

## Part 645 – National Range and Pasture Handbook

### Subpart N – Glossary of Terms

#### 645.1401 Abbreviations Used in This Glossary:

Abbr.	Abbreviation
e.g.	For example
i.e.	That is; in other words
Syn.	Synonym
n.	Noun
v.	Verb
vi.	Verb, intransitive
vt.	Verb, transitive

#### 645.1402 Definitions of Terms

<b>Abiotic</b>	Nonliving components of an ecosystem; basic elements and compounds of the environment.
<b>Aboveground Net Primary Production (ANPP)</b>	Is indicative of an ecosystem’s ability to capture solar energy and convert it to organic carbon (or biomass), which may be used by consumers or decomposers, or stored in the form of living and nonliving organic matter.
<b>Abundance</b>	The total number of individuals of a species in an area, population, or community (SRM 1999).
<b>Accelerated erosion</b>	Erosion in excess of natural rates, usually as a result of anthropogenic activities.
<b>Accessibility</b>	The ease with which an area can be reached by people or penetrated and grazed by animals. The ease with which herbivores can reach plants or plant parts.
<b>Acid soil</b>	A soil that has a pH below 6.6.
<b>Air-dry weight</b>	The weight of a substance, usually vegetation, after it has been allowed to dry to equilibrium with the atmosphere, usually without artificial heat.
<b>Alkaline soil</b>	A soil that has a pH above 7.3.
<b>Alkaloids</b>	Bitter tasting organic compounds of plant origin that have alkaline properties and a complex molecular structure containing nitrogen. They reduce dry matter intake and interfere with digestion of livestock grazing forages containing significant levels of them.
<b>Allelopathy</b>	Chemical inhibition of one organism by another.
<b>Allocated forage</b>	The difference of desired amount of residual material subtracted from the total forage.
<b>Allotment</b>	An area designated for the use of a prescribed number and kind of livestock under one plan of management.
<b>Alluvium</b>	Sediment deposited by streams and rivers.
<b>Amortization</b>	The paying off of a financial obligation in equal installments over time. The amortization factor determines the payment to pay off the principle and interest over a given time period.

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<b>Animal-unit</b>	Denominator for use in calculating the Animal-unit-equivalent of different kinds and classes of domestic livestock and of common wildlife species. Generally, one mature cow of approximately 1,000 pounds and a calf as old as 6 months. Abbr. AU.
<b>Animal-unit-equivalent</b>	A number relating the forage dry matter intake of a particular kind or class of animal relative to one AU. Abbr. AUE.
<b>Animal-unit-month</b>	The amount of forage required by an animal unit for one month. Abbr. AUM.
<b>Animal-unit-year</b>	The amount of forage required by an animal unit for one year, equal to 12 AUMs. The NRCS uses 10,950 pounds of air-dry or 9,490 pounds of oven-dried forage as required pounds of forage to equal an animal unit year. Abbr. AU Y.
<b>Annual plant</b>	A plant that completes its life cycle and dies in one year or less.
<b>Annual production</b>	The net quantity of aboveground vascular plant material produced within a growing season. Synonym: net aboveground primary production.
<b>Annual range</b>	Range on which the principal forage plants are self-perpetuating annual, herbaceous species.
<b>Apparent trend</b>	An interpretation of trend based on observation and professional judgment at a single point in time in relation to an ecological site reference state (typically historic plant community) or another identified plant community state. (see Trend)
<b>Aquifer</b>	A geologic formation capable of transmitting water through its pores at a rate sufficient for water supply purposes. The term water-bearing is sometimes used synonymously with aquifer when a stratum furnishes water for a specific use. Aquifers are usually saturated sands, gravel, fractures, caverns, or vesicular rock.
<b>Arid</b>	A term applied to regions or climates where lack of sufficient moisture severely limits growth and production of vegetation. The limits of precipitation vary considerably according to temperature conditions, with an upper annual limit for cool regions of 10 inches or less and for tropical regions as much as 15 to 20 inches.
<b>Ash</b>	The remaining residue after all the combustible material from a feed stuff has been burned off in a furnace at 500 to 600°C. Nutritionally ash values have little importance.
<b>Aspect</b>	The predominant direction of slope of the land.
<b>Assessments</b>	The act of assessing the physical condition of resources or extent of management applied. Assessments are part of the inventory process that provide a rating of deviation from what is happening on site to some value that is considered normal or within the natural range of variation for the site. Assessments are the estimation or judgement of the status of ecosystem structure, function or processes, and can be conducted by gathering, synthesizing and interpreting information from inventories.
<b>Association</b>	(Syn.) Plant association.
<b>At risk</b>	Rangelands that have a reversible loss in productive capability and increased vulnerability to irreversible degradation based upon an evaluation of current conditions of the soil and ecological processes. An “at risk” designation may point out the need for additional information to better quantify the functional status of an attribute.

