

Appendix G: Glossary

Basal Area (BA) – Measurement of how much of a site is occupied by trees. It is determined by estimating the cross-section area of all the trees in an area at breast height (4.5 feet).

Biological Control: The use of natural enemies such as parasites, predators, or pathogens to control or reduce the abundance or competitiveness of a non-native species.

Biological Opinion: An official report by the U.S. Fish and Wildlife Service issued in response to a formal Forest Service request for consultation or conference. It states whether an action is likely to result in jeopardy to a species or adverse modification of its critical habitat.

Biomass: The total weight or quantity of a specific life form in a given area, for example the biomass of woody plants per acre, or the biomass of small mammals in a forest stand.

Boreal: Refers to the vast conifer dominated forest region found across much of Canada and the northern U.S. The Chequamegon-Nicolet National Forest is generally considered to be at the transition zone between the boreal forest to the north and the hardwood forests to the south. A number of plant and animal species common to the boreal area are found on the National Forest.

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

Cavity Nesters: Birds that nest in cavities of live trees or snags. They may be primary cavity nesters, that excavate their own holes (woodpeckers), or secondary cavity nesters, that use holes excavated by other birds (black-capped chickadee, eastern bluebird).

Channel Morphology: The physical characteristics of a stream channel, including factors such as slope, width:depth ratio, and substrate material.

Class I Trout Water: High quality trout waters, with sufficient natural reproduction to sustain populations of wild trout at or near carrying capacity.

Class II Trout Water: Streams with some natural reproduction, but not enough to fully utilize available habitat. Artificial stocking is sometimes required to maintain a desirable sport fishery.

Class III Trout Water: Marginal trout habitat with no natural trout reproduction occurring. These streams require regular stocking if a sport fishery is desired.

Clearcut -This practice is used to remove a mature stand of trees so that another stand can regenerate either through natural seeding, sprouting or planting. It is used to establish those types of tree species that are intolerant of shade and require full sunlight to grow. In clearcutting, all merchantable trees are designated for cutting except those that are reserved for wildlife and visual reasons.

Conifer – Any of predominantly evergreen, cone bearing trees, such as pine, spruce, hemlock or fir.

Cord – A unit of growth volume measurement for stacking round or split wood. A standard cord is 4' x 4' x 8' or 128 cubic feet. A standard cord may contain 60 – 100 cubic feet of solid wood depending on the size of the pieces and the compactness of these stacks.

Critical Habitat: Those areas designated as critical by the Secretary of the Interior or Commerce, for the survival and recovery of federally listed threatened or endangered species.

Cubic Foot – A common unit of measure for wood volume equivalent to a cube 12" on all sides. (Common cubic unit is CCF or 100 Cubic Feet)

Disturbance Regime: This refers to the natural or artificial processes that affect and shape a particular ecosystem. Examples are crown fires in jack pine, individual tree blowdown in northern hardwood forests, beaver flooding in low gradient stream systems, and clearcutting of mature aspen forests.

Ecosystem: A community of living plants and animals interacting with each other and with their physical environment.

Edge: The places where two ecosystems meet; it can also refer to the meeting of two similar communities of differing ages, such as the edge between young aspen and old aspen.

Ephemeral Ponds: Small forest ponds that only hold water during spring snowmelt, or after heavy rains. In some cases their duration is short enough that the entire pond area is forested with species that are not considered tolerant of flooding.

Even-aged Management – The establishment, tending, and harvest of forest stands where trees are of essentially the same age. A stand is considered even-aged if the age difference among trees forming the main canopy level does not exceed 20 percent of the rotation age. Even-aged management often uses a series of thinnings to improve diameter growth, until the stand reaches maturity. When rotation age is reached, the stand is harvested and regenerated over a relatively short time, using the clearcut or shelterwood systems. Regeneration may be natural (from seed or sprouts) or artificial (from planted seedlings). Even-aged methods are particularly suited to shade-intolerant species.

Environmental Assessment(EA): Documents the results of an environmental analysis and discloses the environmental consequences for which the proposed action(s) that are not categorically excluded from documentation and for which the need for an environmental impact statement (EIS) has not been determined.

Fragmentation: The process by which larger areas of similar community type or age are broken into smaller fragments of that type or age, with varying degrees of isolation from each other. Examples include areas of extensive hardwood forests being broken into small woodlots by agricultural and urban development, or extensive native prairie being lost to cropland.

