

## *Appendix A --- Glossary*

**Accelerated erosion:** Soil loss above natural levels resulting directly from human activities. Due to the slow rate of soil formation, accelerated erosion can lead to a permanent reduction in plant productivity.

**Actual Use:** The Head Months actually grazed on a National Forest.

**Adaptive Management:** Adaptive management is a structured process of “learning by doing”. The intent is to learn more from doing something and monitoring what we do than from collecting more generic data. The approach is like an experiment. Users analyze available information, decide, act, monitor their actions and, finally, evaluate the results. It provides the means to accommodate an imperfect knowledge of natural systems and changing conditions, through a dynamic, iterative process of planning, implementation, monitoring, and evaluation of outcomes, to adjust management strategies to meet ecosystem objectives.

**Administrative Site:** All Forest Service-owned and -occupied buildings, building equipment, or space used by the unit.

**Affected environment:** The natural, physical and human-related environment that would be sensitive to changes from implementation of the alternatives.

**Allotment:** Rangeland and /or forestland area designated for the use of a prescribed number and kind of livestock under a specific plan of management

**Allotment Management Plan (AMP):** A long-term operating plan for a grazing allotment document prepared in consultation with the permittees involved that specifies the program of action for implementation of the forest plan as related to livestock grazing activities. Each allotment on National Forest System lands is required to have an Allotment Management Plan.

**Allowable Use:** The degree of utilization considered desirable and attainable on various parts of a ranch or allotment considering the present nature and condition of the resource, management objectives and level of management. The degree of use estimated to be proper until proper use is known. A baseline utilization percentage established in a Forest Plan.

**Alluvial Terraces:** Flat elevated benches composed of unconsolidated alluvium found either side of a stream channel. Formed when a stream down cuts into its floodplain.

**Alluvium:** Sediment that originates from a stream.

**Alternative:** A mix of management prescriptions applied to specific land areas to achieve a set of goals and objectives. Each alternative represents a different way of achieving a set of similar management objectives.

**Analysis area:** One or more capability areas combined for the purpose of analysis in formulating alternatives and estimating various impacts and effects.

**Anchor ice:** Ice formed below the surface of a body of water that attaches either to a submerged object or to the bottom. Also called bottom ice, ground ice.

**Animal Unit:** Considered to be one mature cow of approximately 1,000 pounds, either dry or with calf up to six months of age, or their equivalent, based on a standardized amount of forage consumed (26 lbs/day).

**Animal Unit Month (AUM):** The amount of feed or forage required by an animal unit for one month.

**Annual operating instructions (AOI):** A set of instructions developed by the US Forest Service and given to the Grazing Permittee on an annual basis, that explains the specific pastures to be used, and adjustments to the Allotment Management Plan for the current year.

**Apparent Trend:** An interpretation of trend based on observation and professional judgment at a single point in time (see Trend).

**Aquatic habitats:** Habitats confined to streams, rivers, springs, lakes, ponds, reservoirs, and other water bodies.

**Aquatic resources:** Plants and animals that live within or are entirely dependent upon water to live; living resources of aquatic habitats (fish, invertebrates, amphibians); aquatic species.

**Aquifer:** A water-bearing bed or layer of permeable rock, sand, or gravel capable of yielding large amounts of water.

**Aquifer Recharge Area:** Surface area that provides water for an aquifer.

**Aquifer Storage:** The ability of the aquifer to store water in interconnected pores and fractures. Aquifer storage is quantified by a values referred to as storativity and specific yield.

**Area of Critical Environmental Concern (ACEC)** -an area where special management attention is required to protect and prevent irreparable damage to important historic, cultural, scientific, wildlife or scenic values.

**Areal extent:** Of or pertaining to an area and the range to which it extends; a measure of the geographic coverage of the sampling area; the physical space covered.

**Authorized Officer:** Any person authorized by the Secretary of the Agriculture to administer the rangeland management program on National Forest System lands.

**Available Forage:** That portion of the forage production that is accessible for use by a specified kind or class of grazing animal.

**Available Soil Moisture:** Water in the soil that is accessible to plants for growth and development.

**Bankfull:** A specific location on a streambank that corresponds to the water level with a recurrence interval of two years or less. Bankfull discharge largely controls the form of the watercourse. It is at this discharge level that stream waters just begin to flow over the banks and into the floodplain.

**Bank alteration:** Recent (1 or 2 years) physical alteration of the bank by livestock trampling. It is measured from the low water line to the top of the bank. Hoof prints or vertical bank shear that break the soil surface, exposing plant roots or soil to air or water, constitute measurable impact if it causes bank instability or retards bank recovery. Alteration from the previous season still constitutes measurable impact if it meets this same definition. Previous hoof prints and vertical bank shear are not expected to be obvious into a third season due to freeze/thaw cycles, rain events, erosion by streamflow or vegetative regrowth. Simple impressions on heavy herbaceous ground cover do not constitute a measurable impact. Nearly all hoof prints or vertical bank shear that significantly break the soil surface and expose plant roots or soil to air or water will cause bank instability or retard bank recovery, or both. The overriding concept behind the measure is making sure that the integrity of the streambank remains.

**Bare Ground:** All soil surface not covered by vegetation, rock or litter. The combination of bare soil and erosion pavement.

**Bare Soil:** Soil particles less than 1/8" in diameter.

**Basal Area:** Cross sectional area of the stem or stems of a plant or of all plants in a stand. Herbaceous and small woody plants are measured at or near the ground level; larger woody plants are measured at breast or other designated height. (synonym - basal cover)

**Bed Load:** Portion of the stream load that is carried along the stream bed without being permanently suspended in the flowing water.

**Bedrock:** Rock at or near (beneath soil and regolith) the Earth's surface that is solid and relatively unweathered.

**Benchmark:** A permanent reference point, in range monitoring on representative ecological types that reflect the results of management actions in the shortest timeframes: it is used as a point where changes in vegetation through time are measured. It is representative of the suitable rangeland and is an area that will be sensitive to changes in livestock management and/or wildlife management. A realistic evaluation of range condition relies on selecting a benchmark that genuinely reflects potential site productivity. For example, sites of inherently low potential will always be categorized in 'poor' condition if inadvertently compared to a benchmark of intrinsically higher potential, even when there is no capacity to improve.

**Beneficial uses:** Different ways in which natural waters are used by humans and nature. Human uses include drinking water, bathing, recreation, agricultural, and industrial water supplies. Natural uses include growth and propagation of fish and associated aquatic life, wildlife, and furbearers.

**Benefit/cost ratio (B/C ratio):** The total discounted benefits of an activity divided by the total discounted costs.

**Bentonite:** A natural clay deposit, which has high swelling capabilities when saturated; used to seal earthen stock ponds.

**Best management practices (BMP):** A practice or combination of practices that are the most effective and practical means of achieving resource protection objectives (primarily water quality protection) during resource management activities.

**Big game:** Those species of large mammals normally managed as a sport hunting resources.

**Biological assessment:** An assessment or study required by the Endangered Species Act of 1973 to determine the potential effects of a proposed management action on threatened and endangered species or their habitats. The U.S. Fish and Wildlife Service review Biological Assessments and requests that all threatened, endangered, proposed threatened or endangered, and Category 1 "candidate species be addressed.

**Biological diversity (biodiversity):** The full range of variability within and among living organisms and the ecological complexes in which they occur. Biological diversity encompasses ecosystem or community diversity, species diversity, and genetic diversity.

**Biological evaluation:** The legal record of finding for U.S. Forest Service Region One sensitive species.

**Biomass:** The total amount of living plants and animals above and below ground in an area at a given time.

**Biotic communities:** The assemblage of native and exotic plants and animals associated with a particular site or landscape, including microorganisms, fungi, algae, vascular and herbaceous plants, invertebrates, and vertebrates. These assemblages and their biotic and abiotic relationships serve landscape and watershed functions by promoting soil properties supporting water infiltration and storage, energy and nutrient fixation, recycling and transfer, species survival, and sustainable population dynamics.

**Biotic Condition Index (BCI):** The BCI is an index that measures the macroinvertebrate community of a stream against its own potential. It is based on the tolerance of different species to different environmental factors. A low BCI indicates lower water quality and a macroinvertebrate community that is not as healthy as its potential.

**Biotic Potential:** Maximum rate that a population of a given species can increase in size (number of individuals) when there are no limits on growth rate.

**Bonneville CTT Population:** A geographically, genetically or ecologically distinct group of fish that regularly and freely intermix resulting in successful reproduction and recruitment of young fish to new generations.

**Braided Stream:** Shallow stream channel that is subdivided into a number of continually shifting smaller channels that are separated by bar deposits.

**Browse:** Leaf and twig growth of shrubs, woody vines, and trees available for use by animals. Also, to search for or consume browse.

**Candidate Species:** Any species of fish, wildlife, or plant considered for possible addition to the list of endangered and threatened species. These are taxa for which the NOAA Fisheries or USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposal to list, but issuance of a proposed rule is currently precluded by higher priority listing actions.

**Canopy Cover:** The percentage of ground covered by a vertical projection of the outermost perimeter of the natural spread by foliage of plants. Canopy cover is measured along a line intercept transect. Small openings within the canopy are included. The sum of canopy cover of several species may exceed 100 percent. (syn. Crown Cover).

**Carrying Capacity:** The average number of livestock and/or wildlife which may be sustained on a management unit compatible with management objectives for the unit without damaging vegetation or related resources. In addition to site characteristics, it is a function of management goals and management intensity. Carrying capacity may vary from year to year on the same area due to fluctuating forage production.

**Cavity nesters:** Birds that are cavity nesters place their nest in a hole within a live or dead tree or other structure.

**Chaining:** The use of a large ship-anchor chain pulled between two large crawler tractors to pull down or uproot brush.

**Class II Fishery Stream:** These are of great importance for fishing. They are productive streams with high esthetic value. Fishing and other recreational uses should be the primary consideration. They are moderate to large in size and may have some human development along them.

**Class of Livestock:** Description of age or sex group for a particular kind of livestock, such as cow, bull, calf, yearling, ewe, ram or lamb.

**Climax Community:** The final or stable biotic community in a successional series; it is self-perpetuating and in equilibrium with the physical habitat. The assumed end point in secondary succession. Determined primarily by climate but also influenced by soil, topographic, vegetative, fire and animal factors.

**Colonization:** Movement of individuals or propagules of a species to a new territory.

**Commensurability:** Capacity of a grazing permittee's base ranch property to support permitted livestock during the period such livestock are off public land.

