

GLOSSARY

Abiotic disease -- An unhealthy state of being caused by a non-living factor or condition.

Acid precipitation -- A condition that occurs when moisture in the air combines with sulphur or nitrogen compounds to form acid. It is a serious threat to plant and animal life.

Acre -- A tract of land equal to 43,560 square feet.

Adaptive behavior -- Changes in the habits of animals they have learned to use to increase their chances of survival.

Adventitious root -- Roots that grow downward from the main stem of a tree to provide added support to a tree growing in an aquatic environment; also known as prop roots.

Aerial fuels -- Fuels located more than six feet above the ground in the mid to upper canopy of the forest.

Agency -- An administrative division of government assigned specific duties and functions.

Alfisols -- Slightly acid soils with high mineral contents of calcium, magnesium, sodium and potassium.

Allelopathic effect -- A plant response to competition in which live plants on the soil surface release small amounts of poisonous chemicals into the soil around them as protection against invasion by other plants.

Alluvial fan -- A geological formation of gravel, clay, sand and silt deposited by water; located where a stream slows down as it enters a plain or where a tributary joins a main stream.

Anaphase -- The step during the cell division process known as mitosis during which the chromatids are pulled apart by the spindles.

Anatomy -- The study of the structure of an organism.

Angiosperm -- A class of tree that produces seeds inside an ovary or fruit; a flowering tree

Annual ring -- A new layer of woody xylem tissue that forms each year throughout the life of a tree.

Anther -- The plant organ in which pollen grains develop and mature.

Apical meristem -- A rapidly dividing mass of cells located on the ends of stems and roots that causes them to elongate or grow longer.

Aquatic -- Adapted to a water environment.

Arboriculture -- The scientific care of shrubs and trees in cities and towns.

Are -- A metric measurement of land area; a land area equal to 100 square meters.

Artificial regeneration -- Forest renewal that occurs when seeds or seedlings are planted at a harvest site.

Asexual reproduction -- Propagation of a plant or other organism from its parts, such as seedling production from leaf, root or stem tissue.

Adenosine triphosphate (ATP) -- A high energy molecule produced during photosynthesis; source of energy for muscle movement in animals.

Backfire -- A fire started along the inside edge of a firebreak to burn the fuel supply back to the wildfire.

Bare-root stock -- Seedlings removed from the soil in preparation for storage and shipping.

Basal area -- A measurement of timber volume that may be determined for a single tree or an entire forest.

Baseline -- A survey line that runs east-west.

Beam -- A timber equal to or greater than 8" X 8" in dimension.

Biltmore stick -- A measuring instrument used to determine the diameter of a tree at breast height.

Biological control -- A method of controlling undesirable insects and weeds by introducing their natural enemies into the environment.

Biological succession -- Changes that occur as living organisms replace other lower order organisms in an environment.

Biological value -- The relative worth of the life forms that populate an area, taking into account economic values and effects on climate, watersheds, water temperature, soil erosion, wildlife, etc.

Biomass -- Vegetation and waste materials containing large amounts of vegetable matter rich in cellulose.

Biomass power -- Electrical power generated from energy, obtained from the heat of burning plant materials.

Biotic disease -- An unhealthy condition caused by living agents of infection such as bacteria, fungi, viruses, micoplasmas, parasites, nematodes, etc.

Bipinnately compound -- Multiple leaflets attached to side-branches that grow opposite one another on a central leafstalk.

Blade -- The flat part of a leaf; usually green or red in color.

Block -- A log or flitch cut to a standard length to fit a lathe in the manufacture of veneer.

Blowup -- A crown fire that suddenly erupts into an extremely intense fire.

Board -- A cut of wood less than 2" thick and greater than 4" wide.

Board foot -- A unit of measurement for lumber equal to a piece of wood 1' long X 12" wide X 1" thick.

Boreal forest -- A forest located in the northern zone of the North American continent; characterized by a wet, cold climate.

Brown rots -- A type of wood rot that occurs in trees as fungi break down the cellulose in the cell walls, especially in heartwood.

Bucking -- A process by which a felled tree is cut into desirable lengths.

Bunching -- The process of assembling the logs in an area into small piles.

Butt rot -- Decay or rotting of the interior wood near the base of a tree.

Callus tissue -- Plant tissue not differentiated into leaf, root, stem, or other specialized tissue.

