

GLOSSARY

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Access road: A temporary or permanent route into forest land for over-the-road vehicles.

Advanced regeneration: Young age classes that have become established naturally without the influence of harvesting.

Aestivate: Also known as “summer sleep” and somewhat similar to hibernation, a state of animal dormancy which some animals (e.g., turtles) use to avoid periods of excessive heat or dryness.

Age class: Intervals of tree age used to describe stand characteristics, e.g., 10- or 20-year age class.

Aquatic organism: For animals, vertebrate or invertebrate species that spend all or a portion of their lives in the water. These include fish, certain species of amphibians and reptiles, aquatic insects in both adult and larval form, crustaceans, freshwater mussels, and other animals. For plants, this includes floating, submerged or emergent plants and algae.

Basal area: A measure of tree density determined by estimating the total cross-sectional area of all trees measured at breast height (4.5 feet) and expressed in square feet per acre.

Beaver flowage: Flat water behind a beaver dam.

Best management practices (BMPs): As used in this book—A practice or combination of practices determined by the State to be the most effective and practicable means of controlling point and non-point pollution at acceptable levels. These guidelines, some of which are incorporated into law, are found in *Best Management Practices for Erosion Control on Timber Harvesting Operations in New Hampshire*, published by the N.H. Dept. of Resources and Economic Development, Division of Forests and Lands.

Biodiversity: The variety and variability of all living organisms.

Biomass: The living or dead weight of organic matter in a tree, stand, or forest. Or as it relates to harvesting: The wood products obtained (usually) from in-woods chipping of all or some of portion of trees including limbs, tops, and unmerchantable stems, usually for energy production.

Boreal: Pertaining to northern latitudes. A climate zone with short, warm summers and snowy winters.

Borrow pit: The area from which gravel is removed to build up a roadbed.

Browse: Leaves, buds and woody stems used as food by woodland mammals such as deer and moose.

Bucking: Cutting a felled tree into segments.

Butt: The base of a tree, the large end of a log. A butt log is the first log cut above the stump.

Cambium: Layer of living cells between the bark and the wood.

Canopy: The more or less continuous cover of branches and foliage formed by the crowns of adjacent trees and other woody growth.

Calcareous: Soil or rock containing calcite (calcium carbonate). Calcareous soils generally have pHs around 6.0 or 7.0.

Cavity trees: Trees, either alive or dead, which contain hollowed out areas. Used as shelter for a variety of animal species.

Cellulose: A principle chemical constituent of wood cells.

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Chain: A unit of length equal to 66 feet.

Clearcutting: See even-aged management.

Circumneutral: Water or soil with pHs between 6.0 and 7.0.

Codominant (crown class): A tree whose crown helps form the general level of the main canopy and whose crown receives full light from above and little from the sides.

Coppice: The production of new stems from stump or roots. A plant derived by coppicing.

Corduroy: Poles, logs or brush laid perpendicular to the direction of travel and used as a roadbed to cross a wet area, where there isn't a defined stream channel.

Crop tree: A tree retained for maximum longevity due to desired characteristics such as commercial quality or biotic contribution.

Crop tree release or crop tree management: A thinning technique where (usually) high-quality trees with vigorous crowns are identified as crop trees and competing trees are cut to release the crown of the crop trees.

Crown: The part of the tree or woody plant bearing live branches.

Crown closure: The percent of the stand canopy overlying the forest floor.

Cutting cycle: The interval between harvesting operations when uneven-aged methods are employed using group or single-tree selection. Sometimes called "entry period."

DBH: (diameter at breast height) The average diameter of a standing tree, measured outside the bark at a point 4.5 feet above the ground.

Diameter class: Intervals of tree size (often 1 or 2 inches) used to describe stand characteristics, e.g., 10" or 12" diameter class.

Diameter-limit cutting: Harvesting practice in which only trees above a designated diameter are cut.

Disturbance: Any relatively discrete event that changes the make-up of a stand, community, or ecosystem. Natural disturbances include windstorms, insect outbreaks, or fire. Human disturbances include harvesting.

Dominant (crown class): A tree whose crown extends above the general level of the main canopy and whose crown receives full light from above and partial light from the sides.

Ecosystem: A community of species (or group of communities) and its physical environment, including atmosphere, soil, sunlight and water.

Ecosystem integrity: The ability of an ecosystem to continue to function over the long term without the loss of biological diversity or productive capacity. The ecological integrity of an area is maintained when the following conditions are met:

1. All community types and successional stages are represented across their natural range of variation.
2. Viable populations of all native species are maintained.
3. Ecological and evolutionary processes such as disturbance, nutrient cycling, and predation, are maintained.
4. The biological diversity in the area can respond naturally to change.

