

GLOSSARY

Acequia: an irrigation ditch or channel, a term commonly used in northern New Mexico.

Adaptive management: a process for implementing policy decisions as an ongoing activity that requires monitoring and adjustment. Adaptive management applies scientific principles and methods to improve resource management incrementally as managers learn from experience and as new scientific findings and social changes demand.

Allopathy: an interaction between plant species in which one species inhibits the establishment or growth of the second species through production of a selectively inhibitory chemical agent.

B.P.: before present.

Biotic community: a group of interacting organisms within a given area. Plant communities are characterized by a distinctive physiognomy or appearance, such as woodland or forest. At a regional scale, the biotic community is called a biome (e.g., the western coniferous forest biome).

Biodiversity: the variety of life and its processes. Biodiversity includes the diversity of landscapes, communities, and populations (genetic variation). Also called biological diversity or biotic diversity.

Biotic integrity: the ability of a community to recover and maintain system processes within historic variability.

Browsing: the consumption by livestock and wildlife of leaves and shoots from woody plants. See grazing.

Catastrophic: a property of non-linear dynamic systems (such as biotic communities) in which what appears to be a small disturbance (introduction of an exotic species) initiates large changes and establishes a new set of stable conditions (see Jameson 1994).

Cienega: a Southwestern, non-forested wetland. Cienegas are dominated by graminoids and may be seasonally dry.

Climax: the state of a biotic community attained when constituent species populations fluctuate rather than exhibit successional replacement and thereby self-perpetuate as long as climatic, edaphic, and biotic conditions continue.

Community of interest: a social group that shares common perspectives, vulnerabilities, and preferences with respect to resource management issues (e.g., hunters, anglers, permittees, and environmentalists).

Community of place: a social group bounded by geographic locality.

DBH: diameter at breast height, a measure of tree diameter determined at the standard height of 4.5 feet.

Dendrochronology: the technique of dating events with use of tree rings.

Disturbance: a discrete event or process which kills or removes vegetation. From an ecological and hierarchical perspective, disturbance is a change in the minimal structure of an ecosystem caused by a factor external to the reference structure (see Pickett et al. 1989).

Dwarf mistletoes: plants of the genus *Arceuthobium* (Viscaceae). Dwarf mistletoes are shrubby, aerial parasites of gymnosperms, distinguished by hydrostatically explosive fruits and sticky seeds.

Ecological approach: a method of natural resource planning and management that provides due consideration for the interrelationships between all species, including humans, and their environment.

Ecological assessment: a process for describing the status of ecosystems, their components, related processes and effects, and associated interactions. An ecological assessment should address social, cultural, and political issues relevant to resource management and use scientifically supportable data.

Ecoregion: a continuous geographic area over which the macroclimate is sufficiently uniform to permit development of similar ecosystems on sites with similar geophysical properties. Ecoregions contain multiple landscapes with different spatial patterns of ecosystems.

Ecosystem: a complex of interacting plants and animals with their physical surroundings. Ecosystems are isolated from each other by boundaries which confine and restrict the movement of energy and matter; for example, an ecosystem could be recognized at a watershed scale by designating an area of common drainage (i.e., topography determines movement of water).

Ecosystem function: the processes through which the constituent living and nonliving elements of ecosystems change and interact. The term ecological function is often used in reference to the role or specific contribution of an entity to system behavior.

Ecosystem management: a concept of natural resources management wherein human activities are considered within the context of economic, ecological, and social interactions within a defined area or region over both the short and long term. Its purpose is to meet human needs while maintaining the health, diversity, and productivity of ecosystems.

Ecosystem restoration: actions taken to modify an ecosystem for the purpose of re-establishing and maintaining desired ecological structures and processes.

Ecosystem structure: the physical elements and spatial arrangement of the living and nonliving elements within an ecosystem.

Ecosystem sustainability: the capacity of an ecosystem for long-term maintenance of ecological processes and functions, biological diversity, and productivity. Also called ecological sustainability.

Endangered species: any species that is in danger of extinction throughout all or a significant portion of its range.

Exotic species: a non-native or non-indigenous species, usually introduced as the result of human activities.

Fire hazard: the fuel complex defined by kind, arrangement, volume, condition, and location that form a special threat of ignition or suppression difficulty.

Forage: food for livestock and wildlife, especially taken by browsing or grazing.

Forb: an herbaceous plant other than a graminoid.