- Calvin cycle -- A series of chemical reactions that convert carbon dioxide to simple sugars during the process of photosynthesis.
- Cambium -- A layer of meristem tissue located between the wood and the bark of a tree from which new wood and bark is produced.
- Canker -- A fungi infection in a tree that kills the soft tissues of a tree such as the cambium and the bark.
- Canopy -- The highest level of vegetation in a forest, consisting of the branches and foliage of the tallest trees.
- Cant -- A log from which all four slabs have been removed.
- Carbonization process -- A process, also known as destructive distillation, by which wood is heated in the absence of oxygen to produce charcoal and volatile gases.
- Carnivore -- An animal or other organism whose diet consists of meat.
- Cell -- A small structure that contains cytoplasm and a nucleus; the basic unit of life.
- Cell membrane -- The outer flexible membrane that surrounds the contents of a cell.
- Cell wall -- The rigid outer layer or covering of a plant cell.
- Cellulose -- The substance of which the cell walls of plants are composed; wood fiber used in paper manufacturing.
- Cellulose xanthate -- A viscous liquid obtained from the cellulose component of wood used to manufacture rayon, cellophane, photographic films, etc.
- Centriole -- A cell structure found at either end of a cell that anchors the fibers drawing chromosomes apart during cell division.
- Centromere -- The point of attachment for a pair of chromatids.
- Chain -- The unit of forest measurement of distance; one chain is equal to the 66' length of a surveyor's chain.
- Chainsaw -- A gasoline-powered saw used to fell and trim trees as one of the procedures in a logging operation.
- Chemical control -- The use of chemicals to control weeds and insects.
- Chemical pulping -- A processing method that uses chemicals to dissolve the lignin component of wood in the manufacturing process for high strength paper.
- Chlorophyll -- A green substance found in plant cells that aids the plant in capturing energy from sunlight and converting it to sugars and starches through the process of photosynthesis.
- Chloroplast -- A plant cell structure containing chlorophyll that converts raw materials to sugars and starches using energy obtained from sunlight.
- Choker -- A cable fastened around a log for the purpose of transporting it to the yard or landing.
- Chromatid -- Half of a replicated chromosome.
- Cleaning operation -- Removal of forest vegetation that competes with young trees during the seedling to sapling stage of maturity.

Clear cutting -- A harvest method in which all trees in the stand are cut at the same time.

Climax community -- The population of plants that occupies an environment when succession of species is complete and plant populations have become stable.

Coastal plain -- A land area, particularly along the Atlantic or Gulf coasts, consisting of a series of terraces that generally run parallel to the coastline.

Collenchyma -- Thick-walled plant cells that add strength to stems and stalks.

Computer -- A machine that performs mathematical calculations in a programmed sequence, and capable of cataloguing and integrating large amounts of information.

Conifer -- A tree or shrub that produces cones containing seeds.

Conk -- A growth that arises on a tree trunk due to a fungal infection inside the tree, and from which reproductive spores are released into the environment.

Conservation of matter -- A basic law of physics: matter may change from one form to another, but it cannot be created or destroyed by natural physical or chemical processes.

Containerized seedlings -- Very young trees produced from seeds in individual containers under greenhouse conditions.

Controlled burn -- The use of fire to burn trash materials from the soil surface in preparation for planting, or as a fire prevention measure in established forests, sometimes known as a prescribed burn.

Coppice method -- A form of asexual reproduction of a forest in which all the trees are cut and new forest growth is generated from the stumps of the harvested trees; also known as the sprout method.

Cork -- A protective outer covering of root and stem tissues consisting of dead plant cells containing a waxy material.

Cortex -- Loosely arranged parenchyma cells located in the interior of a root in which sugars and starches are stored.

Cross-banding -- Orientation of the wood grain in each layer of plywood to align the long wood fibers across one another.

Crown fire -- A surface fire that builds in intensity until it ignites the aerial fuels including the upper foliage of trees.

Cruise -- The process of estimating the timber yield in a forest.

Cuticle -- A protective coating of waxy material that forms on the outside of plant tissues such as stems and leaves.

Cutting cycle -- The length of time in years that elapses between timber harvests.

Cuttings -- Plant parts obtained from leaves, stems, roots, or buds treated with a hormone to stimulate rooting and growth of a new plant.

Cytoplasm -- All structures and substances within a cell except for the nucleus.

D.B.H. -- Diameter at breast height.

Database -- A collection of data in a computer organized in a manner that allows it to be retrieved and manipulated with relative ease.

Deadwood -- A standing or downed tree that has died.

Debarking -- The process of removing the bark from a log.

Deciduous -- Shedding leaves annually.

Dehydration synthesis -- A process by which a molecule of water is removed each time a single molecule, such as glucose, is added to a larger molecule, such as starch.

Denitrification -- The process by which some kinds of bacteria break down nitrate compounds releasing nitrogen gas into the atmosphere.

Department -- An administrative level of government administered by the executive branch of government.

Destructive distillation -- A process by which wood is heated in the absence of oxygen to produce coke and volatile gases.

Diploid -- A cell having twice as many chromosomes as normally occur.

Direct attack -- Applying water and fire retardants directly to a fire from aircraft, trucks and backpacks.

Direct seeding -- Planting tree seeds to generate new forest growth.

Disease -- An unhealthy disorder that can be traced to a specific cause, generally with consistent symptoms.

Disk refiner -- A machine that separates wood fibers between two mechanical disks as they rotate in opposite directions.

Dissolving process -- A process used to dissolve the cellulose component of wood to form a viscous liquid called cellulose xanthate in the production of rayon, cellophane and films.

Dominant-use -- A forest management concept that assigns higher priority to some forest uses than it does to others, and that restricts the forest to high priority uses.

Dot grid -- A method for determining the land area on a map by counting the number of dots that fall within the boundary lines.

Doyle's rule -- A table based on a mathematical equation for estimating the number of board feet in a log.

Draft -- A supply of fresh air that the convection column draws into the base of a fire.

Duff -- Organic material made up of decaying plant material located on or just beneath the surface of the forest floor.

Earth resource satellite -- A specialized satellite placed in an earth orbit that allows it to pass over every part of the earth's surface, and from which data is transmitted to ground bases.

Ecology -- The branch of biology that describes relationships between living organisms and the environments in which they live.

