary standing water. Fertilizer is often incorporated into the bedding.

**BIOLOGICAL DIVERSITY**—The variety of life forms in a given area. Diversity can be categorized in terms of the number of species, the variety in the area's plant and animal communities, the genetic variability of the animals, or a combination of these elements.

**BLOCK**—An area of land or timber that has been defined for management purposes. One block may be composed of stands of different species or ages.

**BOARD FOOT**—A unit of wood measuring 144 cubic inches. A 1-inch by 12-inch shelving board that is 1 foot long is equal to 1 board foot. Board foot volume is determined by:

$$\frac{\text{length (feet)} \times \text{width (inches)} \times \text{thickness (inches)}}{12}$$

**BOLE**—The main trunk of a tree.

**BUFFER STRIP**—A narrow zone or strip of land, trees, or vegetation bordering an area. Common examples include visual buffers, which screen the view along roads, and streamside buffers, which are used to protect

### B

**BASAL AREA**—(a) The cross-sectional area (in square feet) of a tree trunk at breast height (4.5 feet above the ground). For example, the basal area of a tree

water quality. Buffers may also be used to prevent the spread of forest pests.

## C

**CANOPY** — A layer or multiple layers of branches and foliage at the top or crown of a forest's trees.

**CAPITAL GAINS** — Profit on the sale of an asset such as timber, land, or other property. Reporting timber sales as capital gains provides certain tax advantages over reporting revenues as ordinary income.

**CHIP-n-SAW** — A cutting method used in cutting lumber from trees that measure between 6 and 14 inches diameter at breast height. The process chips off the rounded outer layer of a log before sawing the remaining cant or rectangular inside section into lumber. Chip-n-saw mills provide a market for trees larger than pulpwood and smaller than sawtimber.

**CLEAR-CUT HARVEST** — A harvesting and regeneration method that removes all trees within a given area. Clear-cutting is most commonly used in pine and hardwood forests, which require full sunlight to regenerate and grow efficiently.

**CLIMAX COMMUNITY** — A relatively stable and undisturbed plant community that has evolved through stages and adapted to its environment.

**COMPETITION** — The struggle between trees to obtain sunlight, nutrients, water, and growing space. Every part of the tree—from the roots to the crown—competes for space and food.

**CONSERVATION** — The protection, improvement, and wise use of natural resources for present and future generations.

**CONSERVATION RESERVE PROGRAM (CRP)** — A federal program designed to remove highly erodible, marginal farmland from production through a one-time cost-sharing payment to establish trees, grass, or other cover. The landowner receives a 10-year annual rental payment to maintain the cover.

**CONTROLLED BURN** — (*See Prescribed Burn.*)

**CORD** — A stack of round or split wood consisting of 128 cubic feet of wood, bark, and air space. A standard cord measures 4 feet by 4 feet by 8 feet. A face cord or short cord is 4 feet by 8 feet by any length of wood under 4 feet.

**COST-SHARE ASSISTANCE** — An assistance program offered by various state and federal agencies that pays a fixed rate or percentage of the total cost necessary to implement some forestry or agricultural practice.

**COVER** — (a) Any plant that intercepts rain drops before they reach the soil or that holds soil in place. (b) A hiding place or vegetative shelter for wildlife from predators or inclement weather.

**CROP TREE** — Any tree selected to grow to final harvest or to a selected size. Crop trees are selected for quality, species, size, timber potential, or wildlife value.

**CROWN** — The branches and foliage at the top of a tree.

**CROWN-CLASS** — A tree classification system based on the tree's relative height, foliage density, and ability to intercept light. Crown-class measures past growth performance and calls attention to crop trees that could benefit from future thinning and harvest operations.

There are four classifications:

**Dominant Trees** — Larger-than-average trees with broad, well-developed crowns. These trees receive direct sunlight from all sides and above.

**Codominant Trees** — Average-to-fairly large trees with medium-sized crowns that form the forest canopy. These trees receive full light from above but are crowded on the sides.

**Intermediate Trees** — Medium-sized trees with small crowns below the general level of the canopy. Intermediate trees receive little direct light, are poor crop trees, and should be removed during thinning operations.

