

GLOSSARY OF TERMS

Artificial Regeneration: The establishment of young trees through planting seedlings or seed.

Basal Area: 1) The cross-sectional area of a single stem, including the bark, measured at breast height. 2) The cross-sectional area of all stems in a stand expressed per unit of land area.

Best Management Practices (BMPs): Practical and economically achievable practices for preventing or reducing nonpoint and/or point source pollution.

Biological Diversity (Biodiversity): The spectrum of life forms and ecological processes that support and sustain them. Biological diversity occurs at four interacting levels: genetic, species, community, and ecosystem.

Board Foot: The amount of wood contained in an unfinished board 1 inch thick, 12 inches long, and 12 inches wide.

Cavity Tree: A (partially) hollow tree used by wildlife (e.g. roosting and reproduction).

Clearcut Regeneration Method: A silvicultural method designed to naturally regenerate a stand by the removal of most or all woody vegetation during harvest creating a completely open area leading to the establishment of an even-aged stand. Regeneration can be from natural seeding from adjacent stands or from trees cut in the harvest operation. Regeneration is established during or following stand removal.

Climax Forest: An ecological community that represents the culminating (or late successional) stage of a natural forest succession for its locality and environment.

Coarse Woody Debris: 1) Any piece(s) of dead woody material on the ground in forest stands or in streams. 2) Stumps and fallen trunks or limbs of more than six-inch diameter at the large end.

Committee: Refers to the Forestry Committee of the Bayfield County Board of Supervisors. The Committee is the oversight authority for the Bayfield County Forest.

Compartment: A portion of a forest under one ownership, usually contiguous and composed of a variety of forest stand types, defined for purposes of locational reference and as a basis for forest management.

Composition: 1) The constituent elements of an entity (e.g. the species that constitute a plant community). 2) The proportion of each tree species in a stand expressed as a percentage of the total number, basal area, or volume of all tree species in the stand.

Coppice Regeneration Method: A silvicultural method designed to naturally regenerate a stand using vegetative reproduction.

Cord: A stack of wood that measures 4 x 4 x 8 feet (128 ft³).

Crop Tree: 1) Any tree selected to become a component of a future commercial harvest. 2) Any tree that the landowner wants to retain, based on landowner goals and objectives.

Crown Closure: The point at which the vertical projections of crown perimeters within a canopy touch.

Crown (Canopy) Cover: The ground area covered by the crowns of trees or woody vegetation as delimited by the vertical projection of crown perimeters and commonly expressed as a percent of total ground area.

Crown Thinning (High Thinning, Thinning From Above): The removal of trees from the dominant and codominant crown classes in order to favor the best trees of those same crown classes.

Cubic Foot: A unit of true volume that measures 1 x 1 x 1 ft.

Cull: Any item of production (e.g. trees, logs, lumber, seedlings) rejected because it does not meet certain specifications of usability or grade.

Cultural activity: The manipulation of vegetation to meet objectives of controlling stand composition or structure, such as site improvement, forest tree improvement, increased regeneration, increased growth, or measures to control insects and disease.

Cut-to-length Harvesting: A system in which felled trees are processed into log lengths at the stump before they are carried to the road or landing.

Deforestation: The removal of a forest stand where the land is put to a nonforest use.

Diameter (at) Breast Height (DBH, dbh): The diameter of the stem of a tree measured at 4.5 ft. (1.37 m) from the ground (on the uphill side).

Diameter Limit Selective Cut: A selective cut of all merchantable trees greater than a specified diameter.

Ecosystem: A spatially explicit, relatively homogeneous unit of the earth that includes all interacting organisms and components of the abiotic environment within its boundaries.

Ecosystem Management: 1) WDNR: A system to assess, conserve, protect, and restore the composition, structure, and function of ecosystems, to ensure their sustainability across a range of temporal and spatial scales, and to provide desired ecological conditions, economic products, and social benefits. 2) Management guided by explicit goals, executed by policies, protocols, and practices, and made adaptable by monitoring and research based on the best understanding of ecological interactions and processes necessary to sustain ecosystem composition, structure, and function over the long term.

Endangered Species: 1) A species threatened with extinction throughout all or a significant portion of its range. 2) A species whose continued existence as a viable component of Wisconsin's wild animals or plants is determined to be in jeopardy on the basis of scientific evidence.