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<b>Attribute of rangeland health</b>	A complex variable that represents the status of a suite of interrelated ecological properties (e.g., species composition) and processes (e.g., water cycle, energy flow, and nutrient cycle) that are essential to ecosystem function. The three attributes that collectively define rangeland health include soil/site stability, hydrologic function, and biotic integrity.
<b>AU</b>	Abbr. for Animal-unit. (Usually no periods).
<b>AUM</b>	Abbr. for Animal-unit-month. (Usually no periods).
<b>Autogate</b>	See cattleguard.
<b>AUY</b>	Abbr. for animal-unit-year. (Usually no periods).
<b>Available forage</b>	(Animal oriented.) That portion of the forage production that is accessible for use by a specified kind or class of grazing animal. (Plant and animal oriented.) It is the consumable forage stated in digestible dry matter per land unit area that can be removed by grazing livestock without damage to the forage plants. See Usable forage; same except stated as dry matter per land unit area.
<b>Available water</b>	The portion of water in a soil that can be absorbed by plant roots.
<b>Available water holding capacity</b>	The volume of water available to plants when the soil including fragments is at field capacity.
<b>Baler</b>	A machine that picks up a windrow of forage, compresses it, forms it into a rectangular or cylindrical bale, wraps it, and discharges it either onto the ground or into a trailing, convenient hauling vehicle. Bale size is highly variable among models.
<b>Band</b>	Any number of sheep handled as a unit attended by a herder. See Flock.
<b>Bare ground</b>	Exposed mineral soil not covered by vegetation (live or dead and basal and canopy cover), gravel/rock, visible biological soil crusts, or litter.
<b>Bare ground patch</b>	An area where bare ground is concentrated. Bare ground patches may include some ground cover (e.g., plants, litter, rock, and visible biological soil crusts) within their perimeter, but there is proportionally much more bare soil than ground surface cover.
<b>Barren</b>	(1) Any area devoid of vegetation or practically so. (2) A term to describe a mature female animal that is incapable of producing offspring.
<b>Barrier</b>	A physical obstruction that limits movement.
<b>Basal area</b>	The 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. (Syn.) basal cover.
<b>Benchmark</b>	(1) A permanent reference point. (2) In range inventory, it is used as a point where changes in vegetation through time are measured. (3) In soils, it is used to designate a major soil series that is representative of similar soils. (4) In economics, data that are used as a base for comparative purposes with similar data. (5) A surveyor's mark made on a permanent landmark that has known position and altitude.
<b>Biennial</b>	A plant that lives for 2 years, producing vegetative growth the first year, usually blooming and fruiting in the second year, and then dying.