**Suppressed or Overtopped Trees** — Small trees that grow below the tree canopy and receive no direct sunlight from any direction.

**CRUISE** — A survey of forestland to locate timber and estimate its quantity by species, products, size, quality, or other characteristics.

**CULL** — A tree or log of marketable size that is useless for all but firewood or pulpwood because of crookedness, rot, injuries, or damage from disease or insects.

**CUTTING CONTRACT** — A written, legally binding document used in the sale of standing timber. The contract specifies the provisions covering the expectations and desires of both buyer and seller.

**CUTTING CYCLE** — The planned time interval between major harvesting operations within the same stand—usually within uneven-aged stands. For example, on a 10-year cutting cycle in a hardwood stand, trees are harvested every 10 years.

## D

**DAYLIGHTING** — A practice in which trees shading an access road are removed to increase the sunlight on the roadway and along its periphery. This relatively inexpensive practice maximizes forest edge and cover for wildlife and maintains passable roads year-round.

**DIAMETER AT BREAST HEIGHT (DBH)** — The diameter of a tree measured in inches at breast height—a standard 4.5 feet above the ground.

**DIAMETER-LIMIT CUTTING** — A selection method in which all marketable trees above a specified diameter are harvested. Diameter-limit cutting can lead to long-term degradation of the stand.

**DIRECT or BROADCAST SEEDING** — (a) Sowing seed for broad coverage from the air or on the ground. (b) Seeding of forest stands, roadways, or specified plots for wildlife.

**DRUM CHOPPING** — A site preparation technique in which logging debris is leveled by a bulldozer pulling a large drum filled with water. Chopped areas are often burned to further reduce debris and control sprouting before seedlings are planted.

## E

**ECOLOGY** — The science or study of the relationships between organisms and their environment.

**EDGE** — The transition between two different types or ages of vegetation.

**ENDANGERED or THREATENED SPECIES** — A species is endangered when the total number of remaining members may not be sufficient to reproduce enough offspring to ensure survival of the species. A threatened species exhibits declining or dangerously low populations but still has enough members to maintain or increase numbers.

**ENVIRONMENT** — The interaction of climate, soil, topography, and other plants and animals in any given area. An organism's environment influences its form, behavior, and survival.

**EROSION** — The wearing away of land or soil by the action of wind, water, or ice.

**EVAPOTRANSPIRATION** — The evaporation of water from the soil and the transpiration of water from the plants that live in that soil. Approximately one-quarter of a forest's annual rainfall returns to the air through evapotranspiration.

**EVEN-AGED MANAGEMENT** — A forest management method in which all trees in an area are harvested at one time or in several cuttings over a short time to produce stands that are all the same age or nearly so. This management method is commonly applied to shade-intolerant conifers and hardwoods.

## F

**FIREBREAK** — Any nonflammable barrier used to slow or stop fires. Several types of firebreaks are mineral soil barriers; barriers of green, slow-burning vegetation; and mechanically cleared areas.

**FLASHBOARD RISER** — A versatile water control device used in the coastal plain to manage water movement. Water levels are physically altered to control fire and maintain beneficial soil characteristics to reduce soil oxidation and soil damage caused by heavy equipment.

**FLAT or STRAIGHT PLANTING** — Planting trees directly into the ground without beds or, in some cases, without first moving logging debris.

**FORAGE** — Vegetation such as leaves, stems, buds, and some types of bark that can be eaten for food and energy.

**FORB(S)** — Any herb other than grass.

**FOREST CERTIFICATION** — The means of protecting forests by promoting environmentally responsible forestry practices. Forests are evaluated according to international standards and certified as well managed by a qualified independent auditor (or certifier). Wood or wood products from those forests are then labeled so that consumers can identify them.

**FOREST DEVELOPMENT PROGRAM (FDP)** — A state- and industry-funded cost-sharing program administered by the North Carolina Division of Forest Resources. The program pays landowners for approved tree site preparation and planting activities.