Epicormic Branch: A shoot arising spontaneously from an adventitious or dormant bud on the stem or branch of a woody plant often following exposure to increased light levels or fire.

Even-aged Stand: A stand where the trees have only small differences in their ages (a single age class). By convention, the spread of ages does not differ by more than 20% of the intended rotation.

Forest: 1) An ecosystem characterized by a more or less dense and extensive tree cover, often consisting of stands varying in characteristics such as species composition, structure, age class, and associated processes, and commonly including meadows, streams, fish, and wildlife. 2) An organized assemblage of trees, other plants, and animals in complex association with each other and their physical environment.

Forest Cover Type: 1) A category of forest usually defined by its vegetation, particularly its dominant vegetation as based on percentage cover of trees. 2) The plant species forming a plurality of composition across a given area.

Forest fragmentation: The process by which a landscape is broken into small islands of forest within a mosaic of other forms of land use or ownership.

Forest Management: The practical application of biological, physical, quantitative, managerial, economic, social, and policy principles to the regeneration, management, utilization, and conservation of forests to meet specified goals and objectives while maintaining the productivity of the forest.

Forest Inventory: A process where basic resource information is collected and stored, and systematically and continuously updated. The information is utilized as a tool in the assessment of geographical, structural, and compositional attributes of the land resource. The database is used to analyze existing resources, evaluate management alternatives, and assist in the development and implementation of the management plans.

Forest Regulation: 1) The technical aspects of controlling stocking, harvests, growth, and yields to meet management objectives, including sustained yield. 2) The control of private forest management by exercise of public authority. 3) A legal enactment or ordinance affecting forests.

Gap: The space occurring in forest stands due to individual or group tree mortality or blowdown.

Germination: The beginning of growth of a mature, generally dormant seed, spore, or pollen grain (for seed, generally characterized by rupture of the seed coat and the emergence of a radicle or plumule).

Grading: The classification of logs, stems, lumber, or seedlings according to quality, value, potential use, or function.

Habitat: The place (environment) where an animal, plant, or population naturally or normally lives and develops.

Habitat Type: 1) A land or aquatic unit consisting of an aggregation of habitats having equivalent structure, function, and responses to disturbance. 2) An aggregation of units of land capable of producing similar plant communities at climax.

Habitat Type Classification System: A site classification system based on the floristic composition of plant communities. The system depends on the identification of potential climax associations, repeatable patterns in the composition of the understory vegetation, and differential understory species. It groups land units with similar capacity to produce vegetation. The floristic composition of the plant community is used as an integrated indicator of those environmental factors that affect species reproduction, growth, competition, and community development. A system to classify forest plant communities and the sites on which they develop.

Harvesting (Logging): The process of gathering a timber crop. It includes felling, skidding/forwarding, on-site processing, and removal of products from the site.

Harvest Scheduling: A process for allocating cutting and other silvicultural treatments over a forest with emphasis on which treatments to apply and where and when to apply them.

High-grade Selective Cut: A selective cut of the most valuable and highest quality trees, that leaves low value and poor quality trees to predominate.

Improvement Cutting: The removal of less desirable trees of any species in a stand of poles or larger trees, primarily to improve composition and quality.

Integrated resource management: The simultaneous consideration of ecological, physical, economic, and social impacts of lands, waters, and resources in developing and implementing multiple-use, sustained-yield management.

Intermediate Treatment: Any treatment or tending designed to enhance growth, quality, vigor, and composition of the stand after establishment of regeneration and prior to final harvest.

Low Thinning (Thinning From Below): The removal of trees from the lower crown classes to favor those in the upper crown classes.

Management Goal: A broad, general statement, usually not quantifiable, that expresses a desired state or process to be achieved.

Management Objective: A concise, time-specific statement of measurable planned results that correspond to preestablished goals in achieving a desired outcome.

Management Plan: A predetermined course of action and direction to achieve a set of results, usually specified as goals, objectives, and policies.

Management Prescription: A set of management practices and intensities scheduled for application on a specific area to satisfy multiple goals and objectives.

Mast: The fruit of trees considered as food for livestock and certain kinds of wildlife.

Mature: Pertaining to a tree or even-aged stand that is capable of sexual reproduction, has attained most of its potential height growth, or has reached merchantability standards.