Early successional habitat: Young, regenerating forest and shrubby areas used by animals requiring the thick cover the vegetation provides. The seedling-sapling stage of the early successional type of aspen-birch differs vegetatively and structurally from the "young forest" seedling-sapling stage of other types, and these differences result in different benefits to wildlife.

- Edge:** A transition between two (or more) relatively distinct habitat types, stands, or vegetation types. Edges are often described as being either “hard” or “soft.” Hard edge describes a very abrupt transition between one habitat with short vegetation (e.g., field or recent clearcut) and another with a tall, vertical wall of live trees that grow right up to the edge of the short vegetation. Soft edge describes a more gradual transition between habitats with different vegetation heights, such as occurs where a field with short grass, transitions into a slightly taller shrub border, which transitions into a stand of taller trees.
- Endemic:** A population of potentially injurious plants or animals that persist at low levels. Also can mean native to a particular area.
- Entry period:** The interval between harvesting operations. When uneven-aged methods are employed using group or single-tree selection, also called “cutting cycle.”
- Ephemeral:** Existing for a short time; short-lived.
- Epicormic sprouting:** Small branches occurring on the stem and branches of some tree species in response to increased light, often from thinning or removal of substantial portions of the tree crown.
- Even-aged management:** A management system that results in the creation of stands in which trees of essentially the same age grow together. Regeneration in a particular stand is obtained during a short period of time at or near the time that a stand has reached the desired age or size for regeneration and is harvested. Cutting methods producing even-aged stands include (1) clearcutting; (2) patch clearing; (3) strip clearcutting; (4) shelterwood; and (5) seed tree.
1. Clearcutting: an even-aged cutting method whereby most or all trees within a given area are removed in one cutting, which leads to the establishment of an even-aged forest or stand. Reproduction of the new stand, either artificial or natural, occurs after cutting. Modifications of the clearcutting method include patch clearcutting and strip clearcutting.
 2. Patch clearcutting: a modification of the clearcutting method where the area being treated is removed in a series of clearcuts made in patches. Often employed to regenerate even-aged stands which can't be reproduced by natural seeding if all trees are removed in a single cutting.
 3. Strip clearcutting: a modification of the clearcutting method where the area being treated is removed in a series of clearcuts made in strips. Trees on the uncut strips furnish all or part of the seed for stocking the cut strips and protect the cutover area and the new crop. The width of the cut strips depends on the distance of effective seed dispersal, usually not exceeding 5 times the height of surrounding trees.
 4. Shelterwood: a series of two or three harvests that gradually open the stand and stimulate natural reproduction of a new even-aged stand.
 5. Seed tree method: an even-aged cutting method that removes most of the trees in one cutting except for a small number of trees left singly or in small groups to serve as a seed source for establishing regeneration.
- Even-aged stand:** All trees are the same age or at least of the same age class. A stand is considered even-aged if the difference in age between the oldest and the youngest trees doesn't exceed 20 percent of the length of the rotation. From an ecological viewpoint, the minimum size of an even-aged stand could be considered as the size of the largest opening entirely under the influence of adjacent mature timber. The opening of critical size might be that which, at the very center, exhibited the same temperature regime as any larger opening. Such an opening is probably about twice as wide as the height of mature trees.
- Exemplary natural communities:** Include (1) all viable occurrences of rare natural community types, and (2) higher-quality examples of more common communities.