Electronic mail -- A computer network service that allows users to communicate by sending letters over the network.

Elemental cycle -- The recurring circular flow of elements from living organisms to non living materials and back again.

- Eluviation -- The loss of soil components from a soil horizon due to downward leaching and movement of water through the soil profile.
- E-mail -- A computer network service that allows users to communicate by sending letters over the network.
- Embryo sac -- A female gamete in plants consisting of the cell mass located in the ovule that develops into the embryo and the endosperm of a seed after fertilization.
- Endodermis -- The innermost layer of cells in the cortex of a root, surrounded by a waxy waterproof material that restricts the flow of water and some dissolved materials.
- Environmental impact statement -- A science-based study of the harvest area which describes the expected effects of human activities on the environment and the wildlife in the area.
- Environmental Protection Agency (EPA) -- The federal agency charged with protecting and maintaining the environment.
- Epidermis -- The outer layer of cells that protect plant leaves, stems, flowers, seeds and roots.
- Erosion -- The loss of topsoil due to the forces of wind or flowing water.
- Ethanol -- An alcohol, used for fuel, produced by fermenting carbohydrates followed by distillation of the liquid.
- Even-aged stand -- A population of trees in which most of the trees are approximately the same age.
- Evergreen -- Trees that bear green leaves in all seasons.
- Extractive -- One of several wood products dissolved and removed from wood using solvents.
- Fermentation -- A process by which bacteria, yeasts or enzymes are used to change the chemical make-up of a product such as producing alcohol from wood.
- Fertilization -- The fusion of male and female gametes; adding plant nutrients to the soil.
- Fiberboard -- A reconstituted board made of wood fibers that become cross-banded in the panel due to the random arrangement of the fibers in the mat from which the board is formed.
- Filament -- The stalk of the stamen in a flower.
- Fire break -- A zone located in the pathway of a fire from which fuel has been removed for the purpose of stopping the fire from spreading; also called a fire line.
- Fire line -- A zone located in the pathway of a fire from which fuel has been removed for the purpose of stopping the fire from spreading; also called a fire break.
- Fire suppression -- All activities conducted to discover and extinguish a fire.
- Firestorm -- Erratic behavior by a crown fire, such as hurling burning debris beyond the leading edge of the fire and jumping across firelines and rivers.
- Flitch -- A thick piece of high quality hardwood processed into veneer.
- Food chain -- A series of steps through which energy from the sun is transferred to living organisms; members of the food chain feed on lower ranking members of the community.
- Food pyramid -- An arrangement of organisms in a ranking order according to their dominance in the food web.

Food web-A group of interwoven food chains.

Forest -- A large tract or land area where trees dominate.

Forest floor -- The layer of decaying plant materials on the soil surface.

Forest growth -- The increase that occurs in the volume of wood in a forest over a specific period of time.

Forest growth model -- A computer program that prepares estimates of forest yields by applying all of the factors known to affect forest growth.

Forest inventory -- A record of the estimated volume of timber of the different varieties present in the forest at a given time.

Forestry -- The art and science of planting and managing trees.

Forty -- A tract of land measuring 40 acres.

Forwarder -- A machine used to move logs from the cutting area to the yard or landing area.

Fruiting body -- A reproductive structure of fungi that grows out of the trunk of an infected tree where it releases reproductive spores into the environment.

Fungi -- Thread-like plants lacking chlorophyll that obtain their nourishment from other organic materials.

Gamete -- A haploid reproductive cell.

Gang saw -- A multiple-bladed lumber processing saw capable of making several cuts at the same time.

Gasohol -- A fuel containing 90% gasoline and 10% ethanol.

Gene -- A genetic structure that controls the traits and characteristics expressed in an organism.

Genetic Engineering -- The practice of modifying the heredity of an organism by inserting new genes from other organisms into the chromosome structure for the purpose of introducing new hereditary traits.

Geographic information system (GIS) -- Satellite technology used to make observations and photographic images of the earth's surface features and conditions.

Germination -- The process by which a seed sprouts and begins to grow.

Girdling -- To cut or remove a ring of bark completely around a tree; a condition often caused by gnawing rodents.

Global positioning system (GPS) -- The use of satellite technology to accurately and consistently identify exact locations.

Gross national product (GNP) -- A measurement of the strength of the national economy.

Green chain -- Parallel moving chains that carry boards to new locations in a sawmill.

Ground fire -- A fire that burns the decaying fuels on and beneath the surface of the ground.

Ground fuel--Combustible materials located beneath the surface that have begun to decay.

Ground water -- Water found in or obtained from an aquifer.

Growth habit -- The natural shape of a mature tree or other plant.

Growth impact -- A calculation of the extent of insect damage taking into account the timber losses due to reduced growth rates and deaths of trees.

Guide meridian -- A survey line established running north-south for each interval of slightly less than 24 miles (corrected for the curvature of the earth) on either side of the principle meridian.

Gum naval stores—Wood products refined from a liquid known as oleoresin, obtained by injuring live pine trees and collecting the liquid as it flows from the wounds.

Gymnosperm -- A class of tree such as pine, spruce or cedar that bears seeds in cones.

Habitat -- The environment of an organism.

Haploid -- A cell that contains a single chromosome from each homologous chromosome pair.

Hardboard -- A reconstituted board similar to fiberboard except that they are press-bonded between heated steel plates resulting in a density range for this product of .5 to 1.3 grams/cubic centimeter.