**FOREST LAND ENHANCEMENT PROGRAM (FLEP)** — A federally funded cost-sharing program administered by the North Carolina Division of Forest Resources. FLEP provides technical, educational, and cost-share assistance to promote sustainability of non-industrial private forestlands. It is unique with regard to most other forestry cost-share programs in that it emphasizes practices that will improve the condition of an existing forest stand. Such practices may include precommercial thinning, prescribed burning, and release of seedlings from vegetative competition.

**FOREST MANAGEMENT** — (a) Proper care and control of wooded land to maintain health, vigor, product flow, and other values (soil condition, water quality, wildlife preservation, and beauty) in order to accomplish specific objectives. (b) The practical application of scientific, economic, and social principles to forest property.

**FOREST MANAGEMENT PLAN** — Written guidelines for current and future management practices recommended to meet an owner's objectives.

**FOREST STEWARDSHIP PLAN** — A written document listing activities that enhance or improve forest resources (wildlife, timber, soil, water, recreation, and aesthetics) on private land over a 5-year period.

**FOREST STEWARDSHIP PROGRAM** — A cooperative, technical-assistance program designed to encourage multiple resource management on private forestland. Emphasis is placed on preharvest planning to enhance and protect forest-based resources. Authorized under the 1990 Farm Bill, the program is based on national guidelines but is set by individual states.

**FOREST TYPE** — Groups of tree species commonly growing in the same stand because their environmental requirements are similar. North Carolina examples include pine and mixed hardwood; cypress, tupelo, and black gum; and oak and hickory.

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

**FUEL LOADING** — A buildup of fuels, especially easily ignited, fast-burning fuels such as pine straw.

**FUSIFORM RUST** — A disease resulting in a canker or swollen area on the limbs or trunks of pine trees from orange spores produced by infected oak leaves. Fusiform rust degrades stem quality and tree value, often leading to breakage, disfigurement, and eventual death of the tree.

## G

**GIRDLING** — A physical cutting or disruption of the cambial sap flow within a tree. Girdling by humans, animals, or insects can often kill a tree.

**GREEN TREE RESERVOIR (GTR)** — A wooded area that has been intentionally flooded to benefit migratory ducks and waterfowl. GTRs may be planted with a grain crop, such as millet, the summer before the winter flooding. The GTR can be an effective, low-cost method of luring waterfowl into forested tracts.

**GROUP SELECTION** — (a) The removal of small groups of trees to regenerate shade-intolerant trees in the opening (usually at least  $\frac{1}{4}$  acre). (b) A specific type of selective cutting.

## H

**HABITAT** — (a) An area in which a specific plant or animal can naturally live, grow, and reproduce. (b) For wildlife, habitat is the combination of food, water, cover, and space.

**HARDWOODS (DECIDUOUS TREES)** — Trees with broad, flat leaves as opposed to coniferous or needled trees. Wood hardness varies among the hardwood species, and some are actually softer than some softwoods.

**HIGH-GRADING** — A harvesting technique that removes only the biggest and most valuable trees from a stand and provides high returns at the expense of future growth potential. Poor quality, shade-loving trees tend to dominate in these continually high-graded sites.

## I

**IMPROVEMENT CUT** — An intermediate cut made to improve the form, quality, health, or wildlife potential of the remaining stand.

**INCENTIVE** — A reward for improving forest management. Incentives include reimbursement of some expenses but can also take the form of an abatement of property or income tax.

## J

**J-ROOT or L-ROOT** — An improperly planted seedling that takes a J-shaped configuration in the planting hole. Such seedlings often die prematurely, grow poorly, and are susceptible to windthrow.

## K

**KG AND PILE** — A site preparation method in which stumps are pushed up, sheared off, or split apart by a specially designed blade mounted on a bulldozer. Debris is then piled or placed in long rows (windrows) so that an area can be bedded or flat planted.

**KG BLADE** — A bulldozer-mounted blade used in forestry and land-clearing operations. A single spike splits and shears stumps at their base.

## L

**LEGUMES** — Plants that produce organic nitrogen from nitrogen gas in the air. These plants, which typically form seeds in pods, include soybeans, peas, alfalfa, lespedeza, and locust.

**LOG RULE or LOG SCALE** — A table based on a diagram or mathematical formula used to estimate volume or product yield from logs and trees. Three log rules are used today in North Carolina: Scribner is the common scale for pine; Doyle is the common hardwood scale; and the International 1/4" Rule best measures mill output, although it is used less frequently than the other log scales.