Mean (Arithmetic): The average value of a series or set of observations, obtained by dividing the algebraic sum of all observations in the set by the number of observations; often referred to as a measure of central location or central tendency.

Mean Annual Increment (MAI): The total increment of a tree or stand (standing crop plus thinnings) up to a given age divided by that age. The culmination of mean annual increment (CMAI) is the age in the growth cycle of a tree or stand at which the MAI for volume, basal area, diameter, or height is at a maximum.

Mean Diameter (of a stand or group of trees): 1) Quadratic mean diameter, the diameter corresponding to their mean basal area. 2) Arithmetical mean diameter, the arithmetical mean of the diameters.

Natural Regeneration: The establishment of young trees through natural seeding, sprouting, suckering, or layering.

Overmature: 1) A tree or even-aged stand that has reached that stage of development when it is declining in vigor and health and reaching the end of its natural life span. 2) A tree or even-aged stand that has begun to lessen in commercial value because of size, age, decay, or other factors.

Overstory: That portion of the trees in a forest forming the uppermost canopy layer.

Overstory Removal Regeneration Method: A silvicultural method in which the entire stand overstory is removed in one cut to provide release of established seedlings and saplings. Also referred to as a natural shelterwood and a one-cut shelterwood.

Pioneer: A plant capable of invading bare sites and persisting there or colonizing them until supplanted by successional species.

Poletimber: A tree of a size between a sapling and a sawtimber tree. Hardwood trees ranging in size from 5 to 11 inches dbh, and conifers ranging in size from 5 to 9 inches dbh.

Precommercial thinning: The removal of trees not for immediate financial return but to reduce stocking to concentrate growth on the more desirable trees.

Reforestation: The practice of regenerating and growing healthy trees on previously forested sites.

Regeneration (Reproduction): 1) The seedlings or saplings existing in a stand. 2) The act of renewing tree cover by establishing young trees naturally or artificially.

Regeneration Cutting: Any removal of trees intended to assist regeneration already present or to make regeneration possible.

Regeneration Method: A procedure by which a stand is established or renewed by means of natural or artificial reproduction. The various methods include the removal of the old stand (usually involving a harvest), the establishment of a new one, and any supplementary treatments of vegetation, slash, or soil that are applied to create conditions favorable to the establishment of reproduction.

Regeneration Period: The time between the initial regeneration cutting and the successful reestablishment of a new age class by natural means, planting, or direct seeding.

Release: 1) A treatment designed to free young trees (not past the sapling stage) from undesirable, usually overtopping, competing vegetation. 2) To relieve (set free) from restraint, confinement, oppression, or burden.

Reserve Trees: Scattered, living individual trees or groups of trees left unharvested within a stand for reasons other than the purpose of regeneration. Synonyms may include leave trees, green tree retention, and standards.

Risk: 1) The probability that a tree will die within a specified time period. 2) The probability that an insect population or outbreak will occur in a particular stand or forest, or that a particular tree will be severely damaged under a given set of conditions. 3) Fire risk. 4) The relative probability of any of several alternative outcomes as determined or estimated by a decision maker when the actual outcome of an event or series of events is not known. 5) The product of the probability of the event taking place, the probability of being exposed to the event, and the probability of certain outcomes if exposure to the event occurs.

Rotation: In even-aged silvicultural systems, the period between regeneration establishment and final cutting. Rotation may be based on many criteria including culmination of mean annual increment, mean size, age, attainment of particular minimum physical or value growth rate, and biological condition.

Salvage Cutting: The removal of dead trees or trees damaged or dying because of injurious agents other than competition, to recover economic value that would otherwise be lost.

Sanitation Cutting: The removal of trees to improve stand health by stopping or reducing the actual or anticipated spread of insects or disease.

Sapling: A usually young tree larger than a seedling but smaller than a poletimber tree. Trees ranging from 1 to 5 inches dbh.

Sawtimber: Trees with minimum diameter and length and with stem quality suitable for conversion to lumber. Hardwood trees larger than 11 inches dbh, and conifers larger than 9 inches dbh.

Scaling: The measurement or estimation of the quantity or quality of felled timber.

Seedling: 1) A usually young tree smaller than a sapling. Trees less than 1 inch dbh. 2) A plant grown from seed.

