

# Appendix I

## GLOSSARY

**303(d) Waters** – Waters identified as not meeting water quality standards according to 303(d) of the Clean Water Act (303d of the Clean Water Act).

**Acid Rain** – The deposition of a variety of acidic pollutants in either wet (rain, snow, or fog) or dry forms (gas or dust particles) (Helms 1998).

**Acid-Seep Spring** – Spring or seep formed at the base of a slope where groundwater intersects with the land. Acid results from the soil type characteristics or from acid mine drainage (Mitsch and Gosselink 1993).

**Acid Soil** - A soil with a pH value less than 7.0 (Helms 1998).

**Activity** - A measure, course of action, or treatment that is undertaken to directly or indirectly produce, enhance, or maintain forest and rangeland outputs or achieve administrative or environmental quality objectives. FSH 1309.11, The Management Information Handbook, sets forth Forest Service activity definitions, codes, and units of measure.

**Age Class** – (1) One of the intervals into which the age range of trees is divided for classification or use. (2) A distinct aggregation of trees originating from a single natural event or regeneration activity or a grouping of trees, e.g., 10-year age class (Helms 1998).

**Aggregate** - All of the coarse materials, such as sand, gravel, and crushed stone, that are used in base courses on roads and trails (Forest Service Handbook 7709.56).

**Alliance** – A level of the National Vegetation Classification of existing vegetation. An alliance is a terrestrial plant community that is distinguished from other alliances by dominant or diagnostic species found in the canopy layer. The concept of an alliance is similar to a “cover type.” A cover type includes one or more alliances when the dominant species are widespread over varied environmental conditions (Tyrrell *et al* 2000).

**Allowable Sale Quantity (ASQ)** - The quantity of timber that may be sold from the area of (ASQ) suitable land covered by the forest plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the “average annual allowable sale quantity” (36 CFR 219.3).

**All-terrain Vehicle (ATV)** - Motorized, floatation-tired vehicle with at least three, but no more than six, low-pressure tires, 50 inches or less in width, with an engine displacement of less than 800 cubic centimeters (cc) (USDA 2003b).

**Alluvial Soils** – Soils developed from recently deposited water-borne sediments and exhibiting essentially no horizon development or modification of the recently deposited materials (Helms 1998).

### **All-Weather Road versus Dry-Weather Road**

**All-Weather Road** - A road capable of being used by two-wheel drive sedans or similar vehicles during all weather conditions, with only minor or short-term restrictions, such as following heavy snows. On the Hoosier, all-weather roads would normally be either aggregate surfaced or paved.

**Dry-Weather Road** - A road that normally can be used by two- and four-wheel drive trucks and logging equipment without causing environmental damage only during dry weather or during the drier seasons of the year. On the Hoosier, dry-weather roads would normally be unsurfaced dirt roads or roads surfaced with native materials only.

**Alternate Roost** – While primary roosts typically house substantial aggregations of female bats and their young, smaller numbers of these bats may use alternate trees as roosts depending on weather and ambient temperature (Callahan *et al.* 1997). In general, while primary roosts are typically exposed to solar radiation, alternate roosts may be located beneath the forest canopy. Alternate roosts may be widely distributed across the landscape in relation to a maternal colony's primary roost or roosts (Callahan 1993); presumably this allows a maternal colony to select the most suitable microclimates or foraging area.

**Alternatives** – The different means by which objectives or goals can be attained. They need not be obvious substitutes for one another or perform the same specific function (Schwarz *et al.* 1976).

**Arthropod** – Any member of a large group of invertebrate animals with jointed legs and a segmented body: the arthropods include crustaceans, arachnids, insects, and myriapods (Websters New 20<sup>th</sup> Century Dictionary 1983).

**Aquatic Ecosystems** - Stream channels, lakes, estuary beds; water; biotic communities; and the habitat features that occur therein (Region 9 Framework for Integrating Watersheds into Forest Plan Revision 2004).

**Aquatic Passage** – The ability for aquatic organisms to pass through a stream crossing structure (Baker and Votapka 1990).

**Archaeological Resource** - Any material remains of prehistoric or historic human life or activities which are of archaeological interest and are at least 50 years of age, and the physical site, location, or context in which they are found (36 CFR 26(1)(2)).

**Aspect (Slope Orientation)** – A position facing a particular direction, usually expressed as a compass direction in degrees or cardinal directions (Helms 1998).

**ASQ** - See Allowable Sale Quantity.

**ATV** – See All-terrain Vehicle.

**BA** – See Biological Assessment. Also an acronym for basal area.

**Barrens** – A land area characterized by species of canopy trees tolerant of xeric conditions, which have a stunted, open-grown appearance, also characterized by the dominance of native warm-season grasses and prairie forbs, and, in glades, significant exposures of bedrock (Thompson 2004).

**Basal Area** – The cross sectional area of all stems of a species or all stems in a stand measured at breast height and expressed per unit of land area (Helms 1998).

**BE** - See Biological Evaluation.

**Benchmark** - [A part of the analysis] to define the range within which alternatives can be constructed (36 CFR 219.12).

**Benefit (Value)** – An assessment of the value of the expected outputs; desirable effects of a plan or action (Schwarz *et al.* 1976).

**Benthic** – Related to the plant and animal life whose habitat is the bottom of a sea, lake or river (Helms 1998).

**Best Management Practices (BMPs)** – a practice or usually a combination of practices that are determined by a state or a designated planning agency to be the most effective and practicable means (including technological, economic, and institutional considerations) of controlling point and nonpoint source pollutants at levels compatible with environmental quality goals (Helms 1998).

**BF** - See Board Foot.

**Biological Assessment (BA)** - Information prepared by, or under the direction of, a federal agency to determine whether a proposed action is likely to: (1) adversely affect listed species or designated critical habitat; (2) jeopardize the continued existence of species that are proposed for listing; or (3) adversely modify proposed critical habitat (50 CFR 402.01).

**Biological Diversity** – The variety and abundance of life forms, processes, functions, and structures of plants, animals, and other living organisms, including the relative complexity of species, communities, gene pools, and ecosystems at spatial scales that range from local through regional to global (Helms 1998).

**Biological Evaluation (BE)** – (A documented Forest Service review) to ensure that Forest Service actions do not contribute to loss of viability of any native or desired nonnative plant or contribute to animal species or trends toward Federal listing of any species; to comply with the requirements of the Endangered Species Act that actions of Federal agencies not jeopardize or adversely modify critical habitat of Federally listed species, and to provide a process and standard by which to ensure that threatened, endangered, proposed, and sensitive species receive full consideration in the decision making process (Forest Service Manual 2672.4.1).

**Biological Opinion (BO)** - A document that includes: (1) the opinion of the US Fish and Wildlife Service as to whether or not a federal action is likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of designated critical habitat; (2) a summary of the information on which the opinion is based; and (3) a detailed discussion of the effects of the action on listed species or designated critical habitat (50 CFR 402.02).

**Blind Valley** - A valley that ends suddenly at a point where its stream disappears underground; some blind valleys have no present day streams (CIS No. 30).

**BMPs** – See Best Management Practices

**BO** – See Biological Opinion.

**Board Foot (BF)** – The amount of wood contained in an unfinished board 1 inch thick, 12 inches long, and 12 inches wide (Helms 1998). MBF - One thousand board feet. MMBF - One million board feet.

**Bottomlands** – Lowlands along streams and rivers, usually on alluvial floodplains that are periodically flooded. These are usually forested and are sometimes called bottomland hardwood forests (Mitsch and Gosselink 1993).

**Browse** – (1) Any woody vegetation consumed, or fit for consumption, by livestock or wild animals, mainly ungulates. (2) To forage or graze on the buds, stems, and leaves of woody growth by livestock or wildlife (Helms 1998).

**Canopy** – (1) The foliar cover in a forest stand consisting of one or several layers. (2) The overhead branches and leaves of streamside vegetation (Helms 1998).

**Carrying Capacity** –

**Ecological:** The maximum number or biomass of organisms of a given species that can be sustained or survive on a long-term basis within an ecosystem (Helms 1998).

**Recreational:** The number of recreation users an area can accommodate during a given period of time and still provide protection of the resources and satisfaction of the users (Helms 1998).

