

Glossary

Active Crown Fire: A crown fire in which the entire fuel complex becomes involved, but the crowning phase remains dependent on heat released from the surface fuels for continued spread, also called running and continuous crown fire.

Age Class: A distinct group of trees recognized on the basis of age.

Bark Beetle: An insect that bores through the bark of forest trees to eat the inner bark and lay its eggs.

Best Management Practices (BMPs): “Methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include, but are not limited to, structural and nonstructural controls, operations, and maintenance procedures. BMPs can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters” (EPA Water Quality Standards Regulation, 40 CFR 130.2). A best management practice is also defined as a practice or combination of practices that is determined by the State after problem assessment to be the most effective and practicable means of preventing or reducing the amount of pollution generated by nonpoint sources to the level compatible with water quality goals (FSH 2509.22).

Broadcast Burn: Allowing a prescribed fire to burn over a designated area within well defined boundaries, for reduction of fuel hazard, as a silvicultural treatment, or both.

Canopy Closure: The degree to which the canopy (forest layers above one’s head) blocks the sunlight or obscures the sky. It can only be determined from measurements taken under the canopy as openings in the branches and trees must be accounted for.

Canopy/Crown: The more or less continuous cover of branches and foliage formed collectively by the crowns of adjacent trees.

Catastrophic: A violent or sudden change in a feature of the earth.

Classified Road: Road wholly or partially within or adjacent to National Forest System lands that are determined to be needed for long-term motor vehicle access, including State roads, county roads, privately owned roads, National Forest System roads, and other roads authorized by the Forest Service (36 CFR 212.1, FSM 7705 – Transportation System).

CFR: Code of Federal Regulations.

Conifer: A tree that produces cones, such as a pine, spruce or fir tree.

Consultation: A process required by Section 7 of the Endangered Species Act whereby Federal agencies proposing activities in a listed species habitat confer with the U.S. Fish and Wildlife Service about the impacts of the activity on the species. Consultation may be informal, and thus advisory, or formal, and thus binding.

Critical Habitat: That portion of a wild animal’s habitat that is critical for the continued survival of the species. Under the Endangered Species Act, specific area designated for that species that is essential to survival of the species and which may require special management or protection.

Cultural Resource: The physical remains (artifacts, objects, structures, etc.) of past human activities.

Cumulative Effects: The impact on the environment, which results from incremental impact of the action when added to other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time or space.

DBH (d.b.h.): See Diameter Breast Height

Density (Stand): The number of trees growing in a given area usually expressed in terms of trees per acre.

Diameter Breast Height (d.b.h.): Tree diameter, measured 4.5 feet above ground.

Direct Effect: Effects on the environment that occur at the same time and place as the initial cause or action.

Dispersed Recreation: Refers to recreation use outside of developed recreation sites; scattered, individual outdoor recreation activities. This includes activities such as scenic driving, hiking, bicycling, backpacking, hunting, fishing, snowmobiling, horseback riding, cross-country skiing, and recreation in primitive environments.

Disturbance (Ecosystem): Refers to events (either natural or human caused) that alter the structure, composition, or function of terrestrial or aquatic habitats.

Diversity: The distribution and abundance of different plant and animal communities and species.

Duff: The humus layer of decaying plant material between the surface litter and mineral soil.

Early Seral: A stage of development of an ecosystem from a disturbed, relatively unvegetated state, to a plant community that is up to about 30 years old. Stand structure is seedling and sapling sized.

Ecosystem: A functional unit consisting of all the living organisms in a given area, and all of the non-living physical and chemical factors of their environment, linked together through nutrient cycling and energy flow. An ecosystem can be of any size, but it always functions as a whole unit.

Ecosystem Management: The careful and skillful use of ecological, economic, social, and managerial principles in managing ecosystem integrity and desired conditions, uses, products, and services over the long term.

Effects: Impacts resulting from actions that may have beneficial or detrimental consequences. Effects are ecological (such as the effects on natural resources and on the components, structures, and functions of affected ecosystems), aesthetic, historical, cultural, economic, social, or health, whether direct, indirect, or cumulative.