Seed Tree Regeneration Method: A silvicultural method designed to bring about reproduction on what are essentially clearcut harvest areas by leaving enough trees singly or in groups to naturally seed the area with adequate stocking of desired species in a reasonable period of time before the site is captured by undesirable vegetation. Only a few trees of the original stand are left, and this residual stocking is not sufficient to protect, modify, or shelter the site in any significant way.

Seed Year: A year in which trees or other plants produce abundant seed as individuals or as a stand.

Selection Regeneration Method: A silvicultural method designed to regenerate and maintain uneven-aged stands by removing some trees at regular intervals. Trees are removed in various size classes, either singly or in small groups. An uneven-aged stand is maintained by periodically regenerating new age classes while manipulating the overstory structure to facilitate continual development of quality growing stock. Regeneration cuts, thinning, and harvesting usually occur simultaneously.

Selective (Partial) Cutting: The removal of only a portion of the trees in a stand.

Shelterwood Regeneration Method: A silvicultural method designed to regenerate a stand by manipulating the overstory and understory to create conditions favorable for the establishment and survival of desirable tree species. Regenerates an even-aged stand and normally involves removal of all or most of the overstory once the new stand is established. The overstory serves to modify understory conditions, create a favorable environment for reproduction, and provide a seed source. The system is characterized by a preparatory cut (optional), seeding cut(s), and overstory removal.

Silvics: The study of the life history, ecology, and general characteristics of forest trees and stands, with particular reference to environmental factors, as a basis for the practice of silviculture.

Silvicultural Prescription: A planned series of treatments designed to change current stand structure to one that meets management goals and objectives. The prescription normally considers ecological, economic, and societal constraints.

Silvicultural System: A planned program of vegetation treatment during the entire life of a stand. The three basic components are tending, harvesting, and regeneration. Named after the stand age class structure and the regeneration method employed.

Silviculture: 1) WDNR: The practice of controlling forest composition, structure, and growth to maintain and enhance the forest's utility for any purpose. 2) The art and science of controlling the establishment, growth, composition, health, and quality of forests to meet the diverse needs and values of landowners and society on a sustainable basis.

Site: 1) The sum total of environmental conditions surrounding and available to the plant. The physical (climate, topography, soil) and biotic (plants, animals) factors interact to yield the light, heat, water, and chemicals that are directly available and used by the plant, as well as other chemical and mechanical disturbance factors. 2) The area in which a plant or stand grows, considered in terms of its environment, particularly as this determines the type and quality of the vegetation the area can carry. 3) A spatially explicit, relatively homogeneous portion of land characterized by specific physical and chemical properties that affect ecosystem functions, and where a more or less homogeneous forest type may be expected to develop.

Site Index: A species-specific measure of actual or potential forest productivity (usually for even-aged stands), expressed in terms of the average height of trees included in a specified stand component (dominants, codominants, or the largest and tallest trees) at a specified index or base age.

Site Preparation: Hand or mechanized manipulation of a site, designed to enhance the success of regeneration. Treatments may include bedding, burning, chemical spraying, chopping, disking, raking, and scarifying and are designed to modify the soil, litter, or vegetation and to create microclimate conditions conducive to the establishment and growth of desired species.

Site Potential (Site Capability): Collective physical resources (e.g. moisture, nutrients, heat, light) available for plant growth. Different potentials facilitate growth of some species and limit growth of others. Consequently, site potential has a strong effect on plant community development

Site Quality (Site Productivity): 1) The sum total of all the factors affecting the capacity to produce forests or other vegetation. 2) The productive capacity of a site, usually expressed as volume production of a given species.

Slash: The residue left on the ground after logging, or accumulating as a result of storm, fire, girdling, or delimiting.

Snag: A standing, generally unmerchantable, dead tree from which the leaves and most of the branches have fallen.

Stand: 1) A contiguous group of trees sufficiently uniform in species composition, structure, and age-class distribution, and growing on a site of sufficiently uniform quality, to be considered a relatively homogeneous and distinguishable unit. 2) A contiguous group of similar plants.

Stand Density: 1) A quantitative measure of stocking expressed either absolutely in terms of number of trees, basal area, or volume per unit area or relative to some standard condition. 2) A measure of the degree of crowding of trees within stocked areas commonly expressed by various growing space ratios.