**Community:** A general term for an assemblage of plants and/or animals living together and interacting among themselves in a specific location.

**Community Type:** An aggregation of all plant communities with similar structure and floristic composition.

**Competition:** The interaction between organisms as a result of the removal of a common required resource from the environment. Resources may include water, nutrients, light, oxygen, carbon dioxide, food, and shelter.

**Composition.** The proportions of various plant taxa in relation to the total on a given area. It may be expressed in terms of cover, density, or weight. (syn. Species Composition).

**Conservation Agreement:** A voluntary agreement between USFWS and other Federal or non-Federal landowners that identifies specific conservation measures that the participants of the agreement will undertake to 1) bring any endangered species or threatened species to the point at which the measures provided under the ESA are no longer necessary. or 2) conserve species covered by the agreement, none of which are listed under the Endangered Species Act, with the intention of preventing any need to list the species.

**Conservation Threshold.** A transitional boundary where a rangeland attribute is at risk of losing basic functionality defined by a decrease in soil protection that could cause an increase in soil erosion, and a loss of site vegetative (species and/or canopy cover) sustainability. Crossing this threshold could result in a new ecological state.

**Continuous Grazing:** Grazing an area without rest periods or rotation.

**Cool-Season Plant:** A plant which generally makes the major portion of its growth during the winter and spring and sets seed in the late spring or early summer.

**Cover, Percentage:** The area covered by the combined aerial or basal parts of plants and mulch expressed as a percent of the total area

**Cover, Total:** Percentage of ground area covered by aerial parts of live plants, litter, gravel and rocks.

**Cover, Total Vegetative:** Percentage of ground area covered by live aerial parts of plants.

**Cow-Calf Operation:** A livestock operation in which a base breeding herd of mother cows and bulls is maintained. The cows produce a calf crop each year, and the operation keeps some heifer calves from each calf crop for breeding herd replacements. The rest of the calf crop is sold between the ages of 6 and 12 months along with old or nonproductive cows and bulls.

**Critical Area:** A portion of rangeland which has a critical issue related to it, such as a threatened or endangered or sensitive species, a high use recreation area, a key wildlife habitat, or a water quality limited reach. The area serves as a monitoring and evaluation site for the critical issue.

**Critical Deer Winter Range:** That part of the overall range where 90 percent of the individuals are located during the average five winters out of ten from the first heavy snowfall to spring green-up, or during a site-specific period of winter. A subset of this definition would include a "severe winter range" definition to include areas within the winter range where 90% of the individuals are located when annual snow pack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten.

**Critical Value Habitat:** As defined under the Endangered Species Act, Critical Habitat is the area determined necessary for a listed species to make a successful recovery. Within the geographical area constituting critical habitat are the physical or biological features essential for the conservation of a species.

**Cultural Resource Site:** Archaeological and cultural sites are places of prehistoric and historic human activity including aboriginal mounds, forts, buildings, earth works, village locations, burial grounds, ruins, caves, petroglyphs, pictographs, or other locations which are the source of prehistoric cultural features and specimens.

**Cumulative effect:** The impact on the environment resulting from the incremental impact of the action added to other past, present or future actions. They can also result from individually minor but collectively significant actions taking place over a period of time.

**Deciding officer:** The Forest Service official who has the authority to select and/or carry out a specific planning action.

**Decreaser:** Plant species of the original or climax vegetation that will decrease in relative amount with continued overuse.

**Deferment:** Delay of livestock grazing on an area for an adequate period of time, to provide for plant reproduction, establishment of new plants, or the restoration of vigor in existing plants. Generally defined as delay of grazing until the seed of the key forage species is mature.

**Deferred Grazing:** The use of deferment in grazing management of a management unit.

**Deferred-Rotation:** Any grazing system that provides for a systematic rotation of deferment among pastures. Moving grazing animals to various parts of a range in succeeding years or seasons to provide for seed production, plant vigor, and for seedling growth.

**Density:** The number of individuals per unit area. It is not a measure of cover.

**Depauperate:** Impoverished, small.

**Design Features.** Actions intended to reduce or prevent undesirable effects to rangeland resources by livestock grazing and/or provide for the progression of existing conditions toward desired conditions.

**Desirable Plant Species:** These are defined as species and percentage occurrence of the species common to pristine plant communities. They are usually good forage plants and generally are first to show adverse effects of excessive grazing use. The species are generally good soil binders, especially in natural mixtures of desirable species.

**Desired Condition:** The future condition of rangeland resources on a landscape scale that meet management objectives. Desired condition is based on ecological (such as desired plant community) social, and economic considerations during the land and resource management planning process. First and most important in reaching a desired future condition is to define what is achievable. Achievable means that the site can grow the desired vegetation. Desired condition is usually expressed as ecological status or management status of vegetation (species composition, habitat diversity, age and size classes of species) and desired soil qualities (conditions of soil cover, erosion, compaction, loss of soil productivity).

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

**Disclimax:** A community of woody and herbaceous species, different from that which would be expected under prevailing climatic, edaphic, and topographic conditions. Disclimax vegetation develops after human intervention or natural catastrophic events.

**Desired future condition:** The future condition of rangeland resources on a landscape scale that meet management objectives. Desired future condition is based on ecological (such as desired plant community) social, and economic considerations during the land and resource management planning process. Desired future condition is usually expressed as ecological status or management status of vegetation (species composition, habitat diversity, age and size classes of species) and desired soil qualities (conditions of soil cover, erosion, compaction, loss of soil productivity)

**Desired Plant Community:** The plant community that has been determined through a land use or management plan to best meet the plan's objectives for a site. A real, documented plant community that embodies the resource attributes needed for the present or potential use of an area, the desired plant community is consistent with the site's capability to produce the required resource attributes through natural succession, management intervention, or a combination of both.

**Desirable Plant Species:** These are defined as species and percentage occurrence of the species common to pristine plant communities. They are usually good forage plants and generally are first to show adverse effects of excessive grazing use. The species are generally good soil binders, especially in natural mixtures of desirable species.

**Desired Future Condition:** The composition and structural characteristics of soil and plants on a site or an ecological unit, which meets forest plan or other management objectives.

**Direct effects:** Effects on the environment which occur at the same time and place as the initial cause or action.

**Diversity:** The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan (National Forest Management Act Planning Regulation).

**Dominant:** Plant species or species groups, which by means of their number, coverage, or size, have considerable influence or control upon the conditions of existence of associated species. Also, those individual animals which, by their aggressive behavior or otherwise, determine the behavior of one or more animals resulting in the establishment of a social hierarchy. always less than canopy cover.

**Drought:** An extended period of below normal precipitation which causes damage to crops and rangelands; diminishes natural stream flow; depletes soil and subsoil moisture; and because of these effects, causes social, environmental, and economic impacts. To further define drought in quantitative terms that can be used to trigger the onset of drought, the use of the Society for Range Management's definition is recommended: "Prolonged dry weather when precipitation is less than 75% of the average amount"

**Dry Meadow:** A meadow dominated by grasses, which become moderately dry by midsummer.

**Early successional communities:** The plant community that develops immediately following the removal or destruction of the existing vegetation in an area. For instance, grasses may be the first plants to grow in an area that was burned.

**Ecological Diversity:** The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan (National Forest Management Act Planning Regulation).

**Ecological Reference Area.** An ecological reference area (ERA) is a landscape unit in which ecological processes are functioning within a normal range of variability and the plant community has adequate resistance to and resilience from most disturbances. An ERA is the visual representation of the characteristics and variability of the components found in the ecological site description. These areas do not need to be pristine, historically unused lands (e.g., climax plant communities or relict areas).

**Ecological Site:** A kind of land with a specific potential natural community and specific physical site characteristics, differing from other kinds of land in its ability to produce vegetation and to respond to management.

**Ecological Status:** The present state of vegetation of an ecological site in relation to the potential natural community for the site. Vegetation status is the expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble that of the potential natural community. Described in ecological terms, which are early seral, mid seral, and late seral.

**Ecological succession:** An ecosystem's gradual evolution to a stable state. If, through the ability of its populations and elements, an ecosystem can absorb changes, it tends to persist and become stable through time.

**Economic multipliers:** Multipliers capture the size of the secondary effects in a given region, generally as a ratio of the total change in economic activity in the region relative to the direct change. Multipliers may be expressed as ratios of sales, income or employment, or as ratios of total income or employment changes relative to direct sales. Multipliers express the degree of interdependency between sectors in a region's economy and therefore vary considerably across regions and sectors.

**Ecosystem:** Organisms together with their abiotic environment, forming an interacting system, inhabiting an identifiable space.

**Ecosystem management:** The use of an ecological approach that blends social, physical, economic, and biological needs and values to assure productive, healthy ecosystems. A process of land and resource management that emphasizes the care and stewardship of an area to ensure that human activities will be carded out to protect natural processes, natural biodiversity, and ecological integrity.

**Effects:** The results expected to be achieved from implementation of actions relative to physical, biological, and social (cultural and economic) factors resulting from the achievement of outputs. Examples of effects are tons of sediment, pounds of forage, person-years or employment, and income. There are direct effects, indirect effects, and cumulative effects.

**Endangered species:** Any animal or plant species in danger of extinction throughout all or a significant portion of its range as designated by the U.S. Fish and Wildlife Service under provisions of the Endangered Species Act.

**Endemic:** Present in a community at all times but in relatively low frequency. Something that is endemic is typically restricted or peculiar to a locality or region.

**Entrenchment:** The degree by which floodwaters are able to access floodplains. Highly entrenched channels have a low ability to access a floodplain. Expressed as a ratio of the average flood prone width divided by the average bankfull width: the higher the ratio, the greater the floodplain access.

**Environment:** The aggregate of physical, biological, economic, and social factors affecting organisms in an area.

**Environmental Analysis:** An analysis of alternative actions and their predictable long and short-term environmental effects. Environmental analyses include physical, biological, economic, social, and environmental design factors and their interrelations.

**Environmental Assessment (EA):** A concise public document for which a federal agency is responsible. An EA serves (1) to briefly provide enough evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact; and to aid an agency's compliance with the National Environmental Policy Act when no EIS is needed; and (3) to facilitate preparation of an EIS when one is needed.

**Environmental consequences:** A situation that naturally or logically follows as a result of an action. Commonly used in environmental impact statements for discussions about how the human environment, which includes the natural and physical environment and the relationship of people with that environment, is influenced by the government as actions.