Endangered Species: A plant or animal that is in danger of extinction throughout all or a significant portion of its range. Endangered species are identified by the Secretary of the Interior in accordance with the Endangered Species Act of 1973.

Endemic: A species whose natural occurrence is confined to a certain region and whose distribution is relatively limited.

End Lining: This method involves winching the log directly out of the steeper or sensitive areas (streamside management zone, wet meadow, riparian area, and so forth) with a cable operated from outside the sensitive area.

Environmental Assessment (EA): EAs were authorized by the National Environmental Policy Act (NEPA) of 1969. They are concise, analytical documents prepared with public participation that determine if an environmental impact statement (EIS) is needed for a particular project or action. If an EA determines an EIS is not needed, the EA becomes the document allowing agency compliance with NEPA requirements.

Environmental Impact Statement (EIS): A document prepared by a Federal agency in which anticipated environmental effects of a planned course of action or development are evaluated. A Federal statute (Section 102 of the National Environmental Policy Act of 1969) requires that such statements be prepared. It is prepared first in draft or review form, and then in final form. An impact statement includes the following points: (1) the environmental impact of the proposed action; (2) any adverse impacts which cannot be avoided by the action; (3) the alternative courses of action; (4) the relationships between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and (5) a description of the irreversible and irretrievable commitment of resources which would occur if the action were accomplished.

Feller-buncher: Feller-bunchers have a shear head that cuts the tree and then loads the tree onto its bunk. The trees are aggregated in a bunch that does not touch the ground.

Fine Fuels: Fast-drying fuels, generally with a comparatively high surface area-to-volume ratio, which are less than 1/4-inch in diameter and have a time lag of 1 hour or less. These fuels readily ignite and are rapidly consumed by fire when dry.

Fire Behavior: How fire reacts to the influences of fuel, weather and topography.

Fire Exclusion: The policy of suppressing all wildland fires in an area.

Fire Frequency: The number of fires occurring within a specified area and time period.

Fire Size or Fire Extent: The size (hectares) of an individual fire, or the statistical distribution of individual fire sizes, or the total area burned by all fires within a specified time period.

Fire Interval: The number of years between successive fires, either within a recurrence interval, specified landscape, or at any single point within the landscape.

Fire Management Plan: A strategic plan that defines a program to manage wildland and prescribed fires and documents implementation strategies for the fire management program in the approved forest land and resource management plan alternative. The fire management plan is supplemented by operational plans, such as preparedness, dispatch, prescribed fire and prevention plans.

Fire Regimes: Refers to the role of fire in an ecosystem. It includes fire frequency, seasonality, intensity, duration and scale (patch size), as well as periodicity or variability.

Fire Return Interval: Number of years between fires at a given location.

Fire Season: The time of year at which fires occur, for example, spring and fall fires, when most plants are semidormant and relatively less vulnerable to fire injury, or summer fires when most plants are metabolically active and relatively more vulnerable to fire injury.

Fire Intensity: The amount of heat energy released during a fire, rarely measured directly, but sometimes inferred indirectly from fire severity.

Fire Severity: A fire's effects on organisms and the physical environment.

Forbs: A plant with a soft, rather than permanent woody stem, that is not a grass or grass-like plant.

Forest Land and Resource Management Plan (FLRMP): A national forest's land and resource management plan, which gathers and coordinates the direction to be followed in the overall management of the forest. Included in the plan are applicable national and regional management directions.

Forest Road: As defined in Title 23, Section 101 of the United States Code (23 U.S.C. 101), any road wholly or partly within, or adjacent to, and serving the National Forest System and which is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources. (FSM 7705 – Transportation System)

Forest Supervisor: The official who is responsible for administering the National Forest System lands in a Forest Service administrative unit, which may consist of one or more national forests.

Forest Transportation System Management: The planning, inventory, analysis, classification, record keeping, scheduling, construction, reconstruction, maintenance, decommissioning, and other operations undertaken to achieve environmentally sound, safe, cost-effective, access for use, protection, administration, and management of National Forest System lands. (FSM 7705 – Transportation System)

Fuel: Combustible material that includes vegetation such as grass, leaves, ground litter, plants, shrubs and trees (see "Surface Fuels"). Includes both living plants; dead, woody vegetative materials; and other vegetative materials which are capable of burning.