Hardiness -- A measurement of the tolerance of a particular species of tree or other plant to restrictive environmental factors such as climate, altitude, temperature and availability of moisture.

Hardware -- Mechanical and electronic devices and structures used to construct a computer.

Hardwood -- Wood from a broad-leaved tree.

Headrig -- A large saw used to cut logs into marketable dimensions of lumber; also known as a headsaw.

Headsaw -- A large saw used to cut logs into marketable dimensions of lumber; also known as a headrig.

Heart rot -- A disease caused by fungi that results in decay of the core of deadwood that accumulates at the center of the trunk in a mature tree.

Heartwood -- Old, dark-colored, nonfunctional xylem located in the center of a tree stem or trunk that has become saturated with tannins, gums and resins eliminating the flow of water and dissolved materials.

Hectare -- A metric measurement for land area equal to 10,000 square meters or 100 ares; equivalent to 2.471 acres.

Hemicellulose -- A polymer that makes up 27-29% of the material found in wood.

Herbaceous layer -- The bottom layer of vegetation in a forest consisting of ferns, grasses, and other low plants that grow on the forest floor beneath the shrub layer.

Herbicide -- A chemical used to kill plants.

Herbivore -- An animal or other organism that eats plants.

Home page -- A menu that advertises and accesses the information and databases that an individual or organization has made available to others who use the interment system.

Homologous chromosome -- Each chromosome of an identical pair of chromosomes.

Homologue -- Each chromosome of an identical pair of chromosomes.

Horizon -- One of several different layers in a soil profile.

Humus -- Organic matter in the soil; a source of nutrients for soil organisms and plants.

Hydrapulper -- A machine used to reduce recycled paper to pulp.

Hydrogen ion -- A hydrogen particle having a positive charge.

Hypsometer -- A measuring device that uses trigonometry or geometry to calculate the height of a tree without taking a direct measurement.

Illuviation -- A build-up of translocated soil components that accumulate in the B horizon of a soil; a process by which subsoil is formed.

Incendiarism -- The willful setting of destructive fires.

Incendiary fire -- A fire deliberately started by a person.

Increment borer -- An instrument used to extract a core of wood from the cross section of a living tree to determine its age or the condition of its health.

Indirect attack -- A method of fighting a fire such as isolating the fire from the fuel supply by establishing fire breaks and lighting backfires.

Industrial waste -- Any of a variety of materials that are by-products of manufacturing process; a variety of harmful chemicals, poisonous metallic compounds, acids or other caustic materials.

Ingrowth -- Growth due to new trees not present or too small to be tallied.

Initial point -- A permanent physical feature prominent in the landscape that serves as a beginning point for a land survey.

Insecticide -- A chemical used to kill insects.

Integrated pest management (IPM) -- The use of natural insect enemies and limited chemical applications to control harmful insects while providing some protection for useful insects.

Intermediate cutting -- A silviculture practice used to improve the forest by removing some of the trees to provide space for the remaining trees to grow to efficiently; also known as thinning.

International log rule -- A table based on volume calculation on 4' sections used to estimate the number of board feet in a log.

Internet -- An international computer network on which information can be communicated to and accessed from the institutions, companies, and individuals who subscribe to the system.

Interphase -- A resting or non-reproductive stage in the life span of a cell.

Landing -- A site to which logs are gathered in preparation for hauling to a sawmill or processing plant; also known as a yard.

Law -- Legislation approved by a democratic form of government that controls specific conduct by its citizens.

Layering -- A form of vegetative reproduction in which live tree branches are buried in the debris on the forest floor where they generate roots and live stems to regenerate a forest.

Liberation -- A type of stand improvement in which undesirable older trees are removed from the stand to make sunlight available to young trees.

- Light reaction -- A chemical reaction that occurs during photosynthesis in which energy is captured from the sun.
- Lignin -- A major component making up 25% of the total material in wood; functions to bind wood components together.
- Limbing -- The process of removing limbs from logs during harvesting.
- Line-plot cruising -- A process used to gather data when systematic sampling methods are being used.
- Lipid -- Any one compound of a group of compounds consisting of fats or other similar substances.
- Litigation -- A lawsuit or the process of conducting a lawsuit.
- Loading jack -- A mechanical arm raised between a set of rollers to lift lumber to another set of rollers on a higher level.
- Logging -- The process of harvesting trees Low forest -- A forest that has been regenerated from the roots, stumps or branches of other trees.
- Lumber -- Timber sawed into standard dimensions such as boards, planks, beams, etc.; wood is to dimensions less than 5" X 5".
- Margin -- The distinctively shaped outer edge of a leaf; a useful structure for tree identification purposes.
- Mature -- A tree fully developed for a specific purpose.
- Mechanical control -- Pest management using machines or tools to destroy or remove weeds and harmful insects.
- Mechanical pulping -- Separation of wood fibers using abrasive machine action.
- Megaspore -- A haploid plant cell that occurs during the formation of female gametes.
- Megaspore mother cell -- A diploid plant cell from which a female gamete is formed.
- Meiosis -- A cell division process through which the number of chromosomes is reduced by half during the formation of male and female gametes.
- Meristem -- Plant cells located in a growth zone that are dividing rapidly to form new plant tissues such as stems and roots.
- Metaphase -- An intermediate step in cell reproduction during which the chromosomes become aligned at the center of the cell.
- Metes and bounds -- A land survey system that used natural physical features in the landscape as starting points for land measurements.
- Micropyle -- A small opening through which pollen enters the ovule of a flower during fertilization.
- Microspore -- A haploid plant cell that divides to form a pollen grain.
- Microspore mother cell -- A diploid plant cell from which male gametes are formed.
- Midrib -- A reinforced vein in a leaf extending from the leaf stem to the tip of the leaf.
- Mitosis -- A type of cell division that occurs in an animal or plant, resulting in growth.