Forest Type – A descriptive term used to group stands of similar character of developed and species composition, due to given ecological factors, by which they may be differentiated from other groups of stands.

Gap: A small opening created in a forest canopy, generally from wind throw. Gaps may result from loss of a single tree, or from a larger group of downed trees. Gap formation is an important aspect of change and regeneration in many forests.

Hardwood – A broad-leaved flowering tree, as distinguished from a conifer. Trees belonging to the botanical group of angiospermae.

Harvest (Timber Harvest) – Cutting and removal of trees from the forest for utilization.

Heterogeneity: The degree of variety across a landscape. An area might be described as having a high degree of heterogeneity if there is a number of different forest types and ages well interspersed with each other. An area of extensive closed canopy hardwood forest would be described as having a low degree of heterogeneity.

Improvement Cut – A selection harvest applied to a poor-quality stand in order to begin the creation of different age classes within the stand. The cut is similar to a selection harvest, except for a greater emphasis on removing diseased trees, poorly formed trees, and undesirable species. The intent is to move a neglected stand toward uneven-aged management.

Interior Forest: An area of late-successional or old growth forest that is large enough, and of an appropriate shape to provide conditions that minimize predation, parasitism, and microclimate fluctuations associated with forest edges.

Intolerant Species – Those plant species that do not grow well in shade.

Landscape Analysis and Design (LAD): An ecological assessment at various scales, used to recommend the best opportunities for community restoration, protection, compatible management, or traditional management. The original concept has been modified for use on the National Forest. Areas identified through this process are sometimes referred to informally as “LAD” areas, although final decisions regarding the management of these areas will only be made with the completion of the Forest Plan revision.

Landscape Pattern: The spatial arrangement of forest patches composed of different species or successional stages. The term may also be applied to patches of different land uses, such as residential, commercial or agricultural.

MBF – One thousand board feet of timber.

Mulching: Providing any loose covering for exposed forest soils, such as grass, straw, bark, or wood fibers, to help control erosion and protect exposed soil.

Navigable: A waterway is navigable if it has bed and banks, and it is possible to float a canoe or other small craft in the waterway on a regular reoccurring basis – even if only during spring runoff.

Neotropical Migratory Birds (NTMB): Locally nesting birds that migrate seasonally to the tropical regions of the New World (central and South America).

Non-native Invasive Species: Species that are not native to a particular place and are causing disruption of the natural process of that place, displacing native plant and animal species, degrading natural communities, etc.

Nonpoint source pollution: Occurs when rainfall or snowmelt runoff moves across the ground, carrying pollutants into streams, lakes, wetlands, and groundwater. For example, soil can become a pollutant when water runoff moves across a road and carries large amounts of soil into a waterbody.

Old Growth: A community with dominant trees at or near their biological maturity. The age and structure of an old-growth community varies with species and site. Old growth stands are sometimes characterized by a multi-layered, uneven-age size class structure; a high degree of compositional and structural patchiness and variety; and significant amounts of woody debris and tip-up mounds.

Patch: An area of similar vegetation type and age, such as a mature white/red pine patch, or a regenerating aspen patch. This term is sometimes but not always analogous to the term “stand” as used for Forest Service purposes.

Perennial stream: A stream that flows throughout most (i.e. >50%) of the year.

Pit and Mound Topography: A small-scale landform that is created over a long period of time by individual tree fall in mature forests. Mounds are composed of the root balls of fallen trees, and the pits are left where the root balls were ripped up. These features can persist for many years, and can result in much of the forest floor being covered by a succession of pits and mounds, softened by re-growth of the herbaceous plant layer.

Regeneration: The process of replacing older trees removed from harvest or disaster with young trees.

Removal Cut: The second cutting of a two-cut shelterwood system. Its purpose is to stimulate the growth and development of newly established seedlings by removing overstory trees that are competing for available moisture and sunlight.

Research Natural Area (RNA): RNA's are part of a national network of ecological areas designated in perpetuity for research and education and/or to maintain biological diversity on National Forest System lands. Lands selected for this designation are high quality or unique representatives of different natural communities; management is aimed at maintaining natural biological and physical processes.

Riparian: The zone of land and vegetation adjacent to streams, lakes, and wetlands; close enough to the waters edge to affect, and be affected by, the aquatic community.

Riparian Management Zone (RMZ): Land and vegetation areas next to lakes and streams where management practices are modified to protect water quality, fish, and other aquatic resources. These areas are complex ecosystems that provide food, habitat and movement corridors for both aquatic (water) and terrestrial (land) communities as well as helping to minimize nonpoint source pollution impacts to surface water.