**Cave** – Any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge and which is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Such term shall include any natural pit, sinkhole, or other opening which is an extension of a cave entrance or which is an integral part of the cave (CFR 26 12). A significant cave is one which has been designated in accordance with part 290 of 36 CFR (Code of Federal Regulations).

**Caver** - One who explores caves as a sport. (CIS No. 30).

**Cave Resource** - (1) Any material or substance occurring naturally in caves on Federal lands, such as animal life, plant life, paleontological deposits, sediments, minerals, speleogens, and speleothems (Federal Cave Resources Protection Act). (2) More generally, the cave itself and any material occurring naturally in caves, including sediments, paleontological deposits, minerals, speleothems, water, cave life and other natural resources (FSM 2356.05).

**Channel Migration** – The natural meandering of a stream channel within its floodplain. This process happens as water flow scours away material from one bank of the stream channel and then sediment is deposited on the opposite bank (Rosgen 1996).

**Channel Morphology** – Refers to how a stream moves and functions within the stream channel; specifically, the stream channel's dimensions, pattern of water flow, and profile within the landscape (Rosgen 1996).

**Cleaning or Weeding** – A release treatment made in an age class not past the sapling stage to free the favored trees from less desirable individuals of the same age class that overtop them or are likely to do so (Helms 1998).

**Clearcutting** – (1) A stand in which essentially all trees have been removed in one operation – note depending on management objectives, a clearcut may or may not have reserved trees left to attain goals other than regeneration (2) A regeneration or harvest method that removes essentially all trees in a stand (Helms 1998).

**Cliffs or Overhangs** – For the purposes of the Hoosier, rock outcrop areas 15 feet or more in height and 100 feet or more in length.

**Climax** – The culminating stage of plant succession for a given environment; the vegetation conceived as having reached a highly stable condition (Helms 1998).

**Colluvial Soils** – Mixed deposits of soil material and rock fragments accumulated near the base of steep slopes through soil creep, landslides, and local surface run off (Swartz *et al.* 1976).

**Commercial Thinning** – Any type of thinning producing merchantable material at least equal to the value of the direct costs of harvesting (Helms 1998).

**Community** – An assemblage of plants and animals living together and occupying a given area (Helms 1998).

**Compatible Use** - A land use that can exist without improving or detracting from the quality of another, in practice compatible uses usually include those that can coexist with only slight conflict (Helms 1998).

**Conduit** - A subterranean stream course filled completely with water and always under hydrostatic pressure (CIS No. 30).

**Constraint** – An equation or inequality that helps define the space containing feasible solutions (Helms 1998).

**Cord** - A stack of fuelwood, pulpwood, or other material that measures 4 by 4 by 8 feet or 128 cubic feet, including wood, bark, and empty space within the stack (Helms 1998).

**Corridor** – (1) A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries (36 CFR 219.3). (2) (wildlife) The joining of fragmented habitats which helps to increase the gene flows between the individual habitats improving the fitness of species. Wildlife corridors are created as a means of conservation or general improvement of the environment (Wikipedia Dictionary 2004).

**Cost Effective** – The usefulness of specified inputs (costs) to produce specified outputs (benefits) (Helms 1998).

**Critical Habitat** – (1) The specific areas within the geographic area occupied by a federally listed species on which physical and biological features are found that are essential to the conservation of the species and that may require special management or protection. (2) Specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of Section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species (Endangered Species Act of 1973).

**Crop Tree Release** - A treatment designed to free young trees from undesirable, usually overtopping, competing vegetation (Helms 1998).

**Cumulative Effects** – The combined effects resulting from sequential actions on a given area, note significant cumulative effects can result from individually minor but collectively important actions taking place over a period of time because of their being interconnected or synergistic (Helms 1998).

**DBH** – See Diameter at Breast Height.

**DEIS** – See Draft Environmental Impact Statement.

**Demand** – The functional relationship between the price of a given commodity and the quantity that buyers would be willing and able to purchase in a given market during a specified time period (Helms 1998).

**Developed Recreation** - Activities associated with manmade structures and facilities that result in concentrated use of an area. Examples are campgrounds and picnic areas.

**Diameter at Breast Height (DBH, dbh)** – The diameter of the stem of a tree measured at breast height (4.5 feet) from the ground (Helms 1998).

**Disk** – A plow drawn by a tractor or skidder having one or more heavy, round, concave, sharpened, freely rotating steel disks angled to cut and turn a furrow, note a disk is used in site preparation or in the construction of firelines (Helms 1998).

**Dispersed Recreation** - In contrast to developed recreation, activities associated with low-density use distributed over large expanses of land or water. When provided, facilities are more for protection of the environment than for comfort or convenience of the visitor.

**Diversity** - The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan (36 CFR 219.3).

**Duff** - The partially decomposed organic material on the forest floor beneath the litter of freshly fallen twigs, needles, and leaves (Helms 1998).

**Draft Environmental Impact Statement (DEIS)** - The draft version of an Environmental Impact Statement that is released to the public and other agencies for review and comment.

**Dry-Weather Road** - See All-Weather Road.

**EA** – See Environmental Assessment.

**Easement** - An interest in land restricting the manner in which an owner may develop or use his property, or allowing the holder of the easement to use the property in some specified way.

**Ecological Classification System (ECS)** – A land (and/or water) capability classification system that incorporates all the ecological factors that significantly affect the physical-biological capability of the land and/or water body. Normally includes factors of landform, soil, water, climate, and vegetation. The ECS used in Region 9 is a hierarchical framework, to

accommodate design of ecological mapping units at different levels of precision or abstraction (Merchant *et al.* 1988).

**Ecological Landtype (ELT)** - An integrated mapping unit designed at a specific hierarchical level in the ECS. Typical size general ranges from tens to hundreds of acres (Merchant *et al.* 1988).

**Ecoregion** - A continuous geographic area having a relatively uniform macroclimate, possibly with several vegetation types, used as an ecological basis for management or planning (Helms 1998).

**Ecosystem** – A spatially explicit, relatively homogeneous unit of the earth that includes all interacting organisms and components of the abiotic environment within its boundaries (Helms 1998).

**ECS** – See Ecological Classification System.

**Edge** – The more or less well-defined boundary between two or more elements of the environment, e.g., a field adjacent to a woodland or the boundary of different silvicultural treatments (Helms 1998).

**Edge Effect** – The modified environmental conditions or habitat along the margins (edges) of forest stands or patches (Helms 1998).

**Effects** – Include: (a) Direct effects, which are caused by the action and occur at the same time and place (b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still (reasonably foreseeable). Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (40 CFR 1508.8).

**EIS** - See Environmental Impact Statement.

**ELT** - See Ecological Landtype.

**Embeddedness** – The filling in of the spaces surrounding rocks on the bottom of the stream by silt or fine sand (Davis *et al.* 2001).

**Endangered Species** – Any species which is in danger of extinction throughout all or a significant portion of its range (Endangered Species Act of 1973).

**Enhancement** - Improved visual condition achieved by increasing desirable variety in the landscape (USDA 1974).

**Environmental Analysis** - The process associated with the preparation of an environmental assessment or environmental impact statement and the decision whether to prepare an environmental impact statement. It is an analysis of alternative actions and their predictable short-term and long-term environmental effects, which include physical, biological, economic, and social factors and their interactions (1991 Hoosier Forest Plan).

**Environmental Assessment (EA)** - A concise public document that serves to (1) briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or finding of no significant impact, and (2) a briefer version of an environmental impact statement, prepared when it is uncertain whether the environmental effects associated with a proposal are significant. See environmental impact statement (40 CFR 1508.9a).

**Environmental Impact Statement (EIS)** - A statement of environmental effects required for major Federal actions under Section 102 of the National Environmental Policy Act (NEPA), and released to the public and other agencies for comment and review (40 CFR 1508.11).

**Ephemeral Stream** - A stream or portion of a stream that flows only in direct response to precipitation, receiving little or no water from springs and no long continued supply from snow or other sources, and whose channel is at all times above the water table (Helms 1998).

**Erosion** - The wearing away of the land's surface by running water, wind, ice, gravity, or other natural or anthropogenic agents, including such processes as gravitational creep and tillage; kinds of erosion include the following:

**Geological** - The normal or natural erosion caused by geological processes acting over long geologic periods and resulting in the wearing away of mountains, the building up of floodplains, coastal plains, etc. Also called natural erosion (Helms 1998).