Model -- Advanced programming available as a software package used to simulate an actual system.

Modem -- An instrument that makes it possible for computers to exchange information using a telephone line.

Monoculture -- A population that consists of a single species or variety.

Monomer -- A simple sugar molecule, such as glucose; also known as a monosaccharide.

Monosaccharide -- A simple sugar molecule, such as glucose; also known as a monomer.

Mortality -- A category of timber losses due to the deaths of trees.

Multiple use -- A form of management in which public lands are put to different uses by several user groups.

NADPH -- A high energy molecule produced in plant cells during photosynthesis.

Natural regeneration -- Reforestation of an area from seeds or vegetation.

Naval stores -- Products extracted from wood using organic solvents, such as fatty acids, turpentine and rosin.

Needle-leaf -- A uniquely shaped leaf narrow in width and relatively long in length.

Network -- A system consisting of two or more computers connected together to allow them to share files and information; a root system consisting of the roots that connect or cross over each other.

Nitrogen cycle -- The recurring circular flow of nitrogen from living plant and animal tissues to nonliving atmospheric nitrogen and back again.

Nitrogen fixation -- A process by which certain strains of bacteria convert nitrogen gas from the atmosphere to nitrogen compounds useful to plants.

Nitrogen-fixing bacteria -- A strain of bacteria capable of converting nitrogen gas into nitrates and other nitrogen compounds required by plants as nutrients.

Nonrenewable resource -- A resource formed slowly that cannot be replaced once it is used up.

Nucleoplasm -- The material that makes up a cell nucleus.

Nucleus -- A structure in a cell that contains hereditary materials.

Nursery -- A farm where young trees are raised before being transplanted to new locations.

Nursery stock -- Tree seedlings or saplings raised for the purpose of transplanting to forests or other locations.

Oleoresin -- A mixture of resin and oils obtained from the sap of pine trees.

Omnivore -- An animal that eats both plants and other animals.

Organ -- A group of several tissues such as roots and stems that function together as a single unit.

Ovary -- The part of a flower that produces the ovule or egg cell.

- Overmature -- A tree for which harvest has been delayed until the wood has begun to decay or die.
- Oversight -- Responsibility for, or supervision of, the care of a natural resource such as trees.
- Ovule -- An immature female germ cell located inside the ovary of a flower.
- Palmately compound -- Multiple leaflets arranged on spines or veins that radiate from a single point; shaped like a hand with the fingers spread apart.
- Parasite -- An organism, such as a fungus, that lives in or on plants harming its host by feeding on fluids or damaging tissues of the host organism.
- Parenchyma -- Thin-walled cells loosely packed together to form spongy tissues with air spaces interspersed between them; cells that make up much of the material in plant leaves, roots, stems and fruits.
- Parent materials -- Rocks (not including bedrock) located in the C horizon of a soil.
- Parthenogenesis -- A type of reproduction in certain types of insects, such as aphids, in which mature females produce female offspring without mating with a male.
- Particleboard -- A reconstituted board containing a high percentage of wood shaving in the central core with layers of wood flakes on either side of the core and fine sawdust near the surface.
- Particulate matter -- Tiny particles of dust and waste materials suspended in the air.
- Peat -- Plant material found in deep deposits in wet areas such as marshes and bogs where decay is minimal.
- Pericycle -- The outer layer of the vascular cylinder of a root; lateral roots develop from this tissue, growing out through the cortex and epidermis of the primary root.
- Permeable -- The capacity of a membrane to allow fluids to pass through it.
- Petal -- The inner floral leaves of a flower that are often brightly colored.
- Petiole -- A plant leaf-stalk forming the attachment to the main stem.
- Phloem -- A vascular plant tissue through which sugars and plant foods, manufactured in the leaves, flow to the stems and roots.
- Photogrammetry -- A method for measuring land area by producing aerial photographs of a known scale from which the total area within the boundary lines is determined.
- Photosynthesis -- A process that uses chlorophyll to capture energy from the sun, combining it with carbon dioxide, water, and nutrients to form plant tissues.
- Physiology -- The branch of biology concerned with the life functions and processes of living organisms.
- Pinnately compound -- Multiple leaflets arranged along opposite sides of a central leafstalk.
- Pioneer or Pioneer species -- The first plants to grow naturally in an area that has been cleared or burned.
- Pistil -- Female reproductive structures found in a flower.
- Pith -- A structure located in the center of a stem consisting of parenchyma cells that have the primary function of storing plant food.

Planer -- A machine that reduces rough lumber to standard lumber dimensions by shaving or planing off the outer surfaces.

Planimeter -- An instrument that accurately measures the land area of a map of known scale by tracing the perimeter boundary.

Plank -- A piece of wood that measures 1 7/8" - 4" in thickness and more than 11" in width.