Stand Structure: 1) The physical and temporal distribution of plants in a stand. 2) The horizontal and vertical distribution of components of a forest stand including the age, height, diameter, crown layers, and stems of trees, shrubs, herbaceous understory, snags, and down woody debris.

Stocking: 1) An indication of growing-space occupancy relative to a preestablished standard. Common indices of stocking are based on percent occupancy, basal area, relative density, stand density index, and crown competition factor. 2) The amount of anything on a given area, particularly in relation to what is considered optimum.

Stratification: 1) The exposure of seed to a cold, moist treatment to overcome dormancy and promote germination. 2) The subdivision of a population into strata (blocks) before sampling, each of which is more homogeneous for the variable being measured than the population as a whole.

Stump Sprout: Regeneration of shoot growth from either adventitious or dormant buds from a cut tree stump.

Succession: The gradual supplanting of one community of plants by another.

Sucker (Root Sprout): Shoots arising from below ground level either from a rhizome or from a root.

Suppressed (Overtopped) Crown Class: A tree whose crown is completely overtopped by the crowns of one or more neighboring trees.

Sustainability: The capacity of forests, ranging from stands to ecoregions, to maintain their health, productivity, diversity, and overall integrity, in the long run, in the context of human activity and use.

Sustainable Forest Management (Sustainable Forestry): 1) WDNR: The practice of managing dynamic forest ecosystems to provide ecological, economic, social, and cultural benefits for present and future generations. 2) The practice of meeting the forest resource needs and values of the present without compromising the similar capability of future generations. 3) The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality, and potential to fulfill, now and in the future, relevant ecological, economic, and social functions at local, national, and global levels, and that does not cause damage to other ecosystems.

Sustained Yield: 1) The yield that a forest can produce continuously at a given intensity of management. Sustained-yield management implies continuous production so planned as to achieve a balance between increment and cutting. 2) The achievement and maintenance in

perpetuity of a high-level regular periodic output of the various renewable resources without impairment of the productivity of the land.

Thinning: 1) A cultural treatment made to reduce stand density of trees primarily to improve growth, enhance forest health, or recover potential mortality. 2) To reduce in number or bulk, thickness or depth, density or viscosity, or to dilute or weaken.

(Timber) Stand Improvement (TSI): 1) An intermediate treatment made to improve stand composition, structure, condition, health, and growth. 2) Non-commercial intermediate treatments.

Tolerance: 1) The capacity of an organism or biological process to subsist under a given set of environmental conditions. 2) The capacity of trees to grow satisfactorily in the shade of, and in competition with, other trees. 3) The ability of animals to adjust to different or disturbed habitats.

Two-aged Stand: A stand with trees of two distinct age classes, separated in age by more than 20% of rotation.

Understory: All forest vegetation growing under an overstory.

Uneven-aged Stand: A stand where the trees differ markedly in their ages, with trees of three or more distinct age classes either mixed or in small groups.

Viability: 1) The capacity of a seed, spore, or pollen grain to germinate and develop under given conditions. Actual viability is determined by measuring germinative capacity. 2) The ability of a wildlife or plant population to maintain sufficient size to persist over time in spite of normal fluctuations in numbers.

Vigor: Active healthy well-balanced growth.

Winter Injury: The desiccation and sometimes mortality of foliage or twigs by strong dry winds at times when water conduction is restricted by cold or frozen soil or by frozen plant tissues.

Winter Sunscald: Localized injury to bark and cambium caused by freezing following warming by the sun in late winter or early spring. Winter sunscald is localized on the side of the stem exposed to midday and afternoon sun, and often results in wounds or cankers, particularly on smooth-barked trees.

Wolf Tree: A generally predominant or dominant tree with a broad, spreading crown, that occupies more growing space than its more desirable neighbors.

Yield: 1) The amount of wood that may be harvested from a particular type of forest stand by species, site, stocking, and management regime at various ages. 2) The amount of product output recovered from a quantity of raw material input. 3) The harvest, actual or estimated, of mammals, birds, or fish expressed by numbers or weight, or as a proportion of the standing crop, over a given period.

Yield Determination: The calculation, by volume regulation or, less directly, by area regulation, of the amount of timber that may be harvested annually or periodically from a specified area over a stated period in accordance with the management objectives.

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