**Erosion and sedimentation** - Two phases in the process of detaching material in one place, transporting and depositing in another. *Erosion* refers to the detachment and transport of material and *sedimentation* to its deposition. Particulate material is called *sediment* once transport has begun.

**Evapotranspiration** - The process of water evaporating and passing through plants into the atmosphere (Mitsch and Gosselink 1993).

**Even-aged Management** - The application of a combination of actions that results in the creation of a stand in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (and, therefore, tree sizes throughout the forest area). The difference in age between trees forming the main canopy level of a stand usually does not exceed 20 percent of the age of the stand at harvest rotation age. Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached the desired age or size for regeneration and is harvested. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands (36 CFR 219.3).

**Exotic** - A plant or species introduced from another country or geographic region outside its natural range (Helms 1998).

**Fauna** - The animals of a specified region (Webster's New 20<sup>th</sup> Century Dictionary 1983).

**Fertility (Soil)** - The quality of a soil that enables it to provide nutrients in adequate amounts and in proper balance for the growth of specified plants when other growth factors, such as light, moisture, temperature, and the physical condition of the soil, are favorable (Schwarz *et al.* 1976).

**Fire-Intolerant Species** - A species with morphological characteristics that give it a higher probability of being injured or killed by fire than a fire-tolerant species, which has a "relatively low" probability of being injured or killed by fire.



**Fire Management** - All activities required for the protection of burnable wildland values from fire and the use of fire to meet land management goals and objectives (Helms 1998).

**Fire-Tolerant Species** - A plant species with morphological characteristics that give it a lower probability of being injured or killed by fire than a fire-intolerant species, which has a relatively high probability of being injured or killed by fire.

**Fish host** – A fish that larval mussels (glochidia) parasitize in order to develop into an adult mussel form (Oesch 1995).

**Flora** - The plant life of an area (Schwarz *et al.* 1976).

**Floodplain** – (1) The nearly level situated on either side of a channel which is subject to overflow flooding (Schwarz 1976). (2) As defined by Executive Order 11988, as amended, lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent (100 year recurrence) or greater chance of flooding in any given year.

**Forage** – Browse and herbage that is available either naturally or produced seasonally or annually on a given area that can provide food for grazing animals (Helms 1998).

**Foreground (Visual Distance Zone)** - That part of a scene, landscape, etc., which is nearest to the viewer, and in which detail is evident, usually within 0.25 to 0.5 mile from the viewer (USDA 1974).

**Forest** - When used with a capital F, the Hoosier National Forest, including the landbase and administrative staff.

**Forest Land** - Land at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for nonforest use. Land developed for nonforest use includes areas for crops, improved pasture, residential, or administrative areas, improved roads of any width, and adjoining road clearing and powerline clearing of any width (36 CFR 219.3).

**(Forest Land) Not Appropriate** - Lands not selected for timber production in the Forest Plan alternative due to: (1) the multiple-use objectives for the alternative preclude timber production; (2) other management objectives for the alternative limit timber production activities to the point where management requirements set forth in 36 CFR 219.27 cannot be met; and (3) the lands are not cost-efficient, over the planning horizon, in meeting forest objectives that include timber production. Lands not appropriate for timber production shall be designated as unsuitable in the selected alternative and Forest Plan.

**(Forest Land) Suitable** - Lands where timber production is an objective (36 CFR 219.28).

**(Forest Land) Unsuitable** - Forest land that is not managed for timber production because: (1) the land has been withdrawn by Congress, the Secretary, or the Chief; (2) the land is not producing or capable of producing crops of industrial wood; (3) technology is not available to prevent irreversible damage to soils, productivity, or watershed conditions; (4) there is no reasonable assurance that lands can be adequately restocked within 5 years after final harvest, based on experience; (5) there is, at present, a lack of adequate information to respond to timber management activities; or (6) timber management is inconsistent with or not cost-efficient

in meeting the management requirements and multiple-use objectives specified in the Forest Plan.

**Forest Openings** - Openings maintained on the Hoosier to provide habitat or habitat components for plants and animals which require or are benefited by early successional stages of vegetation. May include natural openings (barrens) and other openings with native or nonnative vegetation. These openings are maintained by periodic treatments, such as mowing, cutting, or prescribed burning. These included openings previously identified as "wildlife openings."

**Forest Plan** – A document that guides all natural resource management and establishes management standards and guidelines for a national forest, and that embodies the provisions of the National Forest Management Act of 1976 (Helms 1998).

**Forest Road** - A road wholly or partly within, or adjacent to, and serving NFS land that is necessary for the protection, administration, and use of NFS land and the use and development of its resources (FSM 7705); any road, regardless of jurisdiction (county or Forest Service), class (arterial, collector, local), or standard (Traffic Service Level) that is considered to be on the Forest Road network (Forest Service Manual 7705, Zero Code).

**Forest Road System** - The inventory or network of roads, under all jurisdictions, that are needed for transporting forest products, accommodating planned motorized access for recreation purposes, and protecting and managing the Hoosier National Forest now and in the future (FSM 7705).

**Forest Type** – A category of forest usually defined by its vegetation, particularly its dominant vegetation as based on percentage cover of trees, e.g., oak-hickory (Helms 1998).

**Forestry** - The profession embracing the science, art, and practice of creating, managing, using, and conserving forests and associated resources for human benefit and in a sustainable manner to meet desired goals, needs, and values (Helms 1998).

**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, note fragmentation is a concern because of the effect of noncontiguous forest cover on connectivity and the movement and dispersal of animals in the landscape (Helms 1998).

**FSH** - Forest Service Handbook.

**FSM** - Forest Service Manual.

**Fuels** - Combustible material. Includes vegetation such as grass, leaves, ground litter, plants, shrubs, and trees that feed a fire. (<http://www.fireplan.gov/resources/glossary/f.html>).

**Genetic Diversity** - The genetic variability within a population or a species usually assessed at three levels: (a) within breeding populations, (b) between breeding populations, and (c) within species (Helms 1998).

**Geographic Information System (GIS)** – An organized collection of computer hardware, software, geographic and descriptive data, personnel, knowledge, and procedures designed to

efficiently capture, store, update, manipulate, analyze, report and display the forms of geographically referenced information and descriptive information (Helms 1998).

**Geomorphic Process** – The physical and chemical means which cause a modification of the earth's surficial form – e.g., volcanic activity, weathering, sedimentation, running water, etc. (Schwarz *et al.* 1976).

**Geomorphology** - The classification, description, nature, origin, and development of present landforms and their relationships to underlying structures and of the history of geologic changes recorded by the earth's surface features (Aquatic Ecological Unit Inventory Technical Guide).

**GIS** – See Geographic Information System.

**Glochidia** – Larval mussels that parasitize a host species by attaching to the gills where they develop into an adult.

**Goal** - A concise statement that describes a desired condition to be achieved sometime in the future. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed (36 CFR 219.3).

**Goods and Services** - The various outputs, including on-site uses, produced from forest and rangeland resources (36 CFR 219.3).

**Grapevine Control** - The practice on the Hoosier of reducing grapevines in a young forested stand. The number of vines is reduced by cutting. Sprouting is minimized by shading from the residual stand. Additional control may be accomplished with herbicides applied directly to the cut surface of grapevines. Small patches of vines may be left intentionally to provide wildlife food and cover.

**Groundwater** – Water within the earth that supplies wells and springs. Specifically, water in the zone of saturation where all openings in soils and rocks are filled- the upper surface of which forms the water table (Schwarz *et al.* 1976).

**Water Table** - The upper surface of the ground water, below which the soil is saturated with water (Schwarz 1976).

**Perched Water Table** – A saturated layer of soil that is separated from any underlying saturated layers by an unsaturated layer (Helms 1998).

**Ground Water Aquifer** – A saturated, permeable geologic unit of sediment or rock that can transmit significant quantities of water under ordinary hydraulic gradients (Helms 1998).

**Group Selection Cutting** – Trees are removed and new age classes are established in small groups (Helms 1998).

**Growing Stock** - All the trees growing in a forest or in a specified part of it, usually commercial species, meeting specified standards of size, quality, and vigor, and generally expressed in terms of number or volume (Helms 1998).