Plant Health Care (PHC) -- A program for the prevention of health problems in trees by observing key elements of good tree health.

Plantation forest -- A population of trees established by planting seeds or seedlings, and that is intensively managed for maximum production.

Plywood -- A laminated wood product made of several sheets of veneer and lesser quality wood bonded together by adhesives.

Pneumatic power -- The use of compressed air to deliver power to a location remote to the power source.

Polar nuclei -- Haploid nuclei that develop during the formation of female gametes.

Pole -- A young tree that ranges from 4" to 10" in diameter.

Policy -- A regulation, based on law, adopted by a government agency.

Pollen grain -- A male sex cell in plants that fertilizes female flower parts to produce fruits and seeds.

Polymer -- Any of a large group of compounds consisting of two or more simple sugars such as starch, carbohydrates or cellulose; also known as a polysaccharide.

Polysaccharide -- Any of a large group of compounds consisting of two or more simple sugars such as starch, carbohydrates or cellulose; also known as a polymer.

Pores -- Specialized vessels, visible in wood, through which dissolved nutrients passed when the tree was living.

Predator -- An animal that kills and eats other animals.

Prehauler -- A large machine used to load and haul cut trees to the landing.

Prescribed burn -- A controlled fire purposely started in the forest where it is allowed to burn the trash on the forest floor reducing the risk of a catastrophic fire due to excessive fuel in the forest; also known as a controlled burn.

Primary consumer -- An animal that eats plants.

Primary growth -- Elongation of plant cells, accounting for the lengthwise growth of roots and stems.

Primary succession -- The development of an ecological community in an area where living organisms were not previously found, such as on a newly formed volcanic island.

Primary tissue -- The first specialized tissues that form in the area of maturation, such as the formation of epidermis, cortex and the vascular cylinder tissues in the root.

Principal meridian -- A survey line that runs north-south.

Producer -- A plant that converts solar energy and other plant nutrients to starches and sugars.

Program -- Consists of the organized commands and routines used by computers to perform calculations.

Propagation -- A process by which an organism reproduces.

Prophase -- The first stage of active cell reproduction.

Protoplasm -- All structures and substances located within a cell.

Pruning -- Removal of unwanted branches from a tree: shaping a tree by controlling the growth of the limbs and branches.

Quarter section -- A tract of land measuring approximately 160 acres; one-fourth of a section.

Radial growth -- Growth resulting in increased diameter in a tree.

Range -- The east-west location of a township from a principle meridian.

Receptacle -- The base of a flower.

Recombinant DNA technology -- The transfer of a desired gene, such as a disease-resistant gene, to the genetic material of a new plant or animal resulting in the expression of the new trait.

Rectangular survey -- A land survey system that uses an initial point as the beginning point for each survey, and that establishes east-west baselines and north-south meridians and intermediate survey lines.

Reforestation -- The return of a population of forest plants to an area from which they have previously been destroyed or removed.

Regeneration -- The ability of a plant to reproduce itself from seeds or vegetative plant parts; development of new plant tissues to replace missing parts.

Regulation -- A rule, written by government employees, that defines how a new law is to be implemented and relates to rotation and systems to control cutting.

Renewable resource -- A resource that renews itself over time.

Reproductive organ -- A plant organ in which sexual reproduction occurs in a plant; a flower.

Resin -- Any of a group of thick, sticky liquids consisting of plant juices such as pitch or gum; a wood product used to manufacture varnishes, lacquers, naval stores, etc.

Resin duct -- A natural channel in a live tree through which pitch flows to different locations in the tree.

Respiration -- A process in which energy and carbon dioxide are released due to the breakdown of plant tissues during periods of darkness, or digestion, in the case of animals.

Rhizomorphs -- Thin strands of fungal tissue that enter into the surfaces of tree roots where they infect the tree with new colonies of fungi.

Riparian zone -- The land adjacent to the bank of a stream, river, or other waterway.

Rodenticide -- A chemical used to kill rodents.

Rodent -- Small gnawing animals that are identified by the four large incisor teeth located in the front of their mouths.

Root cap -- A group of specialized cells that develops at the root tip from which a slimy material is produced, helping the root to pass through the soil.

Root graft -- A connection between the roots of different trees where they have grown together at the point of contact.

Root hair -- Epidermal cells that have developed into long, thin thread-like projections to facilitate absorption of water and dissolved nutrients from the soil.

Rotation age -- The age or stage of maturity at which a stand of trees is harvested.

Rust -- A class of plant diseases that results in spotted red or brown discoloration of the stems and leaves of a tree.

Saccharification -- A process by which the polymers that make up cellulose in wood are converted to simple sugars.

Salvage cutting -- A harvest of trees damaged by fire, wind, insects, etc.

Sanitation cutting -- A harvest of trees infected with diseases or insects for the purpose of preventing the problem from spreading to healthy trees.

Sapling -- A young tree 1" to 4" in diameter.

Saprophytes -- Fungi that obtain nutrition from dead organic materials.

Sapwood -- Light-colored wood through which water and dissolved plant nutrients flow through the tree.

Sawhead -- A large blade mounted on a mechanical tree-feller for the purpose of sawing through the tree at its base after it has been grasped by the mechanical arm.

Sawyer -- A person who operates the headsaw or headrig in a sawmill.