**Environmental Impact Statement (EIS):** The documentation of environmental effects and action 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. It is a formal document that must follow the requirements of NEPA, the Council on Environmental Quality (CEQ) guidelines, and directives of the agency responsible for the project proposal.

**Environmentally preferred alternative:** The environmentally preferred alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources.

**Ephemeral Stream:** Ephemeral (stormwater) stream means a feature that carries only stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is always above the water table, and stormwater runoff is the primary source of water.

**Erosion:** The wearing away of the land's surface by water, wind, ice, or other physical processes. It includes detachment, transport, and deposition of soil or rock fragments.

**Erosion Pavement.** A layer of coarse fragments (1/8 inch to 3/4 inch in diameter) remaining on the soil surface after removal of fine particles by erosion. Erosion pavement is not considered ground cover.

**Exlosures:** Fenced structures that "exclude" animals from a specific area.

**Excess Use:** Grazing livestock in greater numbers or at times or places other than authorized by the permit or the bill for collection.

**Exlosures:** Fenced structures that "exclude" animals from a specific area.

**Exotic Species:** A non-native species introduced into a new ecosystem as a result of human intervention. If that species establishes self-sustaining populations, it is then considered a naturalized exotic.

**Federal land policy and management act of 1976 (fipma):** The act that (1) sets out for the Bureau of Land Management standards for managing the public lands, including land use planning, sales, withdrawals, acquisitions, and exchanges; (2) authorizes the setting up of local advisory councils representing major citizens groups interested in land use planning and management; (3) established criteria for review of proposed wilderness area; and (4) provides guidelines for other aspects of public land management such as grazing.

**Fire Regime:** The characteristics of fire in a given ecosystem, such as the frequency, predictability, intensity, and seasonality of fire.

**Fire Return Interval:** Expressed as a range of years or as the arithmetic average (mean fire return interval) of all fire intervals in a given area over a given time period.

**Fishery:** Habitat that supports some in the propagation and maintenance of fish.

**Floodplain:** The area adjacent to the active stream channel which is inundated during flows that exceed bankfull level. The floodplain acts as an energy dispersion zone during flood flows, and functions as an area of deposition.

**Foliage:** The green or live leaves of plants.

**Forage:** Browse and herbage which is available to and may provide food for grazing animals or be harvested for feeding. Also, to search for or consume forage.

**Forage Production:** Weight of forage produced within a designated period of time on a given area.

**Forage Utilization Regression Curve:** a smooth curve fitted to a set of paired data (% use of total forage and % use of key species) in regression analysis

**Forb:** Any broad- leafed, herbaceous plant other than those in the Poaceae (grass) Cyperaceae (sedge) and Juncaceae (rush) families.

**Formal consultation:** A process between the Services and a Federal agency or applicant that: (1) determines whether a proposed Federal action is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat; (2) begins with a Federal agency's written request and submittal of a complete initiation package; and (3) concludes with the issuance of a biological opinion and incidental take statement by either of the Services. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat). [50 CFR §402.02, 50 CFR §402.14]

**Frequency:** A quantitative expression of the presence or absence of individuals of a species in a sampling unit.

**Fry:** Newly hatched, active feeding post larval fishes; may include all fish stages from hatching to fingerling

**Functioning – proper functioning condition:** Riparian-wetland areas are functioning properly when adequate vegetation, landforms, or large woody debris is present to (1) dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; (2) filter sediment, capture bedload, and aid floodplain development; (3) improve flood-water retention and ground-water recharge; (4) develop root masses that stabilize streambank against cutting action; (5) develop diverse ponding and channel characteristics to provide the habitat and water depth, duration and temperature necessary for fish production, waterfowl breeding, and other uses, and (6) support greater biodiversity (USDI Bureau of Land Management 1995).

**Functioning-at-risk:** Riparian-wetland areas that are in a functional condition but an existing soil, water, or vegetation attribute categorizes them with a reversible loss in capability and increased vulnerability to irreversible degradation based upon evaluation of current conditions and processes.

**Functioning Rangelands.** A condition where a rangeland has the capability across the landscape for renewal, for recovery from a wide range of disturbances, and for retention of its ecological resilience. They are also meeting a desired condition identified in long term specified management objectives, standards, and/or guidelines.

**Game species:** Any species of wildlife or fish for which seasons and bag limits have been prescribed, and which are normally harvested by hunters, trappers, and fishermen under State or Federal laws, codes, and regulations.

**Geographic Information System (GIS):** A computer software platform designed to facilitate the assembly and analysis of diverse data sets pertaining to specific geographic areas using spatial locations of the data as the basis for the information system

**Goal:** The desired state or condition that a resource management policy or program is designated to achieve. Narrower and more specific than objectives, goals are usually not measurable and may not have specific dates by which they must be reached. Objectives are developed by first understanding one's goals.

**Goshawk Foraging Area:** Areas where prey are searched for, pursued by, and captured by goshawks.

**Gradient:** The steepness of a slope as measured in degrees, percentage, or as a distance ratio (rise/run).

**Graminoid:** Grasses (family Gramineae or Poaceae) and grasslike plants such As sedges (family Cyperaceae) and rushes (family Juncaceae).

**Graphic Information System (GIS):** An integrated system of software and geo-referenced data with the ability to store, retrieve, modify, analyze, and represent geographic data as useful information. A GIS links map information (spatial data) with tabular information (stored in a relational database) about particular features on the map. Geo-references are the primary means of storing and accessing information

**Grasses:** Plants of the Gramineae family. Usually herbaceous plants with narrow, parallel-veined, two-ranked leaves.

**Grassland:** Lands on which the vegetation is dominated by grasses, grasslike plants, and/or forbs.

**Grasslike Plants:** Plants of the Cyperaceae and Juncaceae families. Usually herbaceous plants with slender, usually solid, round or three-angled stems and parallel-veined, often three-ranked leaves.

**Grazing:** Consumption of native forage from rangelands or pastures by livestock or wildlife.

**Grazing Allotment:** An area where one or more livestock operators graze their livestock. An allotment generally consists of federal land but may include parcels of private or state-owned land.

**Grazing Capacity:** Same as carrying capacity.

**Grazing Management:** The manipulation of grazing animals to accomplish desired results when considering of animal, plant, land, or economic responses.

**Grazing Permit:** Official written permission to graze a specific number, kind, and class of livestock for a specified time period on a defined rangeland.

**Grazing season:** (1) On public land, an established period for which grazing permits is issued. (2) The time interval when animals are allowed to utilize a certain area.

**Grazing system:** A specialization of grazing management, which defines the periods of grazing and non-grazing. Grazing system should consist of at least the following: the number of pastures; number of herds; length of grazing period; length of non-grazing periods for any given unit in the system. Examples are Deferred Rotation and Rest Rotation.

**Greenline:** The first perennial vegetation from the water's edge. Riparian areas that are in high seral status with stable stream banks will exhibit a continuous line of vegetation at the bankfull discharge level. Rocky stream types may have a significant amount of rock causing breaks in the vegetation. This rock is considered part of the green line. Other breaks may occur in the first perennial band of vegetation (watercourses or bare ground). The amounts of these (perennial vegetation, rock, and bare ground) should be recorded.

**Ground Cover:** The percentage of material, other than bare ground and erosion pavement, covering the land surface. It may include live vegetation, standing dead vegetation, litter, cryptogams, and rock over ¾ inch. Ground cover plus bare ground would total 100 percent.

**Growing season:** Generally, the period of the year during which the temperature of vegetation remains high enough to allow plant growth. The most common measure of this period is the number of days between the last frost in the spring and the first frost in the fall.

**Gully:** A miniature valley eroded by water. A ravine is a depression worn by running water, larger than a gully and smaller than a valley.

**Habitat fragmentation:** The separation of a landscape into various landuses (e.g, development, agriculture, etc.), resulting in numerous small, disjunct habitat patches left for use by wildlife. Fragmentation eliminates habitat for those species requiring large unbroken blocks of habitat. Additionally, the small habitat patches resulting from fragmentation often do not provide the food and cover resources for many species that do attempt to use them. This can result in an increased risk of death by predation, if the animal has to venture beyond the cover of the patch to find new food resources, or starvation.

**Habitat Type:** The collective area which one plant association occupies or will come to occupy as succession advances. The habitat type is defined and described on the basis of vegetation and its associated environment. Habitat type is similar in concept to

ecological, site depending on how specifically plant associations are defined. Habitat is commonly misused to refer to classification of vegetation or wildlife habitat rather than a land classification.

**Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

**Head Month:** Tenure of one herbivore on National Forest for a period of one month.

**Healthy Rangelands.** Functioning rangelands that meet current and future needs of people for desired levels of values, uses, products, and services.

**Herbaceous:** Vegetation growth with little or no woody components, such as graminoids and forbs.

**Herbage:** The above-ground material of any herbaceous plant.

**Herdng:** A strategy for managing livestock where the manager maintains the animals in a "herd" and moves them from area to area as a group.

**Herd Effect:** The impact on soil and vegetation produced by a large herd of animals in an excited state. Generally produced by concentration with excitement such as at supplements or other attractants, and then applied to areas of the range where required.

**High-Intensity/Low-Frequency Grazing:** Heavy, short-duration grazing in which all livestock in a set of several range units or pastures graze one pasture at a time. The animals are left in a pasture until the desired degree of use is obtained and then are moved to another pasture.

**Highland Climate:** Complex pattern of climate conditions associated with mountains. Highland climates are characterized by large differences that occur over short distances.

**Historical Climax:** The plant community considered to best typify the potential plant community of an ecological site prior to the advent of European man. May plant communities for the site. grasses, grasslike plants, and/or forbs.

**Humified--**Pertains to soil that has decomposed organic matter (humus) within its profile. (See humus.)

**Humus:** That more or less stable fraction of the soil organic matter remaining after most added plant and animal residues have decomposed. Usually it is dark colored. Total of the organic compounds in soil exclusive of undecayed plant and animal tissues, their "partial decomposition" products, and the soil biomass. The term is often used synonymously with soil organic matter.

**Hydric plant:** See hydrophytic vegetation.

**Hydric soil:** A soil that is saturated or flooded long enough during the year to develop an anaerobic condition in the upper part of the soil profile.

**Hydric species:** See hydrophytic vegetation.

**Hydrologic function:** The ability of a stream to transport water and sediment in a balanced condition. The degree and rate of transport is the result of the natural watershed characteristics, including precipitation, geology, landforms, and vegetation. These characteristics have defined over time, average conditions of streamflow, quantity and character of sediment moving through the system, and composition of the materials forming the bed and banks of the channels. Stream systems that are in a balanced condition exhibit a relatively stable channel structure with only minor annual changes.