**Guidance** - Includes both standards and guidelines—practices permitted or limitations set on all lands on the Hoosier unless exceptions are stated.

**Guidelines** – Permissions or limitations that should be implemented in most cases to achieve the goals and objectives. Deviation from a guideline does not require a forest plan amendment, but the rationale must be disclosed in the project decision documents.  
([http://fsweb.r9.fs.fed.us/1900\\_planning/1920\\_land\\_and\\_resource\\_management\\_planning/](http://fsweb.r9.fs.fed.us/1900_planning/1920_land_and_resource_management_planning/)).

**Gulf** - Steep-walled or abrupt circumscribed depression which characteristically possesses a flat alluviated floor in which an underground rivers rises and sinks (Malott 1931).

**Habitat** – (1) A unit of the environment. (2) The place, natural or otherwise, (including climate, food, cover, and water) where an animal, plant, or population naturally or normally lives and develops (Helms 1998).

**Habitat Suitability Index (HSI)** - A numerical index that represents the ability of a given habitat to provide life requisites for a species on a scale from 0 (unsuitable habitat) to 1 (optimal habitat). Habitat Suitability Index models are useful in natural resource planning for predicting the impacts of resource management practices on wildlife habitat. (Larson *et al.* 2003).

**Hardwood** – Deciduous trees, usually broad-leaved (Hansen 1988).

**Headwater** – (1) The source of a stream. (2) The water upstream from a structure or point on a stream (3) The upper tributaries of a drainage basin (Helms 1998).

**Herbicide** - A pesticide used for killing or controlling the growth of plants (Helms 1998).

**Heritage Resources** - The physical remains of districts, sites, structures, networks, or objects used by humans in the past. They may be historic or prehistoric, archaeological or architectural in nature. Heritage resources on the Hoosier include hunting, quarrying, plant gathering, and living areas from the prehistoric period. Historic period sites (at least 50 years of age) are associated with farming, logging, and a variety of industrial pursuits. Heritage resources are land based and are non-renewable.

**Historical Resource** - Any structural, architectural, archaeological, artifactual, or other material remains of past human life or activities which are of historical interest and are at least 50 years of age, and the physical site, location, or context in which they are found. (36 CFR 261.2).

**Hibernaculum** – (1) A case, covering, or structure in which an organism remains dormant for the winter (2) The shelter of a hibernating animal (plural: hibernacula) (Webster's New 20th Century Dictionary 1983).

**Hoosier** - When used in this document, NFS lands of the Hoosier National Forest or the Forest Service employees who manage the Forest.

**Horizontal Diversity** – The distribution of successional stages, timber size classes, and openings (<http://www.npwrc.usgs.gov/resource/1998/forest/vege.htm>).

**HSI** – See Habitat Suitability Index.

**HUC** – See Hydrologic Unit Code.

**Humus** – Black or brown organic material of complex composition which is the end-product of microbial breakdown of plant and animal residues at the soil surface (Helms 1998).

**Hydric Soils** - A soil that is wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants (Helms 1998).

**Hydrologic Unit Code (HUC)** – (1) A hierarchical classification of hydrologic divides used by most federal agencies. It contains unique two-digit codes which represent each hydrologic unit level of classification. (2) The United States is divided and subdivided into successively smaller hydrologic units which are classified into four basic levels: regions (major river basins); sub-regions, accounting units, and cataloging units (Aquatic Ecological Unit Inventory Technical Guide).

**Hydrology** – The science dealing with the properties, distribution, and circulation of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere (Aquatic Ecological Unit Inventory Technical Guide).

**Impaired Water** – A water designated according to the 303(d) process. These waters usually do not meet water quality standards or the biotic communities have been impacted (<http://www.in.gov/idem/water/planbr/wqs/303d.html>).

**Implementing Regulations** - Regulations generated by an agency to implement an Act of Congress. For example, 36 CFR 219 contains implementing regulations for RPA and NFMA.

**Indicator Species** - See Management Indicator Species.

**Infiltration** - The downward entry of water into the soil to the groundwater system (Helms 1998).

**Input** – The various factors of production, generally land, labor, and capital (Helms 1998).

**Insecticide** – A pesticide employed against insects (Helms 1998).

**Integrated Pest Management (IPM)** - A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed. The information considered in selecting appropriate strategies includes the impact of the unregulated pest population on various resource values, alternative regulatory tactics and strategies, and benefit/cost estimates for these alternative strategies. Regulatory strategies are based on sound silvicultural practices and ecology of the pest-host system and consist of a combination of tactics such as timber stand improvement plus selective use of pesticides. A basic principle in the choice of strategy is that it be ecologically compatible or acceptable (36 CFR 219.3).

**Interdisciplinary Team (ID Team)** - A group of specialists assembled as a cohesive team with frequent interactions to solve a problem or perform a task, note interdisciplinary teams are assembled because commonly, no one scientific discipline is sufficiently broad to adequately analyze a problem or proposed action (Helms 1998).

**Interior Forest Habitat** - High canopy forest conditions suitable to meet the requirements of area sensitive species that are adversely impacted by forest edge, including microclimate change (warmer, windier), increased predation, increased brood parasitism, and increased competition.

**Intermediate treatment** – Any treatment or tending designed to enhance growth, quality, vigor, and composition of the stand after establishment or regeneration and prior to final harvest (Helms 1998).

**Intermittent Stream** – A stream, or portion of a stream, that does not flow year-round but only when it (a) receives base flow solely during wet periods, or (b) receives groundwater discharge or protracted contributions from melting snow or other erratic surface and shallow subsurface sources (Helms 1998).

**Interspersion** – (Referring to plant communities) to scatter here and there among other things; as, to intersperse shrubs among trees (Webster's New 20<sup>th</sup> Century Dictionary 1983).

**Interstitial Space** – Spaces between and beneath substrate particles found on the stream bottom (Waters 1995).

**Intolerant Species** – A plant requiring sunlight and exposure for establishment and growth, note the term is usually applied to light, but may also refer to intolerance to flooding, salt, pollutants, etc. (Helms 1998).

**Invasive Species** – An alien (nonnative) species whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112).

**Invertebrate Drift** – Movement of invertebrates into a downstream section of a stream from an upstream section of a stream (Waters 1995).

**IPM** – See Integrated Pest Management

**Issue (Public)** - A subject or question of widespread public interest relating to management of the National Forest System (36 CFR 219.3).

**Jurisdiction** - See definition for "Road Jurisdiction."

**K-V Funds** - In 1930, Congress passed the Knutson-Vandenberg Act (K-V Act) to authorize collection of funds (K-V Funds) for reforestation and timber stand improvement work, wildlife habitat work, and other resource improvements on areas cut over by timber sales.

**Karst Topography** - The word karst is taken from an area in Yugoslavia, where karst features were first documented. Karst is a terrain, underlain by limestone, in which the topography is chiefly formed by the dissolving of rock, and which is commonly characterized by closed depressions, subterranean drainage, and caves. Features found in karst terrain include rises, swallowholes, sinking streams, blind valleys, karst valleys, gulfs, cave springs, and other karst features.

**Landbase** - A specific area of the earth's surface and all its attributes including water bodies, from which goods, services, and uses can be supplied.

**Landform** The many types of land surfaces which exist as a result of geological activity, such as a plateau, plain, basin, mountain (Schwarz *et al.* 1976).

**Landline** - Property boundaries located between the NFS lands and other lands.

**Land Management Planning** – A formal process of management planning involving four iterative steps: monitoring, assessment, decision-making, and implementation (Helms 1998).

**Land Use** - The purpose for which land is used by humans, e.g., reserved areas, forest products, row-crop agriculture, pasture, and human settlement (Helms 1998).

**Large Woody Debris** – Any large piece of relatively stable woody material, with a diameter greater than 10 centimeters and longer than 1 meter that is found within the stream channel. (Aquatic Ecological Unit Technical Guide).

**Legume** – Any of a large group of plants of the pea family, characterized by true pods enclosing seeds: because of their ability to store up nitrates, legumes are often plowed under to fertilize the soil (Helms 1998).