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- Financial maturity:** The rotation at which the current value growth rate of the stand equals the alternative rate of return. One indication of whether or not to harvest.
- Fir waves:** Linear patches of blowdown or standing dead trees oriented perpendicular to the prevailing wind and arranged in a progression of waves of different ages of resulting regeneration adjacent to one another.
- Fledge:** The stage in a young bird's life when it has acquired its adult feathers and is able to fly.
- Forb:** An herbaceous plant other than grass.
- Ford:** A structure built for crossing a stream.
- Forester:** A person trained in the science of developing, caring for, and cultivating forests.
- Forest management:** The application of business methods and technical forestry principles to a forest property to produce desired values, resource uses, products, or services (see forest sustainability).
- Forest type:** A natural group or association of different species of trees which commonly occur together over a large area. Forest types are defined and named after one or more dominant species of trees in the type.
- Forest sustainability:** The capacity of a forest to produce the goods we desire today without compromising the productive capability and biological integrity on which future generations will depend.
- Free-to-grow:** A tree, often a seedling or small tree, free from direct competition for light, water or nutrients from other plants
- Girdling:** More or less continuous incisions around a living stem, through both the bark and the cambium with the intent to kill the tree.
- Group selection:** See uneven-aged management.
- High grading:** An exploitive logging practice that removes only the best, most accessible and marketable trees in the stand.
- Hydrology:** The properties, distribution, and circulation of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere.
- Integrated resource management:** The simultaneous consideration of various disciplines to balance competing demands on a natural system to maintain or enhance its health, diversity, and cultural and aesthetic value.
- Intermediate (crown class):** A tree whose crown extends into the lower portion of the main canopy and whose crown receives little direct sunlight from above and none from the sides.
- Invasive:** A non-native plant capable of moving aggressively into an area, monopolizing light, nutrients, water, and space to the detriment of native species. Various referred to as exotic, nonnative, alien, noxious, or non-indigenous weeds. Non-native insects are usually referred to as "exotic."
- Landing:** A place where trees and logs are gathered in or near a harvest site for further processing and transport. Also called log yard.
- Legacy tree:** Usually mature, older tree left on-site after harvesting for biological, wildlife, spiritual, or aesthetic purposes.

- Lignin:** A complex polymer associated with cellulose and imparts rigidity to the cell.
- Lopping:** Cutting off branches, tops, and small trees after felling, into lengths that allow the resulting slash to lie close to the ground.
- Merchantable:** Trees or stands having the size, quality, and condition suitable for marketing. That portion of a tree suitable for sale.
- Montane:** Relating to mountains.
- Natural resource professional:** Person by training, education or experience who has expertise in managing natural resources. May include foresters, wildlife biologists, loggers, wetland scientists, etc.
- Natural community:** Recurring assemblages (groups) of species found in particular physical environments.
- Outwash:** Soil mixed and deposited by glacial meltwater; sands and gravels.
- Overmature:** Also called biological maturity. A tree or even-aged stand declining in vigor and health and reaching its natural life span. A tree or even-aged stand that has begun to lessen in commercial value because of size, age, decay, or other factors.
- Overtop:** When one tree (or shrub) is growing over another.
- Overtopped (crown class):** Also called suppressed. A tree whose crown is completely overtopped by the crown of its neighbors.
- Overstocked:** Too many trees in a stand (as compared to the optimum number) to achieve some management objective, usually improved growth rates or timber values.
- Overstory:** The upper-crown canopy of a forest, usually referring to the largest trees.
- Patch clearcutting:** See even-aged management.
- Patch retention:** Keeping an area of relatively homogeneous vegetation that differs from the surrounding vegetation for an ecological or wildlife habitat purpose.
- Perched culvert:** A culvert with its downstream end above the water.
- Pioneer:** An early occupier of disturbed sites.
- Plantation:** A stand of trees that has been planted or direct-seeded.
- Poletimber:** A DBH size-class representing trees that are usually more than 4.0 inches DBH and less than 10.0 inches DBH.
- Predation:** The act of capturing and killing other animals for food.
- Prune:** To remove living or dead branches for improved timber value, aesthetics, or vigor.
- Regeneration:** The renewal of a stand of trees by either natural or artificial (planting or seeding) means.
- Regeneration cut:** A harvest intended to assist regeneration already present or establish new regeneration by manipulating light levels, seed source, and seedbed.
- Release:** Freeing the tops of young trees from undesirable, usually overtopping, competing vegetation. Also used to describe removing competing vegetation from the sides of crowns as when releasing a crop tree during a thinning.

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Residual trees: Trees left to grow in the stand following a silvicultural treatment.

Residual stand: A stand composed of trees remaining after a harvest.

Residual stocking: The numbers of trees left after a harvest.

Revegetation: The re-establishment of vegetation on bare soil by natural or artificial (planting or seeding) means.

Rotation: The period between regeneration establishment and final harvest. The age at which a stand is considered ready for harvest. Used in even-aged systems.

RSA: Revised Statutes Annotated, the compilation of the laws of the State of New Hampshire.

Sapling: Trees more than 4.5 feet tall but less than 5.0 inches DBH.

Sawlog: A log considered suitable in size and quality for producing lumber.

Scarification: Loosening topsoil, or breaking up the soil, in preparation for regeneration by planting, direct seeding or natural seed-fall.

Seedlings: Trees that are less than 4.5 feet tall.

Seed tree method: See even-aged management.

Seep: A spot where groundwater oozes to the surface, forming a small pool.

Selection harvesting: Removing single, scattered individuals or small groups of trees at relatively short intervals, repeating indefinitely to encourage continuous regeneration and maintenance of an uneven-aged stand.