**Hydrophytic vegetation—**Plants growing in water or in a substrate that is at least periodically deficient in oxygen during a growing season as a result of excessive water content. They tend to be more water-tolerant than "water loving". Hydrophytic species, due to morphological, physiological, and/or reproductive adaptation(s), have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions.

**Impacts:** The effect of one thing upon another. Impacts may be beneficial or adverse. See Environmental Consequences.

**Increaser:** Plant species of the original vegetation that increase in relative amount, at least for a time, under overuse.

**Indicator species:** A species selected because its population changes indicate effects of management activities on the plant and animal community. A species whose condition can be used to assess the impacts of management actions on a particular area.

**Indigenous:** Born, growing, or produced naturally (native) in an area, region, or country.

**Indirect effects:** Secondary effects which occur in locations other than the initial action, significantly later in time, or to one resource that in turn, affects another resource. i.e.: effects to vegetation that may reduce prey species for a raptor.

**Indurate:** Indurate (hard) layers in subsoils are well recognized and occur as a result of heat, pressure and cementation. These naturally occurring layers can be impenetrable to water, air and plant roots and are sometimes found at the junction of two horizons, where a clay layer retards mobilization of water and solutes.

**Infiltration Rate:** Rate of absorption and downward movement of water into the [soil](#) layer.

**Informal consultation :** An optional process that includes all discussions and correspondence between the Services and a Federal agency or designated non-Federal representative, prior to formal consultation, to determine whether a proposed Federal action may affect listed species or critical habitat. This process allows the Federal agency to utilize the Services' expertise to evaluate the agency's assessment of potential effects or to suggest possible modifications to the proposed action which could avoid potentially adverse effects. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat). [50 CFR §402.02, 50 CFR §402.13]

**Inherent stability:** The amount of stream channel that would be stable under natural conditions. Inherent stability accounts for the migration of streams across a landscape, native ungulate use, natural erosion due to streamflow, and the interaction of soil and rooting characteristics of vegetative communities.

**Interdisciplinary team (IDT):** A group of resource professionals with different expertise that collaborate to develop and evaluate resource management actions.

**Interested public:** An individual, group or organization that has submitted a written request to the authorized officer to be provided an opportunity to be involved in the decision making process for the management of livestock grazing on specific grazing allotments or has submitted written comments to the authorized officer regarding the management of livestock grazing on a specific allotment.

**Intermediate Species:** These are also species common to the pristine plant community, but which are not as adversely affected by grazing use as are the "Desirables." They may be less palatable to grazing animals or be more resistant to grazing use. As a result, they either hold their own in the stand or they may increase in proportion to other species or even replace the most desirable species that are lost or reduced as a result of selective grazing use.

**Intermittent stream:** A stream that does not flow year-round, but does interact with a water table to receive groundwater outflow during part of the year.

**Introduced (non-native) species (also known as an exotic species):** An organism that is not indigenous to the place or area where it is considered introduced and instead has been accidentally or deliberately transported to the new location by human activity. Introduced species can often be damaging to the ecosystem it is introduced to.

**Invasaders:** Plant species that were absent or present in very small amounts in undisturbed portion of the original vegetation of a specific range site and will invade following disturbance or continued overuse.

**Invasive species:** A species that has become particularly abundant in an ecosystem as a result of human activities in the eco system. Invasive species can be native or exotic to the area.

**Internal Rate of Return (IRR):** If you have an investment that requires and produces a number of cash flows over time, the internal rate of return is defined to be the discount rate that makes the net present value of those cash flows equal to zero.

**Issue:** An "issue" is defined as a point of discussion, debate, or dispute about the environmental effects of the proposed action. It represents an "unresolved conflict" which may be retained as a significant issue by the ID team.

**Key Area:** A relatively small portion of rangeland which because of its location, grazing or browsing value, and/or use, serves as a monitoring and evaluation site. (A key area guides the general management of the entire area of which it is a part, and will reflect the overall acceptability of current grazing management over the range.)

**Key species:** Forage species whose use serves as an indicator to the degree of use of associated species. Or, those species which must, because of their importance, be considered in the management program.

**Key Wildlife Area:** Key areas are defined as those areas "where deer or other big game have demonstrated a definite pattern of use during normal climatic conditions over a long period."

**Key Species:** Forage species whose use serves as an indicator to the degree of use of associated species. Or, those species which must, because of their importance, be considered in the management program.

**Keystone Species:** Keystone Species are species that enrich ecosystem function in a unique and significant manner through their activities, and the effect is disproportionate to their numerical abundance. Their removal initiates changes in ecosystem structure and often loss of diversity.

**Kind of Livestock:** An animal species or species group such as sheep, cattle, goats, horses, or burros.

**Land Use Plan:** Any document developed to define the kinds of use, goals and objectives, management practices and activities that will be allowed to occur on an individual or group of parcels of land.

**Landscape Scale:** A scale of ecological evaluation that includes multiple habitats, ecosystems, and land uses.

**Least Desirable Species:** These are the poorer species in a type or community. They may consist of ruderals (Webster-a plant growing in poor land), invaders, and species that are usually taprooted and persist in dominant proportions after a long period of continuous heavy grazing use. They may be unpalatable or have very low palatability to grazing animals. The plants in this group as a rule have poor soil binding qualities and as a consequence heavy soil erosion may be occurring on the site.

**Listed Species:** Any species of fish, wildlife, or plant determined to be endangered or threatened under Section 4 of the ESA.

**Litter.** The uppermost layer of organic debris on the soil surface, essentially the freshly fallen or slightly decomposed vegetal material.

**Long-Term Trend:** Trend is a quantitative assessment of change based on repeated measurements at the same location over time of the kind, proportion, and/or amount of plant species and soil surface properties. It provides quantitative data for interpreting the direction of change, often before it is detectable by repeated photographs over time. Trend provides feedback to indicate if management objectives are being reached. It occurs over an extended period of time to determine if management practices are effective in meeting Forest Plan, NEPA, or biological opinion goals, standards, and objectives. The question being asked is "Did the management practices do what we wanted them to do over time, or in other words - did they meet the objectives?"

**Macroinvertebrate:** An invertebrate animal (animal without a backbone) large enough to be seen without magnification.

**Management indicator species:** A wildlife species whose presence in a certain location or situation at a given population level indicates a particular environmental condition. Population changes on an indicator species are believed to indicate effects of management activities on a number of other wildlife species.

**Market value:** Fair market value is the price an item would sell for, assuming the buyer and a seller both have reasonable knowledge and are not under undue pressure. To determine fair market value, it is common to compare other similar properties sold near the same time as your property.

**Migratory bird:** All birds, whether or not raised in captivity, included in the terms of the [migratory bird] conventions between the United States and any foreign country.

**Mitigation measures:** Planning actions taken to to avoid an impact altogether, to minimize the degree or magnitude of the impact, reduce the impact over time, rectify the impact, or compensate for the impact (40 CFR 1508.20). Mitigation is defined as "measures designed to reduce or prevent undesirable effects" and is used to reduce adverse environmental effects below the "significance" level and resolve issues and concerns raised by the public and the ID team.

**Moderate Grazing:** A comparative term which indicates that the stocking rate of a pasture is between the rates of other pastures. Often erroneously used to mean proper use, heavy and light grazing.

**Monitoring:** (Grazing Activities) The practice of tracking the utilization rates and overall effects of grazing over time, through repeated collection of data. Food plants are examined and measured to determine what percentage has been eaten, trampled, or lost to other causes. Other plants in the area (e.g., willows and other woody species) are examined, and observations are recorded regarding trampling or other damage. Records are maintained of livestock stocking rates (number of cattle per unit of area per unit of time), and all changes are recorded. Significant climatological events are noted (e.g., hard freezes, heavy rains, floods, droughts, high temperatures).

**Multiple Uses:** Use of range for more than one purpose, grazing of livestock, wildlife production, recreation, watershed and timber production. Not necessarily the combination of uses that will yield the highest economic return or greatest unit output.

**National Environmental Policy Act (NEPA):** The Act which declared a National policy to encourage productive and enjoyable harmony between humans and their environment, to promote efforts that will prevent or eliminate damage to the environment and biosphere, to stimulate the health and welfare of humans, to enrich our understanding of the ecological systems and natural resources important to our Nation; and to establish a Council on Environmental Quality.

**National Environmental Policy Act (NEPA) process:** An interdisciplinary process, mandated by the National Environmental Policy Act, which concentrates decision making around issues, concerns, and alternatives, and the effects of those alternatives on the environment.

**National Forest Management Act (NFMA):** A law passed in 1976 as amendments to the Forest and Rangeland Renewable Resources Planning Act, which requires the development of Regional and Forest plans and the preparation of regulations to guide that development.

**National Forest System:** All National Forest land 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.

**Native species:** Species that are a part of the original fauna or flora of an area.

**Neotropical migratory birds:** Birds that breed in the United States and Canada and later migrate south to Central and South America, Mexico, and the Caribbean islands. These birds include almost half of the bird species that breed in the United States and Canada.

**NEPA Analysis:** Analysis conducted during the preparation of documents required under the National Environmental Policy Act, particularly environmental assessments and environmental impact statements.

**Nested Frequency:** Frequency is defined as the number of times a plant species is present within a given number of sample quadrats of uniform size placed repeatedly across a stand of vegetation. Only species presence within the bounds of the sample quadrat is recorded, with no regard to size or number of individuals. Plant frequency is a function of quadrat size and reflects both plant density and dispersion. The sensitivity of frequency data to density and dispersion make frequency a useful parameter for monitoring and documenting changes in plant communities.

**Net Present Value:** Net present value is a form of calculating discounted cash flow. It encompasses the process of calculating the discount of a series of amounts of cash at future dates, and summing them.

**No action alternative:** An alternative where no activity would occur, or where current management practices would continue unchanged. The development of a no action alternative is requested by regulations implementing the National Environmental Policy Act (NEPA) (40 CFR 1502.14). The no action alternative provides a baseline for estimating the effects of other alternatives.

**Nonfunctioning:** Riparian-wetland areas that clearly are not providing adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows and thus are not reducing erosion, improving water quality, etc., as listed under properly functioning condition. The absence of certain physical attributes (where they should be located), such as floodplain, is an indicator of a nonfunctioning condition. A condition where a rangeland has lost the capability across the landscape for ecological resilience. Non-functioning rangeland health occurs when the desired condition is not being met and short-term objectives are not being achieved to move the rangeland toward the desired conditions.