**Litter** – (1) The uppermost layer of organic debris on the ground under a vegetation cover, i.e., essentially the freshly fallen or only slightly decomposed vegetable material, mainly from foliage but also bark fragments, twigs, flowers, fruits, etc. (Schwarz 1976) (2) Refuse left by forest visitors.

**Log Landing** – A cleared area in the forest to which logs are yarded or skidded for loading onto trucks for transport (Helms 1998).

**Long Range Planning** – (U.S. Forest Service usage) Planning for the period covered by basic resource management plans, usually 10 or more years (Schwarz *et al.* 1976).

**Long-Term Sustained-Yield Timber Capacity (LTSY)** - The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity consistent with multiple-use objectives (36 CFR 219.3).

**LTSY** – See Long-Term Sustained-Yield Timber Capacity above.

**MA** – See Management Area.

**Macropore Spaces** - Soil pores generally greater than .06 mm in diameter which are formed by insects or animal burrows, old root channels, and structural cracks. Macropores characteristically allow the ready movement of air and percolating water (Brady 1974).

**Maintenance Level** - A formally established set of objectives which describe the conditions necessary to achieve the planned operation of a road (FSH 7709.58.10).

**Maintenance Level 1** - This level is assigned to intermittent service roads during the time management direction requires that the road be closed or otherwise blocked to traffic. Basic custodial maintenance is performed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

**Maintenance Level 2** - This level is assigned where management direction requires that the road be open for limited passage of traffic. Roads in this maintenance level are intended for use by high clearance vehicles. Passenger car traffic is not a consideration. Administrative, permitted, other specialized use, or log haul may occur at this level.

**Maintenance Level 3** - This level is assigned where management direction requires the road to be open and maintained for safe travel by a prudent driver in a passenger car.

Traffic volumes are minor to moderate. Use, comfort, and convenience are not considered a priority.

**Maintenance Level 4** - This level is assigned where management direction requires the road to provide a moderate degree of user comfort and convenience at moderate travel speeds.

**Maintenance Level 5** - This level is assigned where management direction requires the road to provide a high degree of user comfort and convenience. (FSH 7707.58.10).

**Management Area (MA)** - An area with similar management objectives and a common management prescription.

**Management Concern** - An issue, problem, or a condition which constrains the range of management practices identified by the Forest Service in the planning process (36 CFR 219.3).

**Management Direction** - A statement of multiple use and other goals and guidance for attaining them (36 CFR 219.3).

**Management Indicator Species (MIS)** - (1) A species whose condition can be used to assess the impacts of management actions on a particular area. (2) A species whose population changes are believed to indicate the effects of management activities, and is monitored to track population numbers and habitat conditions, as a way of monitoring biodiversity.

**Management Intensity** – The management practices or combination of management practices and associated costs designed to obtain different levels of goods and service (36 CFR 219.3).

**Management Practice** - A specific activity, measure, course of action, or treatment (36 CFR 219.3).

**Management Prescription** - Management practices and intensity selected and scheduled for application on a specific area to attain multiple use and other goals and objectives (36 CFR 219.3).

**Market Value (Market Output)** - A price at which both buyers and sellers are willing to do business; the market or current price (Schwarz *et al.* 1976).

**Mast** - (1) Nuts, acorns, and similar products of hardwood species, which are consumed by animals (Schwarz *et al.* 1976). (2) The fruit of trees and shrubs.

**Maternity Roosts** – With respect to the Indiana bat (*Myotis sodalis*), a site used by a colony of pregnant or nursing female bats and their pups as a resting location within the foraging area of the colony. Indiana bats generally have at least one primary roost which is most frequently used throughout the summer, and a number of alternate roosts which may house a portion of the colony throughout the summer, or may be used as conditions within the primary roost vary. The primary roost is typically located in an area fully exposed to the sun. Indiana bats use maternal roosts in order to provide thermal conditions that favor the development of their young (Gardner 1996).

**MBF** - One thousand board feet of timber.

**Mesic** - Environmental conditions that have medium moisture supplies rather than hygric (wet) or xeric (dry) conditions (Schwarz *et al.* 1976).



**Mesophytic** – Concerning plants adapted to grow under medium conditions of moisture (Webster's New 20<sup>th</sup> Century Dictionary Unabridged 1983).

**Mineral Rights** – The ownership of the minerals under a given surface, with the legal right to enter that area and mine and remove them—including the right to use as much of the land surface as may be reasonably necessary for the conduct of mining operations (Schwarz *et al.* 1976).

**MIS** – See Management Indicator Species.

**Mission** - A major, continuing national problem or concern that programs are designed to address. Missions represent the basic reasons for the existence of an organization in a governmental agency and characterize an organization's role in solving problems (Schwarz *et al.* 1976).

**MMBF** - One million board feet of timber.

**Modification** - A visual quality objective in which management activities may dominate the characteristic landscape but at the same time must borrow from naturally established form, line, color, or texture. (USDA 1974).

**Morphology** – Studies of surface forms of the earth, without any reference to the processes responsible for those forms (Schwarz *et al.* 1976).

**Mulch** - Leaves, straw, or other loose material spread on the ground around plants to prevent evapotranspiration of water from soil, freezing of roots, etc (Webster's New 20<sup>th</sup> Century Dictionary Unabridged 1983).

**Multiple-Use** - The management of all the various renewable resources of the National Forest System so that they are utilized in the combination that will best meet the needs of the American people. The most judicious use will be made of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in the use to conform to changing needs and conditions. Some lands will be used for less than all of the resources and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources. This is not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output (36 CFR 219.3).

**Municipal Watershed** - A watershed from which municipal water supplies are derived.

**National Forest System (NFS)** - All national forest lands reserved or withdrawn from the public domain of the United States, all national forest lands acquired through purchase, exchange, donation, or other means; the national grasslands and land utilization projects administered under Title III of the Bankhead-Jones Farm Tenant Act (50 Stat. 525, 7 U.S.C. 1010-1012), and other lands, waters, or interests therein which are administered by the Forest Service or are designated for administration through the Forest Service as a part of the system (15 U.S.C. 1608).

**National Forest Visit** – The entry of one person upon a national forest to participate in recreation activities for an unspecified period of time. A national forest visit can be composed of multiple site visits (USDA FS 2004e).

**National Register of Historic Places** - A listing (maintained by the National Park Service) of areas which have been designated as being of historical significance. The Register includes places of local and state significance as well as those of value to the nation as a whole (Schwarz *et al.* 1976).

**Native Species** – Animals or plants which originated in the area in which they are found—i.e., were not introduced and naturally occur in that area (Schwarz *et al.* 1976).

**NFS** – See National Forest System.

**Neotropical Migrant** – A songbird that overwinters in Central or South America and breeds in North America (Yahner 1995).

**NEPA** - National Environmental Policy Act.

**NFMA** - National Forest Management Act.

**NNIS** – See Nonnative Invasive Species.

**Nonnative Invasive Species (NNIS)** – A plant or animal, including its seeds, eggs, spores, or other biological material that is nonnative to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm (USDA FS 2003).

**Objective** - A concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals (36 CFR 219.3).

**Obligate** – A plant or animal that occurs only in a narrowly defined habitat such as tree cavity, rock cave, or wet meadow ([http://www.or.blm.gov/roseburg/ROD\\_RMP/roseburg/glossary.html](http://www.or.blm.gov/roseburg/ROD_RMP/roseburg/glossary.html)).

**Off-highway Motorcycle (OHM)** - Motorized off-highway vehicles traveling on two wheels. OHM's have a seat or saddle designated to be straddled by the operator and have handlebars for steering control. Motorcycles may be legal for highway use and still considered to be OHM's when used for off-highway operations on trails or across natural terrain (USDA 2003b).

**Off-highway Vehicle (OHV)** – Generally accepted broad term for planning applications when referring to the major types of vehicles used for off-highway motorized recreation (Colorado State University 2002).

**Off-Road Vehicle (ORV)** - Motorized, recreational vehicles capable of cross-country travel on natural terrain, such as 4-wheel drive trucks, and ATV's that have an engine displacement of more than 800 cc and/or width of more than 50 inches (USDA 1991a).

**OHM** - See Off-highway Motorcycle.

**OHV** - See Off-highway Vehicle.

**Old-Growth Forest** - The (usually) late successional stage of forest development; old growth forests are defined in many ways (Helms 1998).