Forest health: a condition wherein a forest has the capacity across the landscape for renewal, for recovery from a wide range of disturbances, and for retention of its ecological resiliency, while meeting current and future needs of people for desired levels of values, uses, products, and services.

Forest: in general, an area or biotic community dominated by trees of any size (usually, at least 10 percent of the area is covered by trees). If distinction is made to woodlands, forests are composed of taller, more closely-spaced trees.

Fragmentation: a process by which large, contiguous blocks of habitat are broken into smaller patches isolated from each other by a landscape matrix dissimilar to the original habitat.

Fuels: the organic materials that support ignition and spread of a fire (duff, litter, grass, weeds, forbs, brush, trees, snags, and logs).

Fuel treatment: the re-arrangement or disposal of fuels to reduce the fire hazard.

Fuelwood: the round, split, or sawed wood of general refuse material, which is cut into short lengths for burning as fuel.

GIS: geographic information system, a computer-assisted method for organizing, analyzing, and displaying spatial data.

Graminoid: a grass or grass-like plant.

Grazing: the consumption by livestock and wildlife of range or pasture forage. Although strictly grazing refers to consumption of forbs and graminoids, it is often used in a general sense to include both grazing and browsing.

Habitat: the natural environment of a plant or animal; the locality where an organism may generally be found and where the essentials of its survival and reproduction are present. Habitats are typically described by geographic boundary, biotic community, or various physical characteristics.

Habitat type: the collective term for all land areas potentially capable of supporting the same climax, biotic community.

Healthy ecosystem: an ecosystem in which structure and functions allow the desired maintenance over time of biological diversity, biotic integrity, and ecological processes.

Hierarchical: a description of ecosystems referring to their nested and scale-dependent organization. See Allen and Hoekstra (1992).

High-grading: a harvesting practice in which the most valuable trees are removed with little provision for regeneration or subsequent entries.

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Historic variability: the variation in spatial, structural, compositional, and temporal characteristics of ecosystem elements during a reference period prior to intensive resource use and management. In the Southwest, this reference period is typically considered the recent climatic and ecological era before the Territorial period (resource use and management by native and Hispanic cultures are integrated with other ecological process).

Homeostasis: the maintenance of a steady state by use of feedback control processes. In homeostatic systems, a change outside the normal range is seen as a decline in the health of that system.

Human dimension: an integral component of ecosystem management that recognizes people are part of ecosystems; that people's pursuits of past, present, and future desires, needs, and values (including perceptions, beliefs, attitudes, and behaviors) have and will continue to influence ecosystems; and that ecosystem management must include consideration of the physical, emotional, mental, spiritual, social, cultural, and economic well-being of people and communities.

Indicator: a quantitative or qualitative variable which can be measured or described and which when observed periodically demonstrates trends. Ecosystem indicators track the magnitude of stress, habitat characteristics, exposure to the stressor, or ecological response to exposure.

K-V Act: Knutson-Vandenberg Act of 1930 which established a funding mechanism for wildlife and fisheries, timber, soil, air, and watershed restoration and enhancement projects. Projects are restricted to timber sale areas and are funded from receipts generated on those areas.

Landscape: a heterogeneous area composed of a cluster of interacting ecosystems that are repeated in similar form throughout the area. Forest landscapes of the Southwest usually range from hundreds to thousands of acres and are the result of geologic, edaphic, climatic, biotic, and human influences.

Life zone: a broad class of vegetation and climatic condition based on temperature and precipitation. Merriam's (1898) life zones in the Southwest include the Hudsonian, Canadian, and Transitional (from cool wet to warm dry; terms are nominal rather than specifically geographic).

Malpais: a Southwestern term for rough country underlain by basaltic lava.

Management scenario: a description of future conditions expected to result from the general implementation of a broad resource management strategy. Management scenarios are developed to explore the biological and social implications, tradeoffs, and uncertainties of ecosystem management rather than present a range of options for site specific adoption (management alternatives).

Monitoring: the component of adaptive management in which information is collected to track system behavior and its response to management.

NEPA: National Environmental Protection Act.

Nonstocked: a site condition in which the area is less than 10 percent stocked with live trees.

Noxious weed: a plant species that possesses one or more of the following attributes – aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insect or disease and being native or new to or not common to the United States or parts thereof.

OHV: off-highway vehicle.