**Non-indigenous (non-native) species:** with respect to a particular ecosystem, any species that is not found in that ecosystem. Species introduced or spread from one region of the US to another outside their normal range are non-indigenous, as are species introduced from other continents. non-native species includes plants, vertebrates, invertebrates, and pathogenic organisms that affect plants, animals, and humans, and are defined as organisms that are not indigenous to the ecosystem to which they were introduced and which are capable of surviving and reproducing without human intervention.

**Non-point source pollution:** NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water. These pollutants include: excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas; oil, grease, and toxic chemicals from urban runoff and energy production; sediment from improperly managed crop and forest lands, and eroding streambanks; salt from irrigation practices and acid drainage from abandoned mines; bacteria and nutrients from livestock, and other animal wastes.

**Nonuse:** (1) absence of grazing use on current years forage production. (2) lack of exercise, temporarily, of a grazing privilege on grazing lands. (3) an authorization to refrain, temporarily, from placing livestock on public rangelands without loss of preference for future conditions.

**Noxious Weed:** the term "weed" includes all plants defined as "noxious weeds" by Forest Service policy: "plants designated as noxious weeds by the Secretary of Agriculture or by the 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 insects or disease, and being native or new to or not common to the United States or parts thereof." (FSM 2080.5)

**Noxious Weed Free:** "Weed free" means to be free from propagative plant parts and seed from plants listed on the State noxious weed list.

**Nutrient loading:** Quantity of [nutrients](#) entering an [ecosystem](#) in a given period of time. A nutrient is any substance assimilated by organisms that promotes growth. Marine scientists typically measure nitrites, nitrates, phosphates, and silicates as nutrients for plant growth.

**Obligation:** The number of Head Months outlined on Term Grazing Permits.

**Objective:** The planned results to be achieved within a stated time period. Objectives are subordinate to goals, more narrow in scope, and shorter in range. Objectives must specify time periods for completion, and products or achievements that are measurable.

**On/Off Grazing Allotment:** An allotment that has a minimal portion of its land area in National Forest. It can include private, state, and federally owned land.

**Open space:** An area of land that is valued for natural processes and wildlife, for agricultural and sylvan production, for active and passive recreation, and/or for providing other public benefits.

**Overgrazing:** Continued heavy grazing that exceeds the recovery capacity of the community and creates a deteriorated range.

**Overland Flow:** The topographic movement of a thin film of water from precipitation to lower elevations. With time, this water will begin to organizing its flow into small channels called rills. The rills converge to form progressively larger channels until stream channels are formed. Occurs when the infiltration capacity of an area's soil has been exceeded. Also called sheet flow or runoff.

**Overuse:** Utilizing an excessive amount of the current year's growth, which, if continued, will result in range deterioration.

**Palatability:** The relish an animal shows for a particular plant as forage. This varies with succulence, fiber content, nutrient and chemical content, and morphological features such as spines or thorns. Palatability and preference are sometimes incorrectly used interchangeably.

**Parker 3-Step Study:** A "point" sampling procedure used extensively by land management agencies for monitoring trends in range condition. The basic concept behind this procedure is essentially the same as that of quadrat frequency except that a point is used as the sample or sub-sample unit rather than a quadrat. In fact, data collected with point sampling methods can be evaluated as frequency data; i.e. the number of hits on a plant species as a percentage of the total number of points read. However, because a point is essentially dimensionless, the data are usually used as absolute measures of cover, basal area or whatever the criteria used for determining "hits".

**Percent Use:** The percentage of current year's forage production that is consumed or destroyed by grazing animals.

**Perennial Plant:** One with a life cycle of three or more years.

**Perennial stream:** Perennial stream means a well-defined channel that contains water year round during a year of normal rainfall with the aquatic bed located below the water table for most of the year. Groundwater is the primary source of water for a perennial stream, but it also carries stormwater runoff. A perennial stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.

**Permeability, soil:** The ease with which gases, liquids (water), or plant roots penetrate or pass through a bulk mass of soil or a layer of soil. Since different soil horizons vary in permeability, the particular horizon under question should be designated.

**Permittee (Range Permittee):** an individual who has been granted a Federal permit to graze livestock for a specific period on a range allotment

**Permitted grazing:** Grazing on National Forest range allotments under the terms of a grazing permit.

**pH:** Scale used to measure the alkalinity or acidity of a substance through the determination of the concentration of hydrogen ions in solution. A pH of 7.0 is neutral. Values below 7.0, to a minimum of 0.0, indicate increasing acidity. Values above 7.0, to a maximum of 14.0, indicate increasing alkalinity.

**Phenology:** The study of periodic biological phenomena that are recurrent such as flowering or seeding, especially as related to climate.

**Pioneer Species:** A plant or animal capable of establishing itself in a bare or barren area and initiating an ecological cycle.

**Plant Association:** A kind of climax plant community consisting of stands with essentially the same dominant species in corresponding layers.

**Plant Community:** An assemblage of plants occurring together at any point in time, thus denoting no particular ecological status.

**Plant Community Type:** See Community Type.

**Plant Succession:** Vegetation change.

**Plant Vigor:** Plant health.

**Point bar:** Point bar deposits are curving bodies mainly constituted of sand, formed by accretion on the convex bank of a meander. Point bar deposits occur in meandering streams, where an winding flow can be observed, the surface flow towards the outer bank, eroding it sometimes very impressively, and the bottom flow towards the inner bank, where deposition occurs

**Poisonous Plant:** One containing or producing substances that cause animal sickness, death or deviation from a normal state of health.

**Post Fledgling Family Area:** Area of concentrated use by the goshawk family after the young leave the nest.

**Potential Natural Communities (PNC):** The stable biotic community that would become established on an ecological site if all successional stages were completed without human interference under present environmental conditions.

**Preferred alternative:** The alternative that is disclosed by the selecting official as the alternative that is most likely to be selected for implementation, when a Draft Environmental Impact Statement is submitted to the public.

**Preliminary biological opinion:** The opinion issued as a result of early consultation. [50 CFR §402.02]

**Prescribed Fire:** Prescribed fire (Rx fire) is defined as fire applied in a knowledgeable manner to forest fuels on a specific land area under selected weather conditions that produce the fire behavior and fire characteristics required to attain planned fire treatment and resource management objectives to accomplish predetermined, well-defined management objectives.

**Prescription:** Management practices selected to accomplish specific land and resource management objectives.

**Present net benefit:** Future benefits "discounted" to the present by an interest rate that reflects the changing value of a dollar over time. The assumption is that dollars today are more valuable dollars in the future.

**Present net cost:** Future costs "discounted" to the present by an interest rate that reflects the changing value of a dollar over time. The assumption is that dollars today are more valuable dollars in the future.

**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)

**Pristine.** Of, relating to, or typical of the earliest time or condition; primitive or original. Belonging to the earliest period or state, not spoiled, corrupted, or polluted (as by civilization. "Pristine" gives the idea of no human interaction.

**Privilege:** The benefit or advantage enjoyed by a person or company beyond the common advantage of other citizens to graze livestock on federal lands. Privilege may be created by permit, license, lease, or agreement.

**Project area:** Area of analysis for this proposal on the Beaver Ranger District of the Fishlake National Forest.

**Project file:** An assemblage of documents that contain all the information developed or used during an environmental analysis, and is summarized in an Environmental Impact Statement. The file is part of the administrative record.

**Proper Functioning Condition (PFC):** Refers to riparian or wetland areas. A riparian or wetland area is considered to be in proper functioning condition when adequate vegetation, landform, or large woody debris is present to: 1) dissipate stream energy; 2) filter sediment, capture bedload, aid in floodplain development; 3) improve flood-water retention and ground-water recharge; 4) develop root masses that stabilize streambanks; 5) develop diverse ponding and channel characteristics to provide habitat for wildlife; and 6) support greater biodiversity.

**Proper Use:** Degree and time of use of current year's growth which, if continued, will achieve management objectives and maintain or improve the long term productivity of the site. Proper use varies with time and systems of grazing. (synonym – proper utilization)

**Proper Use Guides.** The limiting factor or factors which will be measured on a particular site to determine if the site has been properly used. It could be residual forage, impact on other resources or uses, or any other measurable factor on a particular site.

**Proper Functioning Condition (PFC):** Refers to riparian or wetland areas. A riparian or wetland area is considered to be in proper functioning condition when adequate vegetation, landform, or large woody debris is present to: 1) dissipate stream energy; 2) filter sediment, capture bedload, aid in floodplain development; 3) improve flood-water retention and ground-water recharge; 4) develop root masses that stabilize streambanks; 5) develop diverse ponding and channel characteristics to provide habitat for wildlife; and 6) support greater biodiversity.

**Proper Stocking:** Placing a number of animals on a given area that will result in proper use at the end of the planned grazing period. Continued proper stocking will lead to proper grazing.

**Proposed Action (PA):** In terms of the National Environmental Policy Act, the project, activity, or action that a Federal agency proposes to implement or undertake. The PA is sent to the public, and interested agencies for their review and comment. Comments are then used to develop alternatives to the proposed action.

**Proposed Species:** Any species of fish, wildlife, or plant that is proposed by NOAA FISHERIES or USFWS for federal listing under Section 4 of the ESA.

**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.

**Public participation:** A procedure allowing citizens as individuals or interest groups to review proposed government procedures or information and offer suggestions, comments, and criticism, and help identify the issues and concerns associated with federal land management.

**Public Scoping:** The process used to determine, through public involvement, the range of issues that the planning process should address.

**Pure Remnant Population of Bonneville Cutthroat Trout:** The exact description of pure BCT has shifted as new technology and information has been acquired over the past 50 years. References to 'pure' BCT from 30 years ago was based primarily on physical identification. More recently, genetic characteristics are used to evaluate purity. Criteria are developed on which managers rate purity in the absence of having all information. For purposes of this report, pure BCT are those populations designated as pure according to the State's criterion for purity.

**Range Of Variability (Also called the historic range of variability or natural range of variation.)-** The components of healthy ecosystems fluctuate over time. The range of sustainable conditions in an ecosystem is determined by time, processes (such as fire), native species, and the land itself. For instance, ecosystems that have a 10 year fire cycle have a narrower range of variation than ecosystems with 200-300 year fire cycle. Past management has placed some ecosystems outside their range of variability. Future management should move such ecosystems back toward their natural, sustainable range of variation.