**ORV** – See Off-Road Vehicle.

**Output** - Any result, product, or service that a process or activity actually produces (Schwarz *et al.* 1976).

**Overstory** - That portion of the trees in a forest, with more than one roughly horizontal layer of foliage, which forms the upper or uppermost layer (Schwarz *et al.* 1976).

**Paintball** – (1) A game in which players on one team seek to eliminate those on an opposing team by marking them with a water-soluble dye shot in capsules from air guns. (2) The dye-filled gelatinous capsule shot from guns in this game (American Heritage Dictionary, Fourth Edition, 2000).

**Parent Material (Soils)** - The unconsolidated, chemically weathered mineral or organic matter from which the upper layers of soil develop (Schwarz *et al.* 1976).

**Partial Retention** – A visual quality objective which in general means man's activities may be evident but must remain subordinate to the characteristic landscape. (USDA 1974).

**Percolation** - The downward movement of water through soil, especially the downward flow of water in saturated or nearly saturated soil (Schwarz *et al.* 1976).

**Perennial Stream** - Streams that flow throughout the year and from source to mouth (Schwarz *et al.* 1976). They are shown in solid blue on USGS 7 1/2-minute quadrangle maps.

**Pest** – (1) An organism that is undesirable or detrimental to the interest of humans 2. an organism capable of causing injury or damage Cf. pathogen (Helms 1998). (2) A plant, animal or environmental stress which the land manager determines to be detrimental to achieving resource management objectives.

**Pesticide** - A variety of chemical pest control measures, including insecticides for insects, herbicides for plants, fungicides for fungi, and rodenticides for rodents (Schwarz *et al.* 1976).

**PH** – A measure of the hydrogen ion activity in a solution, expressed on a scale 0 (highly acid to 14 (highly basic) (Schwarz *et al.* 1976). The degree of acidity or alkalinity of a solution [or soil] (Webster's New Twentieth Century Dictionary Unabridged 1983).

**Piscicides** – Chemicals designed to kill fish.

**Plankton** – Small organisms that live in the water column, such as algae, protozoa, bacteria, small crustaceans, and larval forms of aquatic life.

**Phytoplankton** – Plant forms of plankton such as algae.

**Zooplankton** – Animal forms of plankton such as protozoa and crustaceans (Allan 1995).

**Planning Area** - The area of the National Forest System covered by a regional guide or forest plan (36 CFR 219.3).

**Planning Horizon** - The overall time period considered in the planning process that spans all activities covered in the analysis or plan and all future conditions and effects of proposed actions that would influence the planning decisions (36 CFR 219.3).

**Planning Period** - The time interval within the planning horizon that is used to show incremental changes in yields, costs, effects, and benefits (36 CFR 219.3).

**Plantation** – A stand composed primarily of trees established by planting or artificial seeding; a plantation may have tree or understory components that have resulted from natural regeneration (Helms 1998).

**Planting** - The act or operation of setting in the ground for propagation (Webster's New 20th Century Dictionary Unabridged 1983).

**PNV** - See Present Net Value.

**Policy** - A definite course or method of action selected by a governmental agency, institution, group, or individual from among alternatives and, in the light of given conditions, to guide and usually determine present and future decisions (Schwarz *et al.* 1976).

**Pool** – A portion of the stream with reduced current velocity, often with water deeper than the surrounding areas; frequently used by fish for resting and cover (Maxwell *et al.* 1995).

**Precommercial Thinning** – The removal of trees not for immediate financial return but to reduce stocking to concentrate growth on the more desirable trees (Helms 1998).

**Preferred Alternative** – The alternative(s) which the agency believes would best fulfill its statutory mission and responsibilities, giving consideration to environmental, social, economic, and other factors and disclosed in an environmental impact statement (36 CFR 219).

**Prescribed Burn** – To deliberately burn wildland fuels in either their natural or their modified state and under specified environmental conditions, which allows the fire to be confined to a predetermined area and produces the fireline intensity and rate of spread required to attain planned resource management objectives (Helms 1998).

**Present Net Value** - The difference between the discounted value (benefits) of all outputs to which monetary values or established market prices are assigned and the total discounted costs of managing the planning area (36 CFR 219.3).

**Preservation** - A visual quality objective that allows for ecological change only (USDA 1974).

**Primary Productivity** – The process of photosynthesis by plants that results in products such as carbon dioxide and glucose (Allan 1995).

**Primitive** – (1) The term "primitive" is often used synonymously with dispersed or nondeveloped recreation or camping use. Running water, toilets, showers, and other developed facilities are available at only a limited number of areas on the Hoosier National Forest. Most of the Forest can, therefore, provide "primitive" recreation and camping opportunities. (2) A classification in the recreation opportunity spectrum. No areas on the Hoosier can provide Primitive ROS recreation opportunities at present.

**Project** - A site-specific resource management activity or combination of activities designed to accomplish a distinct on-the-ground purpose or result (Fed. Register Vol. 60 No. 71 (1995)).

**Proposed Species** – Any species of fish, wildlife, or plant that is proposed in the Federal Register to be listed under Section 4 of the Endangered Species Act (USFWS Endangered Species Consultation Handbook 1998).

**Pruning** – The removal, close to the branch collar or flush with the stem, of side branches (live or dead) and multiple leaders from a standing tree (Helms 1998).

**Public Involvement** – The use of appropriate procedures for informing the public and in obtaining early and continuing participation in planning and decision making (Helms 1998).

**Public Issue** - A subject or question of widespread public interest relating to management of the National Forest System (36 CFR 219.3).

**Public Participation** – See Public Involvement.

**Public Road** - Any road under the jurisdiction of and maintained by a public road authority that is open to public travel. In the context of this definition, the Forest Service is not a public authority (FSM 7705 and FSH 7709.16).

**Pulpwood** – Roundwood, whole-tree chips, or wood residues that are used for the production of wood pulp (Helms 1998).

**Receipts to Local Governments** - The portion of receipts derived from Forest Service resource management that is distributed to State and county governments such as the Forest Service payments to counties (36 CFR 219.3).

**Recharge** – Groundwater being supplied to an area (Mitsch and Gosselink 1993).

**Record of Decision** – A document signed by a Responsible Official recording a decision that was preceded by preparation of an environmental impact statement (40 CFR 1505.2).

**Recreation Area** - A relatively small, distinctly defined portion of a national forest where concentrated public use for the more traditional recreation purposes predominates, e.g., campgrounds, picnic areas, swimming areas, etc.

**Recreation Opportunity Spectrum (ROS)** - A system of classifying the range of recreational experiences, opportunities, and settings available on a given area of land. Classifications include:

- Primitive (P)
- Semi-primitive, Motorized (SPM)
- Semi-primitive, Nonmotorized (SPNM)
- Roaded Natural (RN)
- Rural (R)
- Urban (U) (USDA 1982).

**Recreation Visitor Day (RVD)**- Presence of a recreational visitor on NFS land for 12 hours or any combination of visitors that equals 12 hours (Manning 1986).

**Recreational River - (Wild and Scenic Rivers Act Usage)** - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past (Wild and Scenic Rivers Act 1968).

**Recruitment** – (1) silviculture regeneration; the additional trees moving from one size class to another (2) wildlife the addition to a population from all causes, i.e., reproduction, immigration, and stocking (Helms 1998).

**Reforestation** – The establishment of forest cover either naturally (by natural seeding, coppice, or root suckers) or artificially (by direct seeding or planting) (Helms 1998).

**Regeneration** – The act of renewing tree cover by establishing young trees naturally or artificially (Helms 1998).

**Regeneration Cut** – Any removal of trees intended to assist regeneration already present or to make regeneration possible (Helms 1998).

**Rehabilitation** - An improved condition achieved by removing existing visual impacts (USDA 1974).

**Removal Cut** – In the shelterwood method of stand regeneration, a removal cut releases established regeneration from competition with the overwood (Helms 1998). (See also "Shelterwood Cut.")

**Research Natural Areas** – A designation (by the Chief of the U.S. Forest Service) that allows unique ecosystems to follow natural processes for scientific purposes (1991 Hoosier Forest Plan).