## M

**MARGINAL LAND** — Land that does not consistently produce a profitable crop because of infertility, drought, or other physical limitations such as shallow soils.

**MARKETING** — The selling of timber or other forest resources. Successful sellers seek a satisfactory price through competition, skillful negotiation, knowledge of

timber markets, and the aid of a competent broker or consultant.

**MARKING** — (a) The physical process of selecting trees to be cut or left during a harvest. (b) delineating a boundary. Marking is usually done by spraying a spot of bright paint on a prominent part of the tree.

**MAST** — Fruits or nuts used as a food source by wildlife. Soft mast include most fruits with fleshy coverings, such as persimmon, dogwood seed, or black gum seed. Hard mast refers to nuts such as acorns and beech, pecan, and hickory nuts.

**MATURE TREE** — A tree that has reached a desired size or age for its intended use. Size, age, or economic maturity varies depending on the species and intended use.

**MBF** — Abbreviation denoting 1,000 board feet. MBF is a typical unit of trade for dimension lumber and sawtimber stumps. (It takes 11 MBF of wood to build an average 1,900-square-foot house.)

**MENSURATION or BIOMETRICS** — (a) The measurement and calculation of volume, growth, and development of individual trees or stands and their timber products. (b) A measurement of forestlands.

**MERCHANTABLE HEIGHT** — The stem length, normally measured from the ground to a 10-, 6-, or 4-inch diameter top, above which no other saleable product can be cut. Diameter, local markets, limbs, knots, and other defects collectively influence merchantable height.

**MIXED STAND** — A timber stand in which less than 80 percent of the trees in the main canopy are of a single species.

**MULTIPLE USE** — The management of land or forest for more than one purpose, such as wood production, water quality, wildlife, recreation, aesthetics, or clean air. (See *Stewardship*.)

## N

**NATURAL STAND (NATURAL REGENERATION)** — A stand of trees grown from natural seed fall or sprouting.

**NUTRIENTS** — Elements necessary for growth and reproduction. Primary plant nutrients are nitrogen, phosphorus, and potassium.

## O

**ON THE STUMP** — Standing, uncut timber.

## P

**PERENNIAL** — Plants that live or grow for more than one year. Some resprout from a root system or reseed themselves every year.

**PERENNIAL WILDLIFE MIXTURE** — A mixture of all or some of the following: shrub lespedeza, partridge pea, cowpea, annual lespedeza, reseeding soybeans, and other perennial plants that are beneficial to wildlife.

**PEST** — Any organism that is out of place or causes stress to a desired organism.

**PESTICIDE** — Any chemical used to kill or control pests.

**PHOSPHATE** — A chemical compound that aids root growth and is essential in energy transfer. It is commonly incorporated into beds as triple super phosphate (TSP) at time of planting.

**PLANT or HABITAT DIVERSITY** — A variety of food or cover for wildlife. Variation may occur at one point in time or over a period of time such as during the course of a season. Seasonal diversity of food and cover is often critical to the survival of a species.

**PLANTATION** — Planted pines or hardwoods, typically in an ordered configuration such as equally spaced rows.

**POLES or POLETIMBER** — Trees from 5 to 7 inches in diameter at breast height.

**PREDATOR** — An animal that preys on and devours other animals.

**PREDATOR GUARD** — A physical barrier used to keep one animal from eating another. Usually refers to protection devices on nest boxes.

**PRESCRIBED or CONTROLLED BURN** — The use of fire under specific environmental conditions to achieve forest management objectives. Used to reduce hazardous fuel levels, control unwanted vegetation, favor desired vegetation, and improve visibility and wildlife habitat.

**PRESENT USE VALUATION** — Property tax relief classification based on the land's productivity for agriculture, horticulture, or forestry production, rather than for market value. Can result in substantial tax savings in areas where land values are high. Some restrictions and penalties apply, including a 3-year rollback provision with interest. Consult your county tax supervisor for details.

**PRESERVATION** — An attempt to keep forests in an undisturbed state through the control of internal and external influences.