Road Decommissioning: Activities that result in the stabilization and restoration of unneeded road corridors to a more natural state.

Rotation Age: The age at which a tree or stand is considered mature and ready for harvest.

Rut: A depression made by the passage of a vehicle or equipment.

Scarification: The process of removing the forest floor or mixing it with the mineral soil, to prepare a site

for seeding or planting of tree seedlings.

Sediment: Soil that has eroded from the land surface, often by overland water flow, and is then transported and deposited away from its original location.

Seed Cut: The first cutting of a two-cut shelterwood system. Its purpose is to control seed sources, to provide growing space for new seedlings, to maintain enough shade to discourage shrub competition, and to provide optimum germination conditions for the desired species.

Selection System – A harvest method used for the creation, maintenance, and regeneration of uneven-aged stands. Individual mature trees are removed from the stand at periodic intervals (usually 10- 15 years), and a light thinning is done across all diameter classes. The intent is to produce a desired stand structure containing many age or size classes. There is no final harvest – a fully-stocked overstory is always present. Regeneration is an ongoing process that occurs in the small canopy gaps created through the removal of individual mature trees. A selection harvest typically removes 25 to 35 percent of the overstory trees.

Sensitivity Level: As used in Visual Quality Management: a particular degree or measure of viewer interest in scenic qualities of the landscape. 1-most sensitive, 2-sensitive, and 3-less sensitive.

Sensitive Species: Those plant and animal species identified by the Regional Forester for which population viability is a concern, as evidenced by a significant current or predicted downward trend in population numbers or density, or significant current or predicted downward trend in habitat capability that would reduce a species distribution. Some Forests, including the Chequamegon-Nicolet, have also maintained Forest sensitive species lists, as a means of focusing management attention on species of concern that do not yet warrant listing as Regional Forester sensitive species.

Shelterwood System- A system of regenerating an even-aged stand through a series of cuttings (usually two), with regeneration established under the partial shelter of the overwood. The seed cut removes about half of the overstory, retaining the most vigorous trees to provide seed and partial shade. Several years later, when regeneration is established, the removal cut harvests the remaining overstory trees to stimulate growth of the new stand.

Sinuosity: Describes the relative shape or pattern of a stream channel on the landscape; measured as the ratio of stream length:valley length.

Snag: A standing dead tree, or portion of tree; often contains structural features such as loose bark, broken branches or top, and cavities.

Softwater: This is a descriptive term for surface waters that refers to the chemical makeup of the water. Softwater streams and lakes have a relatively low level of dissolved minerals, particularly calcium, which gives them a low buffering capacity (making them more susceptible to acid precipitation). They are generally more acidic and less productive than hardwater streams and lakes.

Species Viability: The occurrence or maintenance of self-sustaining and interacting populations that are well distributed through a species range.

Succession: A series of dynamic changes by which organisms succeed one another through plant community stages, leading to a potential natural community or climax. Stages are transitory in nature, and describe a plant community from its earliest growth condition (early successional) to a condition of full maturity (late successional). Early successional communities are generally composed of pioneer species that are favored by open, disturbed conditions, such as aspen, paper birch, balsam fir, and many shrub and forb species.

Thinning – An intermediate cutting aimed primarily at improving growth and vigor of the residual stand by adjusting stand density. Typically, diseased and poor quality trees are removed to free up more sunlight, moisture, and nutrients for the “crop” trees. Generally, 25 to 35 percent of the overstory trees are harvested.

Uneven-aged Management – The creation and maintenance of many age or size classes within a given forest stand. A balanced uneven-aged stand contains all size classes from seedlings through maturity, with equal amounts of growing space allotted to each size class. The selection system is generally used to harvest individual trees as they mature, and obtain regeneration in the small canopy gaps thus created. Uneven-aged management is best suited to shade-tolerant species.

Vertical Stratification: The diversity in an area that results from the complexity of the above ground structure of the vegetation; more layers or tiers of vegetation generally result in a higher degree of diversity or stratification.

Visual Quality Objective (VQO): A desired level of excellence based on physical and sociological characteristics of an area. Refers to degree of acceptable alteration of the characteristics of an area. The five levels are Preservation, Retention, Partial Retention, Modification, and Maximum Modification.

Wetlands: areas where water is at, near or above the land surface long enough to be capable of supporting aquatic or water loving vegetation and which has soils indicative of wet conditions.