**Reserved Minerals** (or mineral reservations) – Mineral rights retained by a grantor in a deed conveying land to the United States (FSM 2830.5).

**Retention** - A visual quality objective in which management activities are not evident to the casual forest visitor (USDA 1974).

**Riffle** – A shallow rapids in a stream channel where the water flows swiftly over completely or partly submerged obstructions to produce surface agitation (Maxwell *et al.* 1995).

**Riparian** – Related to, living in, or located in conjunction with a wetland, on the bank of a river or stream but also at the edge of a lake or tidewater (Helms 1998).

**Riparian Areas** - Geographically delineable areas with distinctive resource values and characteristics that are comprised of the aquatic and riparian ecosystems therein (Region 9 Framework for Integrating Watersheds into Forest Plan Revision 2004).

**Riparian Ecosystems** - A transition area between the aquatic ecosystem and the adjacent terrestrial ecosystems identified by soil characteristics or distinctive vegetation communities that require free or unbound water therein (Region 9 Framework for Integrating Watersheds into Forest Plan Revision 2004).

**Rise** - (Resurgence) Point at which an underground stream reaches the surface and becomes a surface stream. (<http://www.speleogenesis.info/glossary/>, 8/25/2004).

**RNA** - See Research Natural Area.

**RNA-equivalent** – An area other than an RNA that can serve as a control or reference area for one or more community types in an ecological unit. To qualify, an area must be...maintained in its natural state with active management which allows for mimicking of natural processes or allows natural disturbance events to proceed without interference (Tyrrell *et al* 2000).

**Road** - A general term denoting a way for purposes of travel by vehicles (either motorized or nonmotorized) greater than 40 inches in width (FSH 7709.16).

**Local Road** - These connect terminal facilities, such as log landings and recreation sites, with forest collector or arterial roads. They are often less than (1)5 miles long and serve a single resource ("National Forest roads for All Uses," p.5). The vast majority of county and Forest Service roads on the Hoosier National Forest would be classified as local roads, but few would serve just one resource.

**Rockshelter** – Rock overhang, niche, and angled cliff faces formed out of outcropping bedrock or an associated boulder which currently provides or could have provided, some protection from the outside elements (Martin and Waters 2000).

**Rotation** – In even-aged management, the period between regeneration establishment and final cutting (Helms 1998).

**ROD** - See Record of Decision.

**ROS** – See Recreation Opportunity Spectrum.

**RPA** - Forest and Rangeland Renewable Resources Planning Act of 1974.

**Runoff** – Rain falling on an irregular surface; the amount of runoff corresponds to the amount of rainfall minus the amount of water entering the ground through infiltration (Leopold 1992).

**RVD** – see Recreation Visitor Day

**Sale Schedule** - The quantity of timber planned for sale by time period, from the area of suitable land covered by a forest plan. The first period, usually a decade, of the selected sale schedule provides the allowable sale quantity. Future periods are shown to establish that long-term sustained yield will be achieved and maintained (36 CFR 219.3).

**Salvage Cutting** – A timber sale for which an important reason for entry includes the removal of disease- or insect-infested trees, dead, damaged, or down trees, or trees affected by fire or imminently susceptible to fire or insect attack. Such term also includes the removal of associated trees or trees lacking the characteristics of a healthy and viable ecosystem for the purpose of ecosystem improvement or rehabilitation, except that any such sale must include an identifiable salvage component of trees described in the first sentence (CSR Report 96-364).

**Sanitation Cutting** – The removal of trees to improve stand health by stopping or reducing the actual or anticipated spread of insects and disease (Helms 1998).

**Sapling** - A usually young tree larger than a seedling but smaller than a pole (Helms 1998).

**Sawtimber** - Trees or logs cut from trees with minimum diameter and length and with stem quality suitable for conversion to lumber (Helms 1998).

**Scarification** - Mechanical removal of competing vegetation or interfering debris, or disturbance of the soil surface, to enhance reforestation (Helms 1998).

**Scenic River (Wild and Scenic Rivers Act Usage)** – Those rivers or sections of rivers that are free of impoundments with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads (Wild and Scenic Rivers Act 1968).

**Scour** – Cutting away of the streambed and banks by high flows (Leopold 1992).

**Sediment** - Solid material, both mineral and organic, that is in suspension and being transported from its site of origin by the forces of air, water, gravity, or ice (Helms 1998).

**Sediment basin** – A basin designed to collect sediment particles that settle out from stream flow or runoff (Cooke *et al.* 1993).

**Sediment Discharge or Yield** – The quantity of sediment transported through a stream cross-section in a given time; sediment discharge is measured in dry weight or by volume and consists of both suspended load and bedload (Helms 1998).

**Seedbed** - In natural regeneration, the soil or forest floor in which seed falls (Helms 1998).

**Seedling** – A tree smaller than a sapling (Webster's New Collegiate Dictionary); as typically used in forest surveys, a size class definition meaning trees less than 1 inch at dbh.

**Sense of Place** – 1. Those things that add up to a feeling that a community is a special place, distinct from anywhere else (National Trust for Historic Preservation) 2. A sense of place results gradually and unconsciously from inhabiting a landscape over time, becoming familiar with its physical properties, accruing history within its confines (<http://envstudies.brown.edu/Thesis/2001/james/senseofplace.html>)

**Sensitive Species** – Plant and animal species designated in the forest plan by the Regional Forester which require special consideration to assure viable populations (Fed. Register Vol 56 No. 32 (1991)).

**Seral Stage** – A temporal and intermediate stage in the process of succession (Helms 1998).

**Shade-intolerant** – Having the capacity to compete for survival under direct sunlight conditions (Helms 1998).

**Shade-tolerant** – Having the capacity to compete for survival under shaded conditions (Helms 1998).

**Shelterwood Cutting** – The cutting of most trees, leaving those needed to produce sufficient shade to produce a new age class in a moderated environment (Helms 1998).



**Silt** – A soil separate having an effective diameter of 0.002 to 0.05 mm (0.00008 to 0.002 inches); a soil textural class defined by soil material that contains 80 percent or more silt and less than 12 percent clay (Helms 1998).

**Silviculture** - The art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands to meet the diverse needs and values of landowners and society on a sustainable basis (Helms 1998).

**Silvicultural System** - A planned series of treatments for tending, harvesting, and re-establishing a stand; the system name is based on the number of age classes (Helms 1998).

**Sink, Sinkhole** – A depression or hole in a low-lying, poorly drained area formed by the dissolution of underlying rock, where waters collect or disappear before sinking down into the ground or by evaporation (Helms 1998).

**Site Index** – A species-specific measure of actual or potential forest productivity (site quality, usually for even-aged stands), expressed in terms of the average height of trees included in a specified stand component at a specified index or base age; site index is used as an indicator of site quality (Helms 1998).

**Site Preparation** – Hand or mechanized manipulation of a site, designed to enhance the success of regeneration (Helms 1998).

**Skidder** – A self-propelled machine, often articulated (hinged) in the center, for dragging trees or logs (Helms 1998).

**Skid Road/Trail** – An access cut through the woods for skidding (Helms 1998).

**Slash** – The residue, e.g., treetops and branches, left on the ground after logging or accumulating as a result of storm, fire, girdling, or delimbing (Helms 1998).

**Snag** – 1. a standing, generally unmerchantable dead tree from which the leaves and most of the branches have fallen 2. a standing section of the stem of a tree, broken off usually below the crown (Helms 1998)

**Soil Fertility** - The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants, when light, moisture, temperature, and tillth and other growth factors are favorable (Soil Science Society of America, Inc. 2001).

**Soil Productivity** – The capability of a soil for producing a specified plant or sequence of plants under specific management (Soil Science Society of America, Inc. 2001).

**Soil Profile** – A vertical section of the soil extending through all its horizons into the C horizon (Soil Science Society of America, Inc. 2001).

**Special Area** – Designated areas which include unique or unusual ecological, botanical, zoological, geological, scenic, historic, prehistoric, and other areas which merit special recognition and management (1991 Forest Plan Amendment).

**Special Use Permits** - An authorization which provides permission, without conveying an interest in land, to occupy and use National Forest System land or facilities for specified purpose, and which is revocable, terminable and non-compensable (USDA 1997).