Fuel Loadings: The oven dry weight of fuels in a given area, usually expressed in tons per acre. Fuel loadings may be referenced to fuel size or time lag categories; and may include surface fuels or total fuels. The amount of fuel present expressed quantitatively in terms of weight of fuel per unit area.

Fuels Management: Manipulation or reduction of flammable matter for the purpose of reducing the intensity or rate of spread of a fire, while preserving and enhancing environmental quality.

Fuel Model: A set of surface fuel bed characteristics (load and surface area-to-volume ratio by size class, heat content, and depth) organized for input to a fire model. Standard fuel models (Anderson 1982) have been stylized to represent specific fuel conditions.

Fuel Reduction: Manipulation, including combustion or removal of fuels, to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control.

Geographic Information System (GIS): Computer software that provides database and spatial analytic capabilities.

Heritage Resource: Any definite location of past human activity identifiable through field survey, historical documentation, or oral evidence. This includes archeological and architectural sites or structures, and places of traditional cultural or religious importance to specified groups whether or not represented by physical remains.

Hydrologic: Pertaining to the quantity, quality, and timing of water yield.

Homogenous: All of the same or similar kind or nature.

Hydrophobic: Water repellent.

Indirect Effect: Secondary effects which occur in locations other than the initial action or significantly later in time.

Interdisciplinary Team (IDT): A group of individuals with varying areas of specialty assembled to solve a problem or perform a task. The team is assembled out of recognition that no one discipline is sufficiently broad enough to adequately analyze the problem and propose action.

Landscape: An area composed of interacting and interconnected patterns of habitats (ecosystems) that are repeated because of the geology, landform, soils, climate, biota, and human influences throughout the area. Landscape structure is formed by patches (tree stands or sites), connections (corridors and linkages), and the matrix. Landscape function is based on disturbance events, successional development of landscape structure, and flows of energy and nutrients through the structure of the landscape. A landscape is composed of watersheds and smaller ecosystems. It is the building block of biotic provinces and regions.

Late-Seral Stage: A later stage of development of an ecosystem. Forested stands are generally 12 to 20+ inches average d.b.h.

Legacy Tree: A tree established before European settlement of the Kaibab Plateau, which is generally thought to be the year 1880.

Litter: Organic material including grasses, needles, twigs, and leaves on the soil's surface.

Maintenance: The upkeep of the entire forest development transportation facility including surface and shoulders, parking and side areas, structures, and such traffic-control devices as are necessary for its safe and efficient utilization. (36 CFR 212.2(i)).

Maintenance Level: Defines the level of service provided by, and maintenance required for, a specific road, consistent with road management objectives and maintenance criteria. (FSH 7709.58, Sec 12.3 – Transportation System Maintenance Handbook)

Management Action: Any activity undertaken as part of national forest administration.

Mesic: Adapted to an environment having a balanced supply of moisture.

Monitoring: The process of collecting information to evaluate if objectives and anticipated or assumed results of a management plan are being realized, or if implementation is proceeding as planned.

Mosaic: A mix of stand structure and composition caused by disturbance. In the case of wildland fire, the word depicts widely varying fire effects.

National Environmental Policy Act (NEPA) of 1969: An act to declare a National policy which will encourage productive and enjoyable harmony between humans and the environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of humanity, to enrich the understanding of the ecological systems and natural resources important to the Nation, and to establish a Council on Environmental Quality. (The Principal Laws Relating to Forest Service Activities, Agriculture Handbook No. 453, USDA, Forest Service, 359 pp.)

National Forest Management Act (NFMA): A law passed in 1976 requiring the preparation of regional guides and forest plans and regulations to guide that development.

National Forest System: All national forest lands reserved or withdrawn from the public domain of the United States.

Natural Regeneration: Renewal of a tree crop by natural seeding, sprouting, suckering, or layering.

Need: Circumstances in which a thing or course of action is required (reason for action).