**Range or Rangeland:** All land-producing or capable-of-producing native forage for grazing and browsing animals and lands that have been revegetated naturally or artificially to provide a forage cover that is managed like native vegetation. It includes all grasslands, shrublands, and those forest lands which continually or periodically, naturally or through management, support an understory of herbaceous or shrubby vegetation that provides forage for grazing or browsing.

**Range Allotment:** A designated area of land available for livestock grazing upon which a specified number and kind of livestock may be grazed under a range allotment management plan. It is the basic land unit used to facilitate management of the range resource on National Forest System lands and associated lands administered by the Forest Service.

**Range Allotment/Environmental Analysis:** Systematic acquisition and evaluation of rangeland resource data needed for planning allotment management and overall land management. It consist of two basic parts: (1) an inventory of the resource, and (2) a narrative evaluation of the resource data, range management alternatives, and other information key to management of the grazing area.

**Range Condition:** A generic term relating to present status of a unit of range in terms of specific values or potentials. Specific values or potentials must be stated. Also defined as the present state of vegetation of a range site in relation to the climax (natural potential) plant community for that site.

**Range Condition Trend:** Direction of change, whether stable, toward (upward) or away (downward) from the site's potential. The change in direction could be in vegetation, ground cover, or noxious plants, non-native invasive plant species features over time. Most of the time trend should be described as "meeting", "moving toward", or "not meeting" a desired plant community. Trend in condition is a total result of grazing use and management. It is the final determinant of proper use. Other measurements and observations are only the best approximations and final interpretations must eventually be tied to trend.

**Range Degradation:** The process that leads to an irreversible reduction in capability of an ecological site to produce vegetation.

**Range Exclosure.** These areas consist of fenced exclosures combined with permanent vegetation monitoring plots but may also include abandoned grazing areas and sites which have never been grazed. When established on sites that have reached PNC, they are intended to provide solid evidence of the climax species composition on grassland and forested range types that exhibit similar site conditions. They are subject to the same year-to-year climatic fluctuations as adjacent managed grasslands thus allowing for direct comparisons of changes over time. In range ecosystems where no examples of PNC remain, Range Exclosures are established in the most advanced seral stage available. These sites may typically require 5 to 15 years to reach PNC but, in areas where only early-seral grasslands exist, Range Exclosures may require up to 70 years or longer to reach full PNC

**Range Improvement:** Any activity or program on or relating to rangelands which is designed to improve production of forage, change vegetation composition, control patterns of use, provide water, stabilize soil and water conditions, or provide habitat for wildlife and livestock.

**Range Site Analysis:** A plot-by-plot check of vegetation and cover on an area based on a combination of measurements and estimates. Measurable factors include plant composition, forage production, percent vegetal and litter cover, bare ground, and soil erosion. Range condition and apparent trend are determined from data collected. A range site analysis is not intended to be a permanent study plot and generally is not established with permanent location markers.

**Range Inventory:** The systematic acquisition and analysis of resource information needed for planning and for management of rangeland.

**Range Environmental Analysis:** The systematic acquisition and evaluation of range resource data needed for planning allotment management and overall land management. It consists of identifying and mapping range vegetative types, range suitability, and

range condition. It provides for the periodic measurement of trend and the collection of essential information on range improvements, range readiness, and season of use. A completed analysis includes: 1) the resource inventory, including data compilation; 2) a narrative evaluation of the resource data, management alternatives, and other information relevant to management of the grazing area.; and 3) maps illustrating vegetation types, range condition and trend, and suitability.

**Range Exclosure.** These areas consist of fenced exclosures combined with permanent vegetation monitoring plots but may also include abandoned grazing areas and sites which have never been grazed. When established on sites that have reached PNC, they are intended to provide solid evidence of the climax species composition on grassland and forested range types that exhibit similar site conditions. They are subject to the same year-to-year climatic fluctuations as adjacent managed grasslands thus allowing for direct comparisons of changes over time. In range ecosystems where no examples of PNC remain, Range Exclosures are established in the most advanced seral stage available. These sites may typically require 5 to 15 years to reach PNC but, in areas where only early-seral grasslands exist, Range Exclosures may require up to 70 years or longer to reach full PNC

**Range Management:** The science and art of planning and directing rangeland use in order to obtain maximum sustained economic livestock production consistent with the conservation and/or improvement of the related natural resources: soil, water, vegetation, wildlife and recreation. Scientific range management stands on the premise that the range resources can be improved and grazed perpetually by domestic stock and, at the same time, produce high-quality watershed, wildlife, recreation and, where suitable, forest products.

**Rangeland Health:** Rangeland health (or rangeland condition) is the state of vegetation and soil cover in relation to a standard or ideal for a particular rangeland type.

**Range Improvement.** Any activity or program on or relating to rangelands which is designed to improve production of forage; change vegetative composition; control patterns of use; provide water; stabilize soil and water conditions; and provide habitat for livestock and wildlife. The term includes, but is not limited to, structures, treatment projects, and use of mechanical means to accomplish the desired results (Public Rangelands Improvement Act of 1978, 43 U.S.C. 1902). The following types are included:

- **Nonstructural.** Practices and treatments undertaken to improve range or facilitate livestock management, excluding structural improvements. such as seeding, spraying, and chaining
- **Structural.** Improvements requiring construction or installation to improve the range or facilitate livestock management. such as fences, wells, reservoirs, pipelines, and stock tanks

**Range Inventory:** The systematic acquisition and analysis of resource information needed for planning and for management of rangeland. Methodologies vary widely, ranging from simple visual comparisons to exhaustive quantitative measurements.

**Rangeland Project Decision.** A project level NEPA decision. Refer to FSH 2209.13, section 93.

**Range Readiness:** The defined stage of plant growth at which grazing may begin under a specific management plan without permanent damage to vegetation or soil. Range readiness takes into account: 1) stage of plant growth; 2) the management plan to be used; and 3) permanent damage to vegetation and soil. that grazing readiness be based on the development stage of the most common or key grass species in the pasture or range. The recommended plant development stage for beginning spring grazing of both native and tame grass species is when the plants have three to four leaves.

**Rangeland Reference Area.** Rangeland reference areas serve as benchmark levels of land condition within specific land types. They are located in areas unaffected by grazing, and are used for comparison of grazed areas of the same land type. The absence of grazing allows the effect of grazing and the influence of seasonal conditions to be analyzed objectively. Comparisons between grazed and ungrazed areas often form the basis of judgments on land condition in the grazed areas. In range ecosystems where no examples of PNC remain, Range Reference Areas are established in the most advanced seral stage available. These sites may typically require 5 to 15 years to reach PNC but, in areas where only early-seral grasslands exist, Range Reference Areas may require up to 70 years or longer to reach full PNC. Comparisons between reference areas and grazed areas can be made in many different ways. Methodologies vary widely, ranging from simple visual comparisons to exhaustive quantitative measurements.

**Range Site:** Synonymous with ecological site when applied to rangeland.

**Reach:** An expanse of a stream channel.

**Record of Decision (ROD):** A concise public document separate from but associated with an environmental impact statement that publicly and officially discloses the responsible (decision making) official's decision (and rationale for the decision) about the alternatives assessed in the environmental impact statement, and the alternative chosen to implement.

**Recovery Plan:** A document drafted by the US Fish & Wildlife Service or other knowledgeable individual or group, that serves as a guide for activities to be undertaken by Federal, State, or private entities in helping to recover and conserve endangered or threatened species. Recovery plans typically include a listed species life history and current status, habitat requirements and availability, factors which limit the species survival, conservation measures currently in place, and specific management objectives that will facilitate recovery of the species.

**Relict (Relic) Area.** A remnant or fragment of the climax plant community that remains from a former period when it was more widely distributed (syn. pristine).

**Reference Area.** See Ecological Reference Area, Range Exclosure, Rangeland Reference Area.

**Remnant Population of Bonneville CT:** Any population that has naturally persisted and currently occurs within its historically occupied stream or locale. Remnant populations do not include populations that have been introduced or reintroduced through transplanting or stocking.

**Repeat Photography:** A technique of making a photograph that has an image that is, except for the date of exposure, as nearly identical as possible to the image of an earlier photograph. Comparing the original and contemporary photographs makes it possible to see changes over time. Minimally, rephotography places a camera at the same location of the original to recreate the original vantage point. Rephotography may also consider the time of day and time of year to ensure that natural light conditions are the same.

**Research Natural Area.** Part of a national network of reserved areas that include protected areas representative of the full array of North American ecosystems; biological communities, habitats, phenomena, and geological and hydrological formations and conditions.

**Residual vegetation height:** Inches of herbage or forage left ungrazed, providing cover for small mammals, food for wildlife, and ground cover.

**Responsible official:** The Forest Service employee who has been designated the authority to carry out a specific planning action.

**Rest:** Leaving an area ungrazed, thereby foregoing grazing of a forage crop. Normally, rest implies absence of grazing for a full growing season.

**Rest Rotation Grazing:** A system in which one part of the range is ungrazed for an entire grazing year or longer, while other parts are grazed for a portion, or perhaps all, of a growing season.

**Riffle:** Bar deposit found on the bed of streams. Associated with these deposits are pools.

**Rill:** A very small steep sided channel carrying water. This landscape feature is intermittent and forms for only a short period of time after a rainfall.

**Riparian area:** Area with distinctive soils and vegetation located between a stream or other body of water and the adjacent upland. It includes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation. Riparian ecosystems are distinguished by the presence of free water within the common rooting depth of native perennial plants during at least a portion of the growing season. Riparian ecosystems are normally associated with seeps, springs, streams, marshes, ponds, or lakes. The potential vegetation of these areas commonly includes a mixture of water (aquatic) and land (phreatic) ecosystems.

**Riparian dependent obligate:** An organism that requires riparian habitat to complete some portion of its life cycle. Obligate riparian plants should be found in riparian areas 91-100% of the time.

**Riparian guild:** A group of species that use are dependent, in a similar way, upon the various niches of vegetation communities found in riparian zones, i.e., tall deciduous trees, willows, riparian shrubs, riparian grasses. In general, guild or life-form models are designed to characterize how a set of species with similar characteristics or attributes will respond to a change in environmental conditions.

**Riparian soils:** Soils that occur in land types and valley bottoms that have the potential to support wetland and riparian vegetation. These soils are flooded, ponded, or saturated with water for usually a week or more during the period when soil temperatures are above biologic zero (41° Fahrenheit).