Scale-leaf -- A leaf that consists of a number of tiny overlapping leaf structures that are thin and flat.

Scaling -- Measurement of forest products to determine quantity or amount.

Sclerenchyma -- A specialized type of plant cell that strengthens tissues by adding fiber to them; cells that form the shells of nuts.

Scribner's rule -- A table used by the timber industry to estimate the number of board feet in a log.

Secondary consumer -- A carnivorous animal that obtains its nutrition by eating primary consumers and other carnivores.

Secondary succession -- The gradual change in species of plants that live in an area during the time that a damaged ecosystem is returning to its original stage of ecological development.

Section -- A tract of land approximately one mile square with a surface area of 640 acres.

Seed tree method -- A timber harvest method in which mature trees of the desired species are protected from cutting in locations scattered throughout the forest for the purpose of producing seeds.

Seedling -- A young tree in the very early stages of development, has been transplanted, or not reached 3' in height.

Semichemical pulping -- A process for producing wood pulp in which wood is exposed to a mild chemical treatment to partially separate the wood fibers, followed by processing through a mechanical disk refiner.

Semipermeable -- A property of a membrane that allows certain kinds of dissolved materials to pass through while restricting the flow of others.

Senescent -- An advanced stage of maturity in which a tree shows symptoms of heartrot, decay and other defects due to age.

Sepal -- A protective leaf-like structure that closes over a flower during hours of darkness.

Sexual reproduction -- The production of male and female gametes and the process by which they join together to produce offspring.

Shelterwood method -- A timber harvest method in which mature trees are left in the harvested area in sufficient numbers to provide shade and protection for seedlings. The mature trees are harvested once the seedlings have become established.

Shrub layer -- Vegetation consisting of short woody plants that occupy the stratum between the herb layer and the understory of the forest.

Sieve element -- A specialized plant structure that makes up sieve tubes and phloem tissue; important in the flow of plant foods to stems and roots.

Sieve tube -- A specialized plant structure made up of sieve elements; important component in phloem tissue in facilitating the flow of plant foods to stems and roots.

Silt -- Tiny soil particles easily eroded by becoming suspended in flowing water or blown as dust in the wind.

Silt load -- The amount of eroded soil carried in the flowing waters of streams and rivers.

Siltation -- The process by which tiny soil particles are suspended in flowing water and deposited in the beds of streams, rivers, lakes and oceans.

Silvics -- The study of tree species and their needs.

Silviculture -- The art and science of growing and tending a forest.

Skidder -- A large machine used to drag logs from the harvest site to the landing.

Slab -- The outer shell of a log removed as the log is sawed into lumber.

Smalian's formula -- A method used to estimate the amount of solid wood in a log by using a formula that takes into account the log length and the measurements from both ends of the log.

Smog -- High concentrations of chemical pollutants and particulate matter suspended in the atmosphere; atmospheric haze caused by the action of ultraviolet light on atmospheric pollutants.

Smoke jumper -- A fire fighter who jumps from an aircraft and parachutes to a location near a fire zone.

Software -- Computer programs and routines stored on disks, CD-ROMs and magnetic tape.

Softwood -- Wood obtained from a conifer or needle-bearing tree; immature plant materials obtained from new growth trees.

Soil conservation -- Soil management practices that prevent soil losses and maintain soil fertility.

- Soil profile -- A description of the texture and content of each of the different horizons or layers in a soil.
- Soil texture -- The proportion of mineral particles of different sizes found in a sample.
- Spindle -- A bundle of fibers that functions to separate chromosome pairs during cell division.
- Spine -- A leaf structure similar to the midrib that gives structure and shape to the leaf.
- Spodosol -- Light colored acid soils formed from coarse silica parent material in cold, damp climates.
- Spore -- A cell from a fungus or similar organism that grows into a new organism when it is located in a site favorable to its growth; a male reproductive cell in a plant.
- Spotting -- The process by which a fire storm hurls burning materials across fire-barriers.
- Sprout method -- A form of asexual reproduction of a forest in which all the trees are cut and new forest growth is generated from the stumps of the harvested trees; also known as coppice method.
- Square -- Any timber square-cut with equal dimensions on all four sides.
- Short Rotation Intensive Culture (SRIC) -- Wood crops harvested every three to seven years.
- Short Rotation Woody Crops (SRWC) -- Wood crops harvested every three to seven years.
- Stamen -- The male part of a flower that consists of the anther and the filament.
- Stand -- Proper number of uniformly distributed plants per acre.
- Stand improvement -- Measures such as thinning, pruning, or release cuttings of undesired trees to improve the site's growing potential.
- Standard cord -- A unit of measurement for pulpwood and firewood; the volume of wood in a pile 8' long, 4' high and 4' wide; 128 cubic feet.
- Standard parallel -- A survey line established running east-west for each interval of 24 miles on either side of the baseline.
- Starch -- A molecule formed when large numbers of glucose molecules bond together in a long branching chain.
- Stereoplotter -- An instrument used to analyze satellite and aerial photographs for the purpose of creating maps.
- Stereoscope -- A mapping instrument used to simultaneously view two aerial photographs of the same area from slightly different angles, creating an image in three dimensions.
- Stigma -- The female flower part that functions as a pollen receptor.
- Strata -- Levels or layers of plant growth in a forest or other ecosystem.
- Style -- A female flower part that connects the stigma to the ovary of the flower.
- Sulfate naval stores -- Wood products obtained as by-products from the Kraft pulping process.
- Surface fire -- A fire that burns the dry layer of twigs, dead branches, grass and leaves that lie on the forest floor.