Neotropical Migratory Birds: Migratory bird species that nest in North America and winter in Central or South America or in the Caribbean.

Noxious Weed: A legal term applied to plants regulated by Federal and state laws, such as the Secretary of Agriculture or responsible state official. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insect or disease, and being not native or new or not common to the United States.

Off-Road/Off-Highway Vehicle (ORV, OHV): Any vehicle capable of being operated off an established road or trail.

Old-Growth Forest: Stands with trees greater than 32-inch d.b.h, and significant amounts of dead wood and trees with large limbs, cavities and mistletoe brooms.

Overstory: The portion of the trees that form the uppermost canopy layer in a forest of more than one story.

Prescribed Fire: The intentional application of fire to wildland fuels in either their natural or modified state under such conditions as allow the fire to be confined to a predetermined area and at the same time to produce the intensity of heat and rate of spread required to further certain planned objectives (i.e., silviculture, wildlife management, etc.). Any fire ignited by management actions under certain, predetermined conditions to meet specific objectives related to hazardous fuels or habitat improvement. A written, approved prescribed fire plan must exist, and NEPA requirements must be met prior to ignition.

Prescription: Measurable criteria that define conditions under which a prescribed fire may be ignited, guide selection of appropriate management responses, and indicate other required actions. Prescription criteria may include safety, economic, public health, and environmental, geographic, administrative, social, or legal considerations.

Project: An organized effort to achieve an objective, identified by location, activities, outputs, effects, and time period, and responsibilities for execution.

Public Involvement: A Forest Service process designed to broaden the information base upon which agency decisions are made by: (1) informing the public about Forest Service activities, plans and decisions; and (2) encouraging public understanding about and participation in the planning processes leading to final decisionmaking.

Purpose: An intended result, something for which an effort is being made (objective).

Reforestation: The renewal of forest cover by seeding, planting, and natural means.

Regeneration: The process of establishing a new tree crop on previously harvested land. The term also refers to the young crop itself.

Rehabilitation: The activities necessary to repair damage or disturbance caused by wildland fires or the fire suppression activity.

Restoration: In the context of the cohesive strategy, restoration means the return of an ecosystem or habitat toward its original structure, natural complement of species, and natural functions or ecological processes.

Rill Erosion: Erosion that forms many small but conspicuous water channels.

Riparian: A geographic area containing an aquatic ecosystem and the adjacent upland areas that directly affects it. This includes flood plains, woodlands, and all areas within a specified distance from the normal line of high water of a stream channel, or from the shoreline of a standing body of water.

Road Maintenance: The ongoing upkeep of a road necessary to retain or restore the road to the approved road management objective. (FSM 7705 – Transportation System)

Road Reconstruction: Activity that results in a road improvement or road realignment of an existing classified road. (FSM 7700 – Transportation System)

Roadless Area: A national forest area which: (1) is larger than 5,000 acres, or if smaller than 5,000 acres, contiguous to a designated wilderness or primitive area; (2) contains no roads; and (3) has been inventoried by the forest system for possible inclusion in the wilderness preservation system.

Salvage: Harvest of trees that are dead, dying, or deteriorating due to fire, wind, insect or other damage or disease.

Scorch: Brown needles due to proximal heating where foliage did not catch fire.

Scoping Process: Activities in the early stages of preparation of an environmental analysis to determine public opinion, receive comments and suggestions, and determine issues during the environmental analysis process.

Sediment: Solid material, both mineral and organic, that is in suspension, being transported, or has been moved from the site of origin by air, water, gravity, or ice.

Sensitive Species: Species that have appeared in the Federal Register as proposed for classification and are under consideration for official listing as endangered or threatened species, that are on an official state list, or that are recognized by the regional forester as needing special management to prevent their being placed on Federal or state lists.

Seral: A transitory stage in an ecological succession.

Sheet Erosion: The removal of a fairly uniform layer of soil from the land surface by runoff water, without the development of conspicuous water channels.

Silviculture: Generally, the science and art of cultivating (i.e. growing and tending) forest crops based on knowledge of silvics.