**PULPWOOD** — Wood used in the manufacture of paper, fiberboard, or other wood fiber products. Pulpwood-sized trees are usually a minimum of 4 inches in diameter.

**PURE STAND** — A timber stand in which at least 75 percent of the trees in the main crown canopy are of a single species.

## R

**RAPTOR** — A bird of prey such as an owl, hawk, osprey, or eagle.

**REFORESTATION** — Reestablishing a forest by planting or seeding an area from which forest vegetation has been removed.

**REGENERATION CUT** — A cutting strategy in which old trees are removed while favorable environmental conditions are maintained for the establishment of a new stand of seedlings.

**REGISTERED LANDS** — A permit-only hunting program in which land is registered with and patrolled by the Wildlife Resources Commission. Hunters without a permit issued by the landowner are cited for trespass and prosecuted without need for the landowner to appear in court or swear out a warrant.

**REPRODUCTION** — (a) The process by which young trees grow to become the older trees of the future forest. (b) The process of forest replacement or renewal through natural sprouting or seeding or by the planting of seedlings or direct seeding.

**RESIDUAL STAND** — Trees left in a stand to grow until the next harvest. This term can refer to crop trees or cull trees.

**ROOT COLLAR** — The transition zone between stem and root at the ground line of a tree or seedling.

**ROTATION** — The number of years required to establish and grow trees to a specified size, product, or condition of maturity. A pine rotation may range from as short as 20 years for pulpwood to more than 60 years for sawtimber.

## S

**SALE, LUMP SUM (BOUNDARY)** — The sale of specified timber on a specified area. The volume may or may not be estimated and published. The buyer is responsible for determining correct volume. The seller guarantees ownership and boundaries.

**SALE, UNIT** — A timber sales arrangement in which the buyer pays for forest products removed in units (measured in cords, MBF, or units of weight). Determination of units removed from the area is verified by mill tally, scale tickets, and buyer's or seller's tally.

**SALVAGE CUT** — The harvesting of dead or damaged trees or of trees in danger of being killed by insects, disease, flooding, or other factors in order to save their economic value.

**SAPLING** — A small tree, usually between 2 and 4 inches diameter at breast height.

**SAWLOG or SAWTIMBER** — A log or tree that is large enough (usually 10 to 12 inches in diameter) to be sawed into lumber. Minimum log length is typically 8 feet.

**SCARIFYING** — For soil: The removal of the top litter layer of an area (usually in strips) for site preparation. For seed: The abrasion or weakening of the seed coat to encourage germination.

**SEDIMENTATION** — The deposition or settling of soil particles suspended in water.

**SEED TREE CUT** — A harvesting method in which a few scattered trees are left in the area to provide seed for a new forest stand. Selection of seed trees should be based upon growth rate, form, seeding ability, wind firmness, and future marketability. This harvesting method produces an even-aged forest.

**SEED YEAR** — A year in which a given species produces a large seed crop over a sizable area. Some

species of trees produce seeds irregularly.

**SEEDLING** — (a) A tree, usually less than 2 inches diameter at breast height, that has grown from a seed rather than from a sprout. (b) A nursery-grown tree that has not been transplanted in the nursery.

**SELECTIVE CUTTING** — The periodic removal of individual trees or groups of trees to improve or regenerate a stand.

**SHADE-INTOLERANT TREES** — Trees that cannot thrive in the shade of larger trees.

**SHEARING** — Slicing or cutting trees or stumps at the ground line. Shearing may be done at harvest or with a KG blade during site preparation.

**SHELTERWOOD CUT** — Removing trees on the harvest area in a series of two or more cuttings so new seedlings can grow from the seed of older trees. This method produces an even-aged forest.

**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 INDEX** — A relative measure of forest site quality based on the height (in feet) of the dominant trees at a specific age (usually 25 or 50 years, depending on rotation length). Site index information helps estimate future returns and land productivity for timber and wildlife.

**SITE PREPARATION** — Preparing an area of land for planting, direct seeding, or natural reproduction by burning, chemical vegetation control, or by mechanical operations such as disking, bedding, scarifying, windrowing, or raking.