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<b>Biogeochemical cycle</b>	The cyclical system through which a given chemical element is transferred between biotic and abiotic components of the biosphere. There are five biogeochemical cycles: carbon cycle, nitrogen cycle, oxygen cycle, phosphorus cycle, and the water cycle.
<b>Biological diversity</b>	The variety and variability of the world's organisms, the ecological complexes in which they occur, and the processes and life support services they mediate.
<b>Biological soil crust</b>	Microorganisms (e.g., algae, cyanobacteria), and nonvascular plants (e.g., mosses, lichens) that grow on or just below the soil surface. Synonym: microbiotic crust and cryptogamic crust.
<b>Biomass</b>	The total amount of living plants and animals above and/or below ground in an area at a given time.
<b>Biomass (plants)</b>	The total amount of living plants above and below ground in an area at a given time (SRM 1999). As used in this technical reference, biomass refers only to parts of standing living plants (standing biomass) above ground, and not the roots.
<b>Biome</b>	A major biotic unit consisting of plant and animal communities having similarities in form and environmental conditions, but not including the abiotic portion of the environment.
<b>Biota</b>	All the species of plants and animals occurring within an area or region.
<b>Biotic integrity</b>	The capacity of the biotic community to support ecological processes within the natural range of variability expected for the site, to resist a loss in the capacity to support these processes, and to recover this capacity when losses do occur. The biotic community includes plants (vascular and nonvascular), animals, insects, and microorganisms occurring both above and below ground; one of the three attributes of rangeland health.
<b>Biotype</b>	A group of individuals within a population occurring in nature, all with essentially the same tolerance ranges. A species usually consists of many biotypes. See Ecotype.
<b>Blowout</b>	(1) A hollow or depression of the land surface, which is generally saucer or trough-shaped, formed by wind erosion, especially in an area of shifting sand, loose soil, or where vegetation is disturbed or destroyed (SSSA 1997). In this technical reference, blowouts are included with wind-scoured areas. (2) A breakthrough or rupture of a soil surface attributable to hydraulic pressure, usually associated with sand boils.
<b>Body condition score (BCS)</b>	A rating system used to evaluate the overall health and well-being of livestock has become a widely used method of determining when supplemental feeding should be used. A BCS of 5 usually indicates an animal in average condition. BCS systems usually go from 1 to 9 or 10, with 1 being extremely poor and 9 or 10 being excessively fat.
<b>Boot stage</b>	Growth stage when a grass seedhead is enclosed by the sheath of the uppermost (flag) leaf.
<b>Bovine fat necrosis</b>	Several physiological disorders in cattle caused by necrotic or hard fat lesions in the abdominal cavity. Ingestion of highly fertilized endophyte fungus infected tall fescue seems to cause the disorder.
<b>Brand</b>	(1) (v) To mark the skin or wool of an animal in a distinctive pattern by use of a hot or cold iron, chemical, paint, or other means to designate ownership or to identify individual animals for registration or management purposes. (2) (n) The mark so made.

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<b>Break even</b>	An improvement practice breaks even when added returns equal added costs at an acceptable rate of return.
<b>Breeding herd</b>	The animals retained for breeding purposes to provide for the perpetuation of the herd or band. Excludes animals being prepared for market.
<b>Browse</b>	(n) The portion of woody plant biomass accessible to herbivores (v.) To search for or consume browse.
<b>Browse line</b>	A well-defined height to which browse has been removed by animals.
<b>Brush</b>	Various species of shrubs or small trees usually considered undesirable for livestock or timber management. The same species may have value for browse, wildlife habitat, or watershed protection.
<b>Brush control</b>	Reduction of unwanted woody plants through fire, chemicals, mechanical methods, or biological means to achieve desired land management goals.
<b>Brush management</b>	Manipulating woody plant cover to obtain desired quantities and types of woody cover and/or to reduce competition with herbaceous understory vegetation, in accordance with overall resource management objectives.
<b>Bunchgrass</b>	A grass having the characteristic growth habit of forming a bunch; lacking stolons or rhizomes.
<b>Burn</b>	An area over which fire has recently passed.
<b>Butte</b>	An isolated hill with relatively steep sides. See Mesa.
<b>C-3 plant</b>	A plant employing the pentose phosphate pathway of carbon dioxide assimilation during photosynthesis; a cool-season plant.
<b>C-4 plant</b>	A plant employing the dicarboxylic acid pathway of carbon dioxide assimilation during photosynthesis; a warm-season plant.
<b>Cabling</b>	The use of a large cable pulled between two large tractors (usually crawler tractors) to pull down or uproot brush. See Chaining.
<b>Cactus</b>	A spiny, succulent plant of the Cactaceae family.
<b>Calf crop</b>	The number of calves weaned from a given number of cows exposed to breeding, usually expressed in percent, i.e., number of calves weaned divided by number of cows exposed x 100. Calves weaned.
<b>Caliche</b>	(1) A layer in the soil horizon more or less cemented by secondary carbonates of calcium or magnesium precipitated from the soil solution. It may occur as a soft, thin soil horizon; as a hard, thick bed just beneath the solum; or as a surface layer exposed by erosion. Often used for road material or as a filler to build up areas in heavily traveled areas, such as pens or troughs. Not a geologic deposit. (2) Alluvium cemented with sodium nitrate, chloride, and/or other soluble salts.
<b>Calorie</b>	The amount of heat required to raise the temperature of one gram of water 1°C measured from 14.5 to 15.5 °C.