Size Class: Intervals of tree diameters used to classify timber. Size class includes seedling/sapling, pole timber, and sawtimber.

Snag: Standing dead tree larger than 6 inches in diameter at breast height.

Soil Wood: Small bits of wood in the soil.

Soil Productivity: The capability of a soil to produce a specific crop such as fiber and forage, under defined levels of management.

Stand: A community of trees or other vegetative growth occupying a specific area, and sufficiently uniform in composition (species), age, spatial arrangement, and conditions as to be distinguishable from the other growth on adjoining lands, so forming a silvicultural or management entity.

Standards and Guidelines: Requirements found in a forest plan which impose limits on natural resource management activities, generally for environmental protection.

Subwatershed: A drainage area of approximately 20,000 acres.

Suppression: The act of extinguishing or confining a fire.

Surface Fuels: Consist of grasses, shrubs, timber litter, and woody material lying on the ground.

Temporary Road: Road authorized by contract, permit, lease, other written authorization, or emergency operation not intended to be a part of the forest transportation system and not necessary for long-term resource management. (36 CFR 212.1, FSM 7705 – Transportation System)

Threatened Species: A plant or animal identified and defined in accordance with the 1973 Endangered Species Act, and published in the Federal Register.

Trail: For purposes of travel by foot, stock, mechanized or motorized trail vehicle (less than 50" in width).

Trailhead: The parking, signing, and other facilities available at the start of a trail.

Trees per acre: The estimated number of tree stems on an acre.

Unclassified Roads: Roads on National Forest System lands that are not managed as part of the forest transportation system, such as unplanned roads, abandoned travelways, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization (36 CFR 212.1, FSM 7705 – Transportation System).

Understory: The portion of vegetation that is underneath the dominate tree canopy.

Vegetation Structural Stage (VSS): A generalized description of forest growth and aging stages based on the majority or plurality of trees in the specific diameter distribution of the stand. Six growth stages are identified in table 95 below. For instance, if the majority of the stems in a stand (based on basal area) were in the 12- to 18-inch diameter class, the stand would be classified as a VSS 4. Stand vegetation dominance (VSS class) can occasionally be misleading. For example, a stand may have a few large trees that provide a high basal area and a great many small seedling/sapling sized trees underneath that contribute little basal area to the ratio. This stand could be categorized at a larger VSS class even though the majority of the trees requiring thinning are in a smaller category. Therefore, this structural classification system should be used as a guide to management over a project or landscape area rather than for individual stands.

Table 95 Vegetative Structural Stages (VSS)

Range of Tree Sizes for Each Growth Stage	VSS 1 Less than 1"	VSS 2 1" to 4.9"	VSS 3 5" to 11.9"	VSS 4 12" to 17.9"	VSS 5 18" to 23.9"	VSS 6 24" over
Tree age or growth stages	Grass/forbs and Shrubs	Seedlings Saplings	Young Forest	Mid-aged Forest	Mature Forest	Old Forest
Basal area per acre for PFAs	0	2 ft ² /ac	12 ft ² /ac	19 ft ² /ac	27 ft ² /ac	30 ft ² /ac
Basal area per acre for FAs	0	1 ft ² /ac	8 ft ² /ac	12 ft ² /ac	20 ft ² /ac	23 ft ² /ac
Recommended Area Distribution (%)	(open area) 10	10	20	20	20	20

Watershed: The drainage basin contributing water, organic matter, dissolved nutrients and sediments to a stream, lake or river.

Wilderness: Federal land retaining its primeval character and influence without permanent improvements or human habitation as defined under the 1964 Wilderness Act. It is protected and managed so as to preserve the natural conditions, which (1) generally appear to have been affected primarily by forces of nature with the imprint of man's activity substantially absent; (2) has outstanding opportunities for solitude or a primitive and confined type of recreation; (3) has at least 5,000 acres, or is of sufficient size to make practical its preservation, enjoyment, and use

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in an unimpaired condition, and (4) may contain features of scientific, educational, scenic, or historical value as well as ecologic and geologic interest.

Wildland Fire Use: The management of naturally ignited wildland fires to accomplish specific resource management objectives in predefined geographic areas.