**SLASH** — (a) Tree tops, branches, bark, or other residue left on the ground after logging or other forestry operations. (b) Tree debris left after a natural catastrophe.

**SOFTWOOD (CONIFER)** — A tree belonging to the order Coniferales. Softwood trees are usually evergreen, bear cones, and have needles or scalelike leaves. They include pine, spruces, firs, and cedars.

**SOIL TEXTURE** — The feel or composition of the soil (sand, silt, or clay) as determined by the size of the soil particles.

**SOIL TYPE** — Soils that are alike in all characteristics, including texture of the topsoil. Soil maps and information on site index, erodibility, and other limiting properties are available from your county Soil Conservation Service offices.

**SPECIES** — A group of related organisms having common characteristics and capable of interbreeding. Loblolly and Virginia pine are common species that can be interbred.

**STAND** — An easily defined area of the forest that is relatively uniform in species composition or age and can be managed as a single unit.

**STEWARDSHIP FOREST** — A privately owned forest tract that exhibits integrated forest management to protect and enhance wildlife, timber, recreation, natural beauty, and soil and water quality.

**STOCKING** — A description of the number of trees, basal area, or volume per acre in a forest stand compared with a desired level for balanced health and growth. Most often used in comparative expressions, such as well-stocked, poorly stocked, or overstocked.

**STREAMSIDE MANAGEMENT ZONE (SMZ)** — An area adjacent to a stream in which vegetation is maintained or managed to protect water quality. The width depends on slope, but 50 feet is the normal minimum. Trees may be removed from SMZs as long as the stream bed is not disrupted and sufficient vegetation is left to protect water quality.

**STUMPPAGE** — The value or volume of a tree or group of trees as they stand uncut in the woods (on the stump).

**SUCCESSION** — The natural sequence of plant community replacement beginning with bare ground and resulting in a final, stable community in which a climax forest is reached. Foresters, wildlife biologists, and farmers constantly battle ecological succession to try to maintain a particular vegetative cover.

**SUCCESSIONAL DISKING or MOWING** — A wildlife-enhancement practice in which a disk harrow or rotary mower is used to knock down existing vegetation every 1 to 3 years to promote the regrowth of annuals, legumes, forbes, and perennials.

**SUSTAINABLE FORESTRY** — The practice of meeting the forest resource needs and values of the present generation without compromising the similar capability of future generations.

**SUSTAINED YIELD** — Management of forestland to produce a relatively constant amount of wood products, revenue, or wildlife.

## T

**THINNING** — A tree removal practice that reduces tree density and competition between trees in a stand. Thinning concentrates growth on fewer, high-quality trees, provides periodic income, and generally enhances tree vigor. Heavy thinning can benefit wildlife through the increased growth of ground vegetation.

**TIMBER STAND IMPROVEMENT (TSI)** — Improving the quality of a forest stand by removing or deadening undesirable species to achieve desired stocking and species composition. TSI practices include applying herbicides, burning, girdling, or cutting.

**TOLERANT SPECIES** — A species of tree that has the ability to grow in the shade of other trees and in competition with them.

**TREE FARM** — A privately owned forest or woodland in which timber crop production is a major management goal. Many tree farms are officially recognized by the American Tree Farm System, an organization sponsored by the American Forestry Council.

**TREE SPACING** — The distance between trees, which is most often regulated at the time of planting or during a harvest or thinning operation. Spacing, like stand density, affects understory vegetation, seed production, growth rate, and wildlife habitat.

## U

**UNDERSTORY** — (a) The layer formed by the crowns of smaller trees in a forest. (b) The trees beneath the forest canopy.

## W

**WATER BAR** — A diagonal ditch or hump in a trail that diverts surface water runoff to minimize soil erosion.

**WATER CONTROL** — Management of water (both surface and subsurface) to maintain plant growth, water quality, wildlife habitat, and fire control.

**WILDLIFE** — A broad term that includes nondomesticated vertebrates, especially mammals, birds, and fish.

**WINDROW** — A long, narrow row of vegetation, debris, and some soil created during site preparation and clearing operations.

**WINDTHROW** — Trees uprooted by excessive wind. Shallow-rooted trees are almost always affected.



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