Old growth: a late stage of forest succession. Although the specific characteristics of old-growth stands vary with species composition and history, some commonly expected attributes in mesic forests on productive sites include—an abundance of large trees at least 180 to 200 years old; a multi-layered, multi-species canopy dominated by large overstory trees with moderate to high closure; numerous trees with broken tops, snags, and large logs.

Paleobotany: the study of lake sediments, pollens, and microfossils to determine ancient climate and vegetation.

Phreatophyte: a deep rooted plant that obtains its water from the water table.

Prescribed fire (or burning): the intentional burning of forest fuels under conditions specified in an approved plan to meet management objectives and confined to a predetermined area; ignition may be either the result of a scheduled management activity or from other sources (e.g., lightning).

Province: an ecological unit at the regional scale of assessment controlled mainly by continental weather patterns.

Resilience: the ability of an ecosystem to maintain or restore biodiversity, biotic integrity, and ecological structure and processes following disturbance.

Riparian ecosystem: a transitional ecosystem located between aquatic (usually riverine) and terrestrial (upland) environments. Riparian ecosystems are identified by distinctive soil characteristics and vegetation communities that require free water.

Rhizomorph: a highly differentiated, fully autotrophic, apically growing aggregation of hyphae produced by a few fungal species. Rhizomorphs of *Armillaria* resemble black "shoestrings" and function in extension of the fungus to new substrate.

Ruderal: plant species adapted to sites with recent disturbance. Some characteristics of ruderal species are – a potentially high relative growth rate during the seedling phase, early onset of flowering, self-pollination, rapid maturation and release of seeds, and sustained seed production at expense of ability for competition and tolerance to stress.

RVD: recreation visitor day. A recreation visitor day is use of a site or area for 12 visitor-hours, aggregated as 1 person for 12 hours, 12 persons for 1 hour, or any equivalent combination of continuous or intermittent use.

Salvage harvest: removal of dead and dying trees resulting from insect and disease epidemics or wildfire.

Sapling: a tree 1 to 4.9 inches DBH.

Scale: the degree of resolution from a spatial or temporal perspective at which ecological processes, structures, and changes across space and time are observed and measured.

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

Seedling: a tree less than one inch DBH.

Sensitive species: those plant and animal species identified by a Regional Forester for which population viability is a concern as evidenced by: (a) significant current or predicted downward trends in population numbers or density; or (b) significant current or predicted downward trend in habitat capability that would reduce a species' existing distribution.

Sere: a transitional stage in plant succession. Environmental conditions, species, or biotic communities may be described as **seral** in contrast to climax.

Slash: debris such as logs, bark, branches, and stumps left after logging, pruning, thinning, brush cutting, or windstorms.

Snag: a standing dead tree from which the leaves and fine branches have fallen.

Soil productivity: the capacity of a soil, in its normal environment, to produce a specific plant or sequence of plants under a specific system of management.

Stability: a condition whereby system variables return to equilibrium after being disturbed. Stability within ecosystems results from various population feedback mechanisms and integration of disturbances at larger spatial scales (see DeAngelis and Waterhouse 1987).

Stand: a biotic community, particularly of trees, possessing sufficient uniformity of composition, age, and spatial arrangement to be distinguishable from adjacent communities. Stand structure refers to the composition, age, and arrangement of the trees in a delimited biotic community.

Stand density index: a relative measure of competition in a forest stand based on number of trees per unit area and average tree size.

Stewardship: caring for land and associated resources and maintaining healthy ecosystems for future generations.

Succession: the ecological process of sequential replacement by plant communities on a given site as a result of differential reproduction and competition.

Sustained yield: the perpetual output of a renewable resource, achieved and maintained at a given management intensity, without impairment of the productivity of the land.

TES: threatened, endangered, or sensitive species. Also, Terrestrial Ecosystem Survey.

Thinning: the silvicultural practice of removing selected trees in a stand to reduce competition for light, water, and nutrients and thereby promote the growth and survival of remaining trees.

Threatened species: any species that is likely to become an endangered species with the foreseeable future through all or a significant portion of its range.

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Watershed: an area of land with a characteristic drainage network that contributes surface or ground water to flow at a designated location; a drainage basin or a major subdivision of a drainage basin.

Woodland: an area or biotic community dominated by widely-spaced trees of short stature growing on warm, dry sites. In the Southwest, common woodland species are oak, pinyon, and juniper; these woodlands usually occur below 8,000 feet elevation.

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