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<b>CAM plant</b>	A plant employing the crasulacean acid metabolism pathway of carbon dioxide assimilation during photosynthesis.
<b>Canopy</b>	(1) The vertical projection downward of the aerial portion of vegetation, usually expressed as a percent of the ground so occupied. (2) A generic term referring to the aerial portion of vegetation.
<b>Canopy cover</b>	The percentage of ground covered by a vertical projection of the outermost perimeter of the natural spread of foliage of plants. Small openings within the canopy are included. (Syn.) crown cover.
<b>Carrier</b>	(1) Material used to dilute the active ingredient in a chemical formulation. (2) Material used to carry a pesticide to its target. (3) Plant or animal carrying an infectious disease agent internally but showing no marked symptoms.
<b>Carrying capacity</b>	The average number of livestock and/or wildlife that may be sustained on a management unit compatible with management objectives for the unit. In addition to site characteristics, it is a function of management goals and management intensity. The amount of forage produced annually in a management unit is only one attribute used to determine carrying capacity. The forage also has to be available to the animals. On many rangelands, the carrying capacity may be less than forage production would indicate because parts of the management unit are inaccessible to grazing animals. In essence, forage is present but unavailable.
<b>Catchment basin</b>	See Guzzler.
<b>Cation exchange capacity</b>	The amount of exchangeable cations that a soil can adsorb at pH 7.0.
<b>Cattle walkway</b>	(Syn.) walkway.
<b>Cattleguard</b>	A device or structure, at points where roads or railroads cross a fence line, that is so designed that vehicular travel is uninterrupted, but crossing by all kinds of livestock is restricted. (Syn.) autogate.
<b>Cell</b>	A grazing arrangement comprised of numerous subdivision (pastures or paddocks) often formed by electrical fencing, with a central management to facilitate livestock management and movement to the various subdivisions. Normally used to facilitate a form of short duration grazing.
<b>Certified seed</b>	Seed produced from foundation or registered seed that is available for consumer use. It carries a tag signifying it is high quality seed.
<b>Chaining</b>	Similar practice as cabling except a large ship anchor chain with each chain link weighing 80 to 100 pounds is used. See Cabling.
<b>Chaparral</b>	(1) A shrub community. (2) A dense thicket of stiff or thorny shrubs or dwarf trees, common to the Southwest United States.
<b>Chemical soil crust</b>	A soil surface layer, ranging in thickness from a few millimeters to a few centimeters, that is formed when chemical compounds become concentrated on the soil surface. They can reduce infiltration and increase overland water flow similar to physical crusts. They are usually identified by a white color on the soil surface.