**Riparian vegetation:** Plant communities dependent upon the presence of free water near the ground surface (high water table).

**Rosgen stream type A:** Very steep to steep, deeply entrenched, high energy debris transport associated with depositional soils. Very stable if bedrock or boulder dominated channel.

**Rosgen stream type B:** Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

**Rosgen stream type C:** Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

**Rosgen stream type E:** Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

**Rosgen stream type G:** Entrenched “gully” step/pool and low width/depth ratio on moderate gradient.

**Runoff:** The topographic flow of water from precipitation to stream channels located at lower elevations. Occurs when the infiltration capacity of an area's soil has been exceeded. It also refers to the water leaving an area of drainage. Also called overland flow.

**Sage nesters:** Birds that use sagebrush and sagebrush habitat, often called shrub-steppe, for its nesting habitat.

**Salting :** (1) Providing salt as a mineral supplement for animals. (2) Placing salt on the range in such a manner as to improve distribution of livestock grazing.

**Scoping:** The Council on Environmental Quality (CEQ) defines scoping as “...an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action” (40CFR 1501.7). Among other things, the scoping process is used to invite public participation, to help identify public issues, to obtain public comment at various stages of the analysis process, and to determine the range of actions, alternatives, and impacts to be addressed; identification of significant issues related to a proposed action; and the depth of environmental analysis needed.

**Season-Long Grazing:** Grazing takes place through out the growing season.

**Season Of Use:** The time during which livestock grazing is permitted on a given range area, as specified in the grazing permit.

**Secondary Succession:** Secondary succession is the sequence of changes that takes place after an existing community of organisms is disrupted. It begins in an area where the natural community of organisms has been disturbed, removed, or destroyed but the soil or bottom sediment remains.

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

**Sediment yield:** The amount of sediment removed from a watershed over a specified period, usually expressed as tons, acre-feet, or cubic yards of sediment per unit of drainage area per year.

**Selected Alternative:** The alternative chosen for implementation by the selecting official. The selected alternative is identified in the Record of Decision.

**Sensitive species:** All species that are under status review, have small or declining populations, or live in unique habitats. May also be any species needing special management. Sensitive species include threatened, endangered, and proposed species as classified by the Fish and Wildlife Service. In the Forest Service, sensitive species are designated by regional foresters.

**Seral:** Pertaining to the successional stages of biotic communities.

**Seral Community:** The relatively transitory communities which develop under ecological succession (synonym - seral stage).

**Seral Stages:** The developmental stages of an ecological succession.

**Sere:** The whole series of communities which develop in a given situation during ecological succession.

**Short Duration Grazing:** Grazing system involving many pastures where animals are in each pasture for a short period of time. Pastures are grazed several times during each year. ( Synonyms - rapid-rotation, time control and cell grazing)

**Shrub:** A plant with persistent, woody stems and relatively low growth. Generally produces several basal shoots (stems) and many branches.

**Significant environmental impact:** Significant impacts are substantial, or potentially substantial, changes in any of the physical conditions within the area affected by a project. A significant impact is based on standards identified in CEQ, applicable public policies and regulations, professional judgment and judicial decisions. Where significant impacts are identified, mitigation measures are recommended to reduce or eliminate potentially significant impacts.

**Sinuosity:** The relative number of curves or bends within a stream reach. Usually expressed as the ratio of the stream channel length divided by the valley length.

**Soil Permeability:** The rate at which water and air move vertically through a soil.

**Soil productivity:** the capacity of a soil, in its normal environment, to support plant growth.

**Soil Bulk Density:** The mass of undisturbed or disturbed dry soil per unit bulk volume. The bulk volume is determined before drying to a constant weight at 105 c. The value is expressed in grams per cubic centimeter (g/cc).

**Soil Compaction:** A physical change in soil properties that results in a decrease in porosity and an increase in soil bulk density and soil strength.

**Spawning:** Spawning is the production or depositing of eggs by aquatic organisms. Depending on the species many fish spawn in different methods and at different times of the year.

**Spawning redds:** Most salmonids deposit their eggs in nests called redds, which are dug in the streambed substrate by the female. Most redds occur in predictable areas and are easily identified by an experienced observer by their shape, size, and color (lighter than surrounding areas because silt has been cleaned away). Spawning surveys utilize counts of redds and fish carcasses to estimate spawner escapement and identify habitat being used by spawning fish. Annual surveys can be used to compare the relative magnitude of spawning activity between years.

**Species Composition:** Proportions of various plant species in relation to the total on a given area. Proportions may be expressed in percentages based on weight, cover, density, etc.

**Species of concern:** An informal term referring to a species documented by scientific research and inventory to have a naturally restricted range or habitat in the state, to be at a low population level, to be in such high demand by man that its unregulated taking would be detrimental to the conservation of its population, and be in need of conservation action. This may range from a need for periodic monitoring of populations and threats to the species and its habitat, to the necessity for listing as threatened or endangered. Such species receive no legal protection and use of the term does not necessarily imply that a species will eventually be proposed for listing. A similar term is "species at risk", which is a general term for listed species as well as unlisted ones that are declining in population. "Imperiled species" is another general term for listed as well as unlisted species that are declining.

**Species of Interest:** This category includes state-listed threatened and endangered species; birds on the U.S. Fish and Wildlife Service Birds of Conservation Concern National Priority list; and other species of regional or local concern due to significant threats, declining populations, or rarity. For these species, as well as game species like deer, the directives give broad discretion to the responsible official to provide protection "to the degree determined appropriate."

**Stable:** The condition of little or no perceived change in plant communities that are in relative equilibrium with existing environmental conditions; describes persistent but not necessarily culminating stages (climax) in plant succession. Implies a high degree of resilience to minor perturbations.

**Stability:** The ability of the channel banks and bottom to resist the erosive powers of flowing water. Inherent stability refers to the potential stability of a riparian system.

**Stocking Rate/Capacity:** The relationship between the number of animals and the grazing management unit utilized over a specified time period (animal units over a described time period/area of land).

**Stream Substrate:** The mineral and/or organic material that forms the bed of the stream. The composition of the streambed (substrate) is an important factor in understanding how a stream functions. It influences channel form and hydraulics, erosion rates, sediment supply, and habitat conditions for fish and other aquatic organisms. Simply put, steep mountain streams with beds of

boulders and cobbles will act differently than low-gradient streams with beds of sand or silt. Therefore, measurement of every sample point should include a basic characterization of bed material.

**Stream Bank:** Sides of the stream channel.

**Stream bed / stream bottom:** Bottom of the stream channel. The substrate plane, bounded by the streambanks, over which the stream water flows.

**Streambank alteration:** Physical alteration of the streambank. As used in the Lewis and Clark National Forest handbook direction, the amount of damage caused by livestock during the current season. The overriding concept behind the measure is making sure that the integrity of the streambank remains. Most often, the best indicator of the reduction in bank integrity is the hoof prints of livestock along the bank/water interface.

**Streambank morphology:** Form and structure of streambank which is that portion of the channel bank crosssection that controls the lateral movement of water. Includes channel dimensions, patterns, and profile.

**Stream Channel:** Long trough-like depression that is normally occupied by the water in a stream.

**Stream Discharge:** A river or stream's rate of flow over a particular period of time. Usually measured by a current meter and expressed in cubic meters per second. Stream discharge depends on the volume and velocity of the flow.

**Stream Flow:** The flow of water in a river or stream channel.

**Stream Gradient:** The change in elevation from a stream's headwaters to its mouth expressed in degrees, percentage, or as a distance ratio (rise/run).

**Stream Load:** Refers to the material or sediment carried by a stream. It normally consists of three components: bed-load (pebbles and sand which move along the stream bed without being permanently suspended in the flowing water), suspended load (silts and clays in suspension) and dissolved load (material in solution).

**Stream meander:** A winding, curving, and turning course. Sinuosity refers to the relative number of curves or bends within a stream reach--usually expressed as the ratio of the stream channel length divided by the valley length.

**Stream type:** A system used to categorize streams based on physical characteristics. These characteristics include entrenchment, bankfull width and depth, sinuosity, slope, and substrate composition.

**Stubble Height:** Residual vegetation/stubble height is that measure of the herbaceous vegetation remaining at the end of the growing season just prior to winter dormancy. Stubble height is the average height measured from the soil surface to the height of actively growing leaves. A 4-inch stubble height is a direct measurement indicating that a forage plant is clipped off or broken at 4 inches above the ground. Stubble height can serve as an indirect indicator of trampling, soil compaction, streambank damage, and shrub browsing, as well as a direct measure of herbaceous plant defoliation.

**Structure:** How the parts of ecosystems are arranged, both horizontally and vertically. Structure might reveal a pattern, or mosaic, or total randomness of vegetation.

**Substantial Value Habitat:** An area that provides for "frequent" use by a wildlife species.

**Substrate:** Inorganic materials that comprises the bottom and banks of a watercourse.

**Succession:** Process of vegetational development whereby an area becomes successively occupied by different plant communities of higher ecological order.

**Successional stage:** A phase in the gradual supplanting (replacement) of one community of plants by another. Stages are described as early, mid, late in relation to the potential natural community that would occur over a long period of minimal grazing, fire, or mechanical disturbance.

**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 (passed). A unit of land may be suitable for a variety of individual or combined management practices.

**Suitable range:** 1) Range accessible to a specific kind of animal and which can be grazed on a sustained yield basis without damage to the resource. 2) The limits of adaptability of plant or animal species. Land that is accessible or that can become accessible to livestock; that produces forage or has inherent forage producing capabilities; that can be grazed on a sustained yield basis under reasonable management goals. Suitable range includes both rangeland and forested lands with a grazable understory which are contained in grazing allotments.

**Summer range:** Range that is grazed during the summer months.

**Suspended AUMs:** A Bureau of Land Management (BLM) term denoting those AUMs that are held in suspension mainly because of production surveys that stated that these AUMs were not present. They cannot be used by the BLM permittee. Total BLM preference is active plus suspended.

**Suspended Load:** Portion of the stream load that is carried almost permanently suspended in flowing water.

**Sustainable Rangelands.** The ability of rangelands to maintain its composition, biodiversity, structure, fertility, and functions over time under the current climatic regime. Functioning rangelands are sustainable.

**Sustained Use (Production):** The continuation of livestock grazing at a uniform level while maintaining a healthy desired plant community.