Shelterwood: See even-aged management.

Silviculture: The art and science of establishing and tending trees and forests.

Single tree selection: See uneven-aged management.

Site index: A measure of the relative productive capacity of an area based on tree height growth.

Site preparation: Removal of unwanted vegetation and other material as preparation for the planting or seeding of trees. Site preparation may include removal of slash and other debris, removal or control of competing vegetation, or exposure of bare soil.

Size class: Descriptive term defining the most common tree size in a stand, e.g., poletimber or sawtimber stand.

Slash: The residue left on the ground after felling, lopping, storm, fire, girdling or poisoning. It includes nonmarketable portions of trees such as stumps, broken branches, dead trees and other debris left on the ground.

Snag: A dead or dying standing tree, often left in place for wildlife.

Stand: A group of trees reasonably similar in age structure and species composition and growing on a site of sufficiently similar quality to be distinguishable from adjacent areas.

Stocking: An indication of the number of trees in a stand as compared to the optimum number of trees to achieve some management objective, usually improved growth rates or timber values.

Stream gradient: The grade (slope) of a stream. A measure of steepness.

Strip cut: See even-aged management.

Succession: The replacement of one plant community by another over time in the absence of disturbance.

Suppressed (crown class): Also called overtopped. A tree whose crown is completely overtopped by the crown of its neighbors.

Supracanopy trees: Super-dominant trees whose crowns protrude above the main crown canopy.

Sustainable forest management: See forest sustainability.

Sustained yield: An annual or periodic output of products from the forest that doesn't impair the productivity of the land, generally harvesting equal to growth.

Take (for animals): Capturing, killing, wounding, disturbing, harrying, and similar acts against wildlife. For threatened and endangered species, taking includes disturbances to active nests, dens or other shelter while it is being used for reproduction, raising of young, overwintering or other critical needs.

Take (for plants): To pick, collect, cut, transplant, uproot, dig, remove, damage, destroy, trample, kill, or otherwise disturb, or to attempt to engage in any such conduct.

Thin: To reduce the stand density primarily to improve growth, enhance tree health, or recover potential mortality.

Till: Unsorted and unstratified soil deposited by a glacier, consisting of clay, silt, sand, gravel, stones, and boulders in any proportion.

Timber: Wood, other than fuelwood, potentially usable for lumber. Forest stands containing timber.

Timber stand improvement (TSI): Silvicultural activities that improve the composition, constitution, condition, and growth of a timber stand.

Tolerance: The capacity of a tree to become established and grow in the shade.

Understocked: Too few trees in a stand (as compared to the optimum number) to achieve some management objective, usually improved growth rates or timber values.

Understory: All vegetation growing under an overstory.

Unmerchantable: Trees or stands lacking the size, quality, and condition suitable for marketing. That portion of a tree unsuitable for sale.

Two-aged stand: A stand of trees that contains two well-defined age classes intermingled on the same area.

Uneven-aged management: The application of actions needed to maintain a continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a wide range of ages and sizes to provide a sustained yield of forest products. Cutting methods that develop and maintain uneven-aged stands include (1) single-tree selection; and (2) group selection.

1. Single-tree selection: removal of single, scattered individuals or exceedingly small groups of trees at relatively short intervals, repeated indefinitely, by encouraging continuous reproduction and maintaining an uneven-aged stand.
2. Group selection: periodic removal of trees in small groups, producing openings smaller than the minimum feasible acreage for a single stand under even-aged management. Aims to produce an uneven-aged stand with a mosaic of small and variable-sized age class groups. Differs from single-tree selection in that the predominant characteristics of the group rather than the individual stems, are evaluated for treatment.

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Uneven-aged stand: A stand of trees that contains at least three well-defined age classes intermingled on the same area.

Vascular plants: Plants having tissues that conduct (transport) water, minerals, and food throughout the plant's roots, stems and leaves.

Vernal pool: A temporary body of water that forms in shallow depressions or basins, lacks a permanently flowing outlet, supports vernal-pool indicator wildlife species (e.g., spotted salamanders, wood frogs, fairy shrimp) and holds water for at least 2 months after spring ice-out.

Viewshed: The landscape that can be seen from a viewpoint or along a road or trail.

Water bar: An excavated, shallow channel or raised barrier of soil or other material laid diagonally across the surface of a road or skid trail to lead water off the road and prevent soil erosion.

Windfirm: The ability of a tree's root system to withstand wind pressure and keep the tree upright.

Windrow: Slash, residue and debris raked into piled rows.

Windthrow: Trees felled by wind. Also called blowdown or windfall.