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<b>Chiseling</b>	Breaking or loosening the soil, without inversion, with a chisel cultivator or chisel plow. A practice used for grassland or pasture renovation.
<b>Class of animal</b>	Description of age and/or sex-group for a particular kind of animal; e.g., cow, calf, yearling, ewe, doe, or fawn.
<b>Claypan</b>	A dense compact layer in the subsoil having a much higher clay content than the overlying material from which it is separated by a sharply defined boundary; formed by downward movement of clay or by synthesis of clay in place during soil formation. Claypans are usually hard when dry and plastic and sticky when wet. They usually impede the movement of water and air. See Hardpan.
<b>Climate</b>	The average or prevailing weather conditions of a place over a period of years.
<b>Closed range</b>	Any range on which livestock grazing or other specified use is prohibited. See Livestock exclusion.
<b>Commercial</b>	(1) Livestock raised primarily for meat, milk, wool, or other animal-derived products. (2) The label applied to a producer of such animals. See Seedstock for contrasting term.
<b>Common use</b>	(1) Grazing the current year's forage production by more than one kind of grazing animal either at the same time or at different seasons. (2) More than one operator running livestock on the same area at the same time.
<b>Community</b>	An assemblage of populations of plants and/or animals in a common spatial arrangement.
<b>Community pathway</b>	Community pathways describe the causes of shifts between community phases. Community pathways can include the concepts of episodic plant community changes, as well as succession and seral stages. Community pathways can represent both linear and nonlinear plant community changes. A community pathway can be reversible in part by changes in natural disturbances, weather variation, or changes in management.
<b>Community phase</b>	A unique assemblage of plants and associated dynamic soil property levels that can occur within a state.
<b>Community (plant community)</b>	An assemblage of plants occurring together at any point in time, while denoting no particular ecological status. A unit of vegetation.
<b>Compaction layer</b>	A near-surface layer of dense soil caused by impact on or disturbance of the soil surface. When soil is compacted, soil grains are rearranged to decrease the void space and bring them into closer contact with one another, thereby increasing the bulk density.
<b>Companion crop</b>	A crop sown with another crop (i.e., perennial forage) that is allowed to mature and provide a return in the first year.
<b>Competition</b>	A process of struggling between or among organisms of the same species (intraspecific) or different species (interspecific) for light, water, essential elements, or space within a trophic level, resulting in a shortage of essential needs for some individuals or groups.
<b>Composition</b>	(Syn.) Species composition.
<b>Compound interest</b>	Compound interest is computed for one period and immediately added to the principal, thus resulting in a larger principal on which interest is computed for the following period.

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<b>Concentrate feed</b>	Grains or their products and other processed food materials that contain a high proportion of nutrients and are low in fiber and water.
<b>Concentrates</b>	Feeds low in crude fiber (less than 10% on a dry matter basis), low in moisture, and highly digestible. Protein concentrates are of plant or animal origin that contain > 20 percent protein.
<b>Conservation</b>	The use and management of natural resources according to principles that assure their sustained productivity.
<b>Conservation Assessment Ranking Tool (CART)</b>	CART evaluates resource concerns, existing conditions based on resource inventory questions along with existing practices and planned condition, based on planned practices. The CART data is geo-spatially reference to planning land units (PLUs) within a client’s conservation desktop (CD) practice schedule in the client’s case file. CART data is stored in the National Planning and Agreements Database (NPAD), allowing the data to be queried for analytical purposes.
<b>Conservation district</b>	A subdivision of a State, Indian Tribe, or territory, organized pursuant to the State or territorial soil conservation district law, as amended, or Tribal law. They may be called soil conservation districts, soil and water conservation districts, resource conservation districts, land conservation committees, natural resource districts, or similarly legally constituted body.
<b>Conservation Effects Assessment Project (CEAP)</b>	CEAP quantifies the environmental effects of conservation practices and programs. The process includes research, modelling, assessment, monitoring and data collection.
<b>Conservation plan</b>	A record of the client’s decisions and supporting information for treatment of a unit of land for one or more identified natural resource concerns as a result of the planning process. The plan describes the schedule of implementation for practices and activities needed to address identified natural resource concerns and takes advantage of opportunities. The needs of the client, the resources, and Federal, State, Tribal, and local requirements will be met.
<b>Constancy</b>	The percentage occurrence of a species within a given community type.
<b>Consumers</b>	Heterotrophic organisms, chiefly animals, that ingest other organisms or particulate organic matter.
<b>Consumption</b>	Dietary intake based on amounts of specific forages and other feedstuffs or amounts of specific nutrients.
<b>Continuous grazing</b>	The grazing of a specific unit by livestock throughout a year or for that part of the year during which grazing is feasible. The term is not necessarily synonymous with yearlong grazing since seasonal grazing may be involved. Also referred to as continuous stocking.
<b>Continuous set stocking</b>	Allowing a fixed number of animals unrestricted access to an area of grazing land for the whole or substantial part of a grazing season.
<b>Contour furrow</b>	A plowed or listed strip, commonly 8 to 18 inches deep and wide, made parallel to the horizontal contour for the purpose of water retention and reduction of soil erosion.