Surface fuel -- Fuels such as dry, un-decayed leaves and plant materials along with living plants.

Surface water -- Water flowing in streams, rivers and lakes as it moves across the land surface to the ocean.

Survival growth -- The total difference in timber volume of survivor trees between the first and second measurements of a forest growth survey.

Survivor trees -- Trees measured in both surveys for the time interval during which forest growth is evaluated.

Sustained yield -- The volume of timber products that can be harvested year after year without depleting the timber resource.

Syngas -- A synthetic gas produced from methane and carbon monoxide, useful in the thermochemical liquefaction process for the production of industrial oil.

Systematic sampling -- A method used to estimate the timber yield of a forest by measuring only those trees that have been selected at specific intervals along predetermined lines.

Tannin -- A wood product used to cure animal hides into leather; also known as tannic acid.

Telophase -- The last stage of cell division during which cell cytoplasm is divided as two new cells are formed.

Tensile strength -- Strength across the long axis of a tree; the source of strength of wood used for timbers and structural beams.

Tensiometer -- An instrument that indicates the amount of moisture in the soil.

Terminal growth -- Vertical growth in a tree.

Tetrad -- A cluster of four haploid cells.

Thermochemical liquefaction -- A process by which wood chips are heated under high pressure in a hydrogen gas or syngas atmosphere to produce industrial oil products.

Timber -- A wood piece that measures greater than 5" X 5" and less than 8" X 8".

Timber cruiser -- A person who estimates the volume of marketable timber by taking sample measurements from sites throughout a stand of trees.

Timber yield -- The timber volume in a forest on a particular date.

Tissue -- A group of cells that contribute to a particular life function.

Tissue culture -- The development of roots, stems and leaves from callus tissue in a plant medium containing plant nutrients and hormones.

Topographic map—A scale representation that shows relative elevations, vegetation and hydrography.

Topography -- The science of creating maps of the surface features of an area; the relative elevations of different features in a landscape.

Township—A tract of land measuring approximately six miles on each side.

Tracheid -- A long, tapered plant cell found in xylem tissue, having pits in the cell walls through which water is conducted.

Transpiration -- Loss of water to the atmosphere from plants.

Understory -- Short trees in a forest that fill an intermediate stratum of vegetation beneath the canopy created by the branches and foliage of the tallest trees.

Uneven-aged stand -- The presence of trees of different ages in a forest.

Urban forestry -- An emerging branch of forestry practiced in or near cities.

Utilisols -- Soils formed in warm humid climates, showing evidence of weather action in the illuvial deposits of clay and iron in the subsoil.

Vacuole -- A cell structure that gathers excess water and wastes discharged through the cell wall.

Vascular cambium -- Meristem tissue that forms in a continuous ring between xylem and phloem tissues that gives rise to new growth of xylem and phloem tissues.

Vascular cylinder -- The innermost part of a root consisting of xylem and phloem tissues.

Vascular ray -- A row of parenchyma cells that radiates to the center of the stem or trunk of a tree, that transports dissolved materials across the woody section of the stem.

Vector -- An insect or other organism that carries disease organisms in its body from which it spreads the disease to trees or other susceptible life forms.

Vegetative organ -- A plant organ such as a root, stem or leaf.

Vegetative reproduction -- Asexual reproduction of plants from plant parts such as leaf, root or stem tissue.

Vein -- Leaf structures that connect to the vascular tissues in spines or midribs allowing the flow of dissolved materials to the cells of the leaf.

Veneer -- Thin sheets (1/4" thickness or less) of high quality wood glued to the outer surfaces of lesser quality wood for the manufacture of plywood and the construction of furniture.

Vessel -- A plant structure that consists of vessel elements that have grown together end-to-end, facilitating the flow of large volumes of dissolved nutrients within the plant.

Vessel element -- A plant structure that becomes hollow after it has died, facilitating the flow of dissolved nutrients in the stems, roots and leaves of a plant.

Warp—Distortion or twisting of lumber products as they lose moisture.

Water cycle -- The movement of water in the form of vapor from the oceans to the clouds to the earth as precipitation, and back to the oceans through rivers and streams.

Watershed -- An area bounded by geographic features where precipitation is absorbed in the soil to form ground water that eventually emerges to become surface water and that ultimately drains to a particular stream, river or other body of water.

White rot -- A type of wood rot that occurs in trees as fungi break down the cellulose and lignin components of the cell walls.

Wilderness -- A land area managed and protected as a wild territory.

Wildfire -- Any fire that burns out of control or that has not been prescribed for a specific purpose.

Wilt -- A fungal infection in the vessels of the xylem tissue where the flow of water and dissolved nutrients is blocked from the trunk and branches of the tree.

Wood naval stores -- Wood products extracted from chipped or shredded wood obtained from pine stumps or logs by dissolving the wood components in organic solvents.

Xylem -- A woody tissue that conducts water with dissolved nutrients and plant materials from the roots to the stems and leaves.

Yard -- A site to which logs are gathered in preparation for hauling to a sawmill or processing plant; also known as a landing.

Zone map -- A map that illustrates the severity of climatic conditions that can be expected in each region of the country.