**Sustained Yield:** The continuation of a healthy desired plant community.

**Tall Forb:** The tall forb type is unique to the Rocky Mountains and is characterized by a large array of luxuriant, rather tall 16 to 48 inches mesic forbs. Its geographic distribution ranges from near the Montana/Idaho border on the north to the southern Wasatch range in Utah. The tall forb type occurs at elevations between 6,300 and 11,000 feet where yearly precipitation ranges between 30 to 40 inches. This community type has most likely historically been referred to as open mountain meadows or woodlands, occurring on cool and moist or poorly drained sites with a dense population of herbs and grasses, dominated by Richardson's geranium and slender wheatgrass.

**Tentative Grazing Capacity:** An estimated grazing capacity based on the initial range allotment analysis inventory but not verified under actual grazing conditions.

**Term Grazing Permit:** Official written permission to graze a specific number, kind, and class of livestock for a specified time period (usually for a ten-year term) on a defined rangeland.

**Terrestrial:** Living on land.

**Threatened species:** Any plant or animal species likely to become endangered within the foreseeable future throughout all or a part of its range as designated by the U.S. Fish and Wildlife Service under the Endangered Species Act. See Endangered Species.

**Threatened and endangered species (TES):** Species identified by the Secretary of Interior in accordance with the 1973 Endangered Species Act, as amended.

**Total Maximum Daily Load (TMDL):** The sum of the individual waste load allocations for point sources and load allocations for both nonpoint sources and natural background sources established at a level necessary to achieve compliance with applicable water quality standards [75-5-103(32) MCA]. In practice, TMDLs are water quality restoration targets for both point and nonpoint sources that are contained in a water quality restoration plan or in a permit.

**Total suspended solids:** Total solids (TS) is the material residue left in a vessel after evaporation of a sample and subsequent drying in an oven at a defined temperature. Total solids includes "total suspended solids" (TSS), the portion of total solids retained by a filter, and "total dissolved solids", the portion that passes through the filter (2.0 micron or smaller 0.45 micron). "Dissolved solids" refer to any minerals, salts, metals, cations or anions dissolved in water. This includes anything present in water other than the pure water (H<sub>2</sub>O) molecule and suspended solids. Suspended solids are any particles/substances that are neither dissolved nor settled in the water, such as wood pulp.

**Trend:** The direction of change in a plant community or a measured attribute of that plant community as observed over time. The change in direction could be in vegetation, ground cover, or noxious plants, non-native invasive plant species features over time. Most of the time trend should be described as "meeting", "moving toward", or "not meeting" a desired plant community.

**Tundra Climate:** Generally, the climate that produces tundra vegetation with a small yearly temperature range and very little precipitation, supporting low-growing vegetation such as lichens, mosses, dwarf shrubs and stunted trees. It is too cold for the growth of trees but does not have a permanent snow-ice cover. Alpine tundra is located at high altitude on mountains around the world. The growing season in the alpine tundra is approximately 180 days and the temperature is usually well below freezing after dark.

**Turbidity:** A cloudy condition in water due to suspended silt or organic matter. Turbidity is the measurement of the effect that suspended solids has on the transmission of light through an aqueous solution such as water. This is a qualitative measurement.

**Twice-Over Grazing (re-grazing):** Twice-over grazing is the practice of grazing early (from the 4-6 inch leaf length to boot stage) and then grazing the re-growth in late summer or early fall after curing. Often this practice is employed as livestock are sequentially moved through lower elevation spring/fall range to higher-elevation summer ranges and then reversing the pattern and allowing repeated grazing in the spring/fall range.

**Type Conversion:** The conversion of the dominant vegetation in an area from forested to non-forested or from one species to another.

**Unauthorized Use:** Unauthorized livestock means any cattle, sheep, goat, hog, or equine not defined as a wild free-roaming horse or burro at 36 CFR 222.20(b)(13), which is not authorized by permit to be upon the land on which the livestock is located and which is not related to use authorized by a grazing permit; provided, that noncommercial pack and saddle stock used by recreationists, travelers, other Forest visitors for occasional trips, as well as livestock to be trailed over an established driveway when there is no overnight stop on Forest Service administered land do not fit under this definition (36 CFR 261.2). (Note: Unauthorized use by a permittee is technically called excess use; it is billed at the unauthorized use rate.)

**Usable Forage:** That portion of the forage that can be grazed without damage to the basic resources; may vary with season of use, species and associated species.

**Unauthorized use:** Livestock on the National Forest in violation of 36 CFR 261.7, a crime punishable by fine and/or imprisonment. Unauthorized use normally involves a non-permittee. Unauthorized use would apply to a grazing permittee only when a violation is clearly not related to use authorized by the grazing permit.

**Unsatisfactory Range Condition:** Unsatisfactory Range Condition exists when the desired condition is not being met and short term objectives are not being achieved to move the range toward the desired condition.

**Uplands:** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the foot slope zone of the hill slope continuum.

**Usable Forage:** That portion of the forage that can be grazed without damage to the basic resources; may vary with season of use, species and associated species.

**Use:** (1) The proportion of current year's forage production that is consumed or destroyed by grazing animals. May refer either to a single species or to the vegetation as a whole, degree of use. (2) Utilization of range for a purpose such as grazing, bedding, shelter, trailing, watering, watershed, recreation, forestry, etc.

**USF&WS determination:**

- **No Effect (NE):** A determination of NE is applicable if (a) there are no listed or proposed species or designated or proposed critical habitat occurring in the area, or (b) the project will have no impacts on the species (documentation of this is required). A NE determination is only appropriate when the proposed action will have no direct or indirect effect whatsoever on listed or proposed species.
- **May Affect, Not Likely to Adversely Affect (NLAA):** This determination is the appropriate conclusion when a proposed action may pose any effects on listed species or designated critical habitat. When the Federal agency proposing the action determines that a "may affect" situation exists, then they must either initiate formal consultation or seek written concurrence from the Services that the action "is not likely to adversely affect" listed species.
- **Likely to Adversely Affect (LAA):** This determination is the appropriate finding in a biological assessment (or conclusion during informal consultation) if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not: discountable, insignificant, or beneficial (see definition of "is not likely to adversely affect"). In the event the overall effect of the proposed action is beneficial to the listed species, but is also likely to cause some adverse effects, then the proposed action "is likely to adversely affect" the listed species. If incidental take is anticipated to occur as a result of the proposed action, an "is likely to adversely affect" determination should be made. An "is likely to adversely affect" determination requires the initiation of formal section 7 consultation.

**Utilization Intensity (Degree of Use):** The proportion of current year's forage production that is consumed and/or destroyed by grazing animals. Overall utilization is comprised of both the portion eaten by livestock (harvest efficiency) and the portion lost to trampling, insects, or other causes. Research has shown that the proper degree of utilization for most species is around 50 to 60 percent, although some species can withstand heavier degrees of use and some are mortally injured at 50 to 60 percent. The general rule, however, has led the range management technicians to adopt the slogan "take half and leave half", meaning that about one-half of the current year's production can be consumed or destroyed by animals and that the remaining half should be left for the plants in order that they might feed and maintain themselves. With most grasses, 50% use of a plant's weight is not 50% use of its ungrazed height. Normally, two-thirds use of its height is 50% use of its weight.

**Utilization Frequency:** The number of times plants are defoliated during the growing season. Utilization frequency refers to the interval between defoliation intensities such as days, weeks, months or years. As a general rule, damage to the plant increases with increased frequency of defoliation. While excessive defoliation for several months is harmful, it is not necessarily destructive, especially if it is followed by a period of proper use and rest. The same is also true in respect to years. It is year after year of excessive defoliation that causes destruction to perennial vegetations.

**Utilization standards:** Standards established to guide the use and removal of forage and measured in terms of the percent of the plant that is removed.

**Vector:** Literally 'a carrier'. An animal, vehicle, wind, water course, etc. carrying seeds of noxious weeds.

**Vegetation:** Plants in general, or the sum total of the plant life above and below ground in an area.

**Vegetation community type:** An aggregation of all plant communities distinguished by floristic and structural similarities in both overstory and undergrowth layers. A unit of vegetation within a classification.

**Vegetation management:** Activities designed primarily to promote the health of forested and non-forested vegetation for multiple-use purposes.

**Vegetation type:** A plant community with distinguishable characteristics.

**Vegetative:** Relating to nutritive and growth functions of plant life, in contrast to reproductive functions. Should not be confused with vegetation.

**Viability:** Capability of living things of normal growth and development.

**Vigor:** Relates to the relative robustness of a plant in comparison to other individuals of the same species. It is reflected primarily by the size of a plant and its parts in relation to its age and the environment in which it is growing.

**Warm-Season Plant:** One that makes most of its growth during the spring and summer and sets seed in the late summer or early fall. It is normally dormant in winter.

**Waterbar** -- a cross drainage diversion ditch and/or hump in a trail or road for the purpose of diverting surface water runoff into roadside vegetation, duff, ditch, or dispersion area to minimize the volume and velocity which can cause soil movement and erosion.

**Watershed:** A topographically discrete unit or stream basin that includes the headwaters, main channel, slopes leading to the channel, tributaries and mouth area. The land area from which surface runoff drains into a stream, channel, lake, reservoir, or other body of water; also called a drainage basin.

**Watershed Resource Value Rating (WRVR):** A rating of the value of vegetation present on an ecological site for protection of the watershed. WRVR's may be established for each plant community capable of being produced in an ecological type, including exotic and cultivated species.

**Water quality:** The physical, biological and chemical components of stream or lake waters and the degree to which their combined characteristics support beneficial uses.

**Water Table:** Top surface of groundwater. The top of an unconfined aquifer; indicates the level below which soil and rock are saturated with water. The upper surface of the saturation zone.

**Wet Meadow:** A meadow where the surface remains wet or moist throughout the growing season, usually characterized by sedges and rushes.

**Weed:** Any unwanted or undesirable plant, whether grass, forb, shrub or tree.

**Wet Meadow:** A meadow where the surface remains wet or moist throughout the growing season, usually characterized by sedges and rushes.

**Wild Ungulate:** Hoofed animals such as deer, big horn sheep and elk)

**Winter Range:** Range that is grazed during the winter months.

**Woody debris:** The residue left on the ground after a fire, storm, timber cutting, or other event. Woody debris includes unused logs, uprooted stumps, broken or uprooted stems, branches, bark, etc.

**Xeric Plant:** See Xerophytic Plant.

**Xerophytic Plant:** A plant adapted to a xeric or dry environment; for life with a limited supply of water.