**Species Diversity** - The variety of species in an area; the richness in a community, ecosystem, or landscape and the relative abundance of these species (Helms 1998).

**Species Viability Evaluation (SVE)** – Process used during the Hoosier’s Plan revision to address the viability of plants and animals in the planning area.

**SPECTRUM** – Modeling software, developed by the USDA-Forest Service, that is designed to help provide decision support for forest plan revision. It enables a user to build linear programming based forest planning models that optimize resource allocation and activity scheduling, over a specified time span, relative to achieving stated management objectives (Greer---Project Record).

**Standards and Guidelines** – Requirements which preclude or impose limitations on resource management activities, generally for the purposes of environmental protection or public safety (Fed. Register Vol. 56 No. 32 (1991)).

**Stand (Stand of Trees)** – A contiguous group of trees sufficiently uniform in age-class classification, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable unit (Helms 1998).

**Stand Density** – 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 (Helms 1998).

**Stand Structure** – The horizontal and vertical distribution of components of a forest stand including the height, diameter, crown layers and stems of trees, shrubs, herbaceous understory, snags, and down woody debris (Helms 1998).

**Streambed** – The bottom of the stream channel (Leopold 1992).

**Substrate** – The mineral or organic material that forms the streambeds; substrate types include sand, gravel, and cobble (Aquatic Ecological Unit Technical Guide).

**Subsurface Rights (Mineral Rights)** - Ownership rights in a parcel of real estate to the water, minerals, gas, oil, and so forth that lie beneath the surface of the property ([www.buyersresource.com/glossary](http://www.buyersresource.com/glossary)).

**Succession** - The gradual replacing of one community of plants by another; the sequence of communities is called a seral stage (Helms 1998).

**Suitability** - The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone (36 CFR 219.3).

**Suitable Timber Lands** – See Suitability.

**Surface Rights** – Ownership rights in a parcel of real estate that are limited to the surface of the property and do not include the air above it or the minerals below the surface (www.fisbos.com/glossary).

**Sustained Yield (or Production)** – The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resource without impairment of the productivity of the land (36 CFR 219.3).

**SVE** – See Species Viability Evaluation

**Swallow Hole, Swallet** - A place where water disappears underground in a limestone region. A swallow hole generally implies water loss in closed depression or blind valley, whereas a swallet may refer to water loss into alluvium at a streambed, even though there is no depression (CIS NO. 30).

**Thinning** – A cultural treatment made to reduce stand density of trees primarily to improve growth, enhance forest health, or recover potential mortality (Helms 1998).

**Threatened Species** - A plant or animal species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (Endangered Species Act of 1973).

**Tilth** – The physical condition of soil as related to its ease of tillage, fitness as a seedbed, and its impedance to seedling emergence and root penetration (Brady 1974).

**Timber Production** - The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use. For planning purposes, the term "timber production" does not include production of fuelwood (36 CFR 219.3).

**Timber Stand Improvement (TSI)** – An intermediate treatment made to improve the composition, structure, condition, health, and growth of even-aged or uneven-aged stands (Helms 1998).

**Tolerance** – Shade tolerance: the relative capacity of a plant to become established and grow beneath overtopping vegetation (SAF Silviculture Working Group 1994).

**Total Maximum Daily Load (TMDL)** – These are developed for 303(d) listed waters for specific water quality parameters that are not meeting water quality standards; specified load amounts of specific parameters are designated so that these 303(d) listed waters can meet water quality standards (IDEM 2004).

**Traffic Service Level** - The measure of the standard of a road or the level of service provided to the user of the road. Detailed description of the four traffic service levels can be found in Forest Service Handbook 7709.56.

**Trail** - A trail primarily on NFS land that is designated and maintained by the Forest Service as an official trail.

**Single Use Trail:** A trail that is designated for use by one user group, generally hikers.

**Multiple Use Trail:** A trail that is designated for use by two or more user groups. On the Hoosier National Forest this is limited to horse riders, mountain bikers, and hikers.

**Special Use Permit Trail:** A trail primarily on NFS land that is designated and maintained under a special use permit. The purpose of a special use permit trail is to provide a legal means for adjacent landowners to access Hoosier National Forest system trails.

**Trail Density and Cumulative Trail Density** - Trail density represents the miles of trail contained in a square mile of land. The cumulative trail density represents a cumulative figure for the total Forest acreage for that management area. The density may be exceeded on any given piece of ground as long as it is not exceeded for that management area overall. These density limits are not intended to be a target for miles of a trail in a management area.

**Trail Plan** - A strategic forest-wide trail plan that identifies existing and proposed trails, special use criteria, and proposed scheduling of projects and supplemental trail standards.

**TSI** – See Timber Stand Improvement.

**Turbidity** – A measure of suspended material within the water column, measured in turbidity units (NTU) (Waters 1995).

**Understory** - The plants of a forest undergrowth; broadly, an underlying layer of low vegetation (Webster's New Collegiate Dictionary); all forest vegetation growing under an overstory (Helms 1998).

**Uneven-aged Management** - The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection (36 CFR 219.3).

**Ungulate** – An animal having hooves (Cooperrider *et al.* 1986)

**Utility Corridor** – See Corridor.

**Vegetative Management** – The forced change of one vegetative condition to another. It can be done with hand tools, mechanical equipment, chemicals, or fire. Usually this is done to improve habitat for plant and animal species, improve forest stand quality, or provide timber products.

**Vegetative Manipulation** – Similar to vegetation management although in the context of this plan, the term is used for activities such as hand pulling of exotics, mowing, limited bushhogging, or trail maintenance activities.

**Viable Population** - A population of plants or animals whose estimated number and distribution of reproductive individuals provides a high likelihood of continued existence, generally throughout its current range (Fed. Register Vol. 56, No. 32 (1991)).

**Visual Management - (terms frequently used)** - (1) Characteristic Landscape/Character Type - A large area of land which has common characteristics of landforms, rock formations, water forms, and vegetative patterns. (2) Edge - The line where an object or area begins or ends; serves as boundaries. (3) Enhancement - A short-term management alternative done with the

express purpose of increasing positive visual variety where little variety now exists. (4) Rehabilitation - A short-term management alternative used to return existing visual impacts in the natural landscape to a desired visual quality (USDA 1974).

**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 characteristic landscape (USDA 1974).

**Visual Resource Management** - The art and science of planning and administering the use of forest lands in such ways that the visual effects maintain or upgrade man's psychological welfare. It is the planning and design of the visual aspects of the multiple-use land management (USDA 1974).

**Warmwater Fish** – A broad classification of non-salmonid fish that are usually suited for water that consistently exceeds 70 degrees F (<http://www.streamnet.org/published/ff/Glossary/glossaryfish.html>).

**Waterhole** – An impoundment constructed or maintained to provide a water source for wildlife during the dry periods of the year.

**Watershed** – (1) A land area that has all the surface drainage within its boundary converging at a single point. (2) Subdivisions within a subbasin. The 5<sup>th</sup> level (10-digit) in the HU hierarchy. (Aquatic Ecological Unit Inventory Technical Guide).

**Water Table** - The upper surface of ground water or that level in the ground where the water is at atmospheric pressure. (Soil Science Society of America, Inc. 2001).

**Wetland** - As defined by Executive Order (E.O.) 11990, those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances do support, an abundance of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions (hydric soils) for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. Wetlands generally are encompassed by the riparian ecosystem.

**Wheelchair** - A device designed solely for use by a person with mobility impairment for locomotion, that is suitable for use in an indoor pedestrian area (Paterson 2002).

**Wilderness** – According to the National Wilderness Preservation Act of 1964, an area of undeveloped, Federally owned land designated by Congress that has the following characteristics: (1) It is affected primarily by the forces of nature, where man is a visitor who does not remain. It may contain ecological, geological, or other features of scientific, education, scenic, or historical value. (2) It possesses outstanding opportunities for solitude or a primitive and unconfined type of recreation. (3) It is an area large enough so that continued use will not change its unspoiled natural condition.

**Wildlife Habitat** – Habitat: the place where an animal or plant naturally or normally lives and develops (SAF Silviculture Working Group 1994).

**Wild River** (Wild and Scenic Rivers Act usage) – Those rivers or section of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and water unpolluted (Wild and Scenic Rivers Act of 1968).