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<b>Control</b>	(1) Manipulation and management for reduction of noxious plants, a term of many degrees ranging from slightly limiting to nearly complete replacement. (2) Untreated areas or animals used for research, comparison, or evaluation of treatment responses.
<b>Controlled breeding</b>	(1) Controlling the time of breeding of livestock to synchronize the period of optimum growth for the animals with the period of peak quality and optimum growth of forage. (2) A planned program whereby livestock males and females are brought together for breeding purposes, so that off-springs are born during a desired period.
<b>Controlled burning</b>	(Syn.) Prescribed burning.
<b>Convective precipitations</b>	Occurs in the form of light showers and heavy cloudbursts or thunderstorms of extremely high intensity. Most convective storms are random and last less than one hour and usually contribute little to overall moisture storage in the soil.
<b>Converted rangelands</b>	Converted rangelands can include lands seeded to native species, and/or introduced hardy and persistent plant species (grasses, grass-like plants, forbs, shrubs, and trees).
<b>Cool-season plant</b>	A plant that generally makes the major portion of its growth late in fall, in winter, and in early spring. Cool-season species generally exhibit the C-3 photosynthetic pathway.
<b>Coordinated resource management</b>	A specific application of the planning process that utilizes a variety of clients, stakeholders, organizations, agencies, and others, and a variety of land ownerships, to address a multitude of resource or resource related problems, opportunities, or concerns. CRM is frequently accomplished through “consensus” involving participants that may or may not be land managers or have decision-making authority for the planning area involved. The planning area encompasses the geographical area defined by the parties involved in the CRM effort.
<b>Core methods</b>	Sampling protocols that generate indicators that represent the minimum information necessary to describe three key ecosystem attributes: soil and site stability, watershed function, and biotic integrity. Specific methods were identified in conjunction with the Bureau of Land Management Assessment, Inventory, and Monitoring Strategy and the Natural Resources Conservation Service’s National Resources Inventory.
<b>Corral</b>	An enclosure or pen for handling livestock.
<b>Cover</b>	(Syn.) Foliar cover, see Basal area.
<b>Cover type</b>	The existing vegetation of an area.
<b>Creep feeding</b>	Supplemental feeding of suckling livestock in such a manner that the feed is not available to the mothers or other mature livestock.
<b>Creep grazing</b>	The practice of allowing juvenile animals to graze areas that their dams cannot access at the same time.
<b>Critical area</b>	An area to be treated with special consideration because of inherent site factors, size, location, condition, values, or significant potential conflicts among uses.
<b>Crop residue</b>	The portion of a crop remaining after harvest of seed or other primary plant parts. It may be managed for grazing and/or ground cover and to replenish soil organic matter levels.

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<b>Crop rotation pasture</b>	Cropland pasture where livestock are stocked on forages grown in a designed crop rotation cycle with other cultivated crops. Livestock move from crop field to crop field as the stand life of the forage and crop rotation dictate. Depending on the forage stand life and length of the crop rotation, livestock entry may occur seasonally on the same field, or take several years to cycle around the crop fields being grazed in rotation.
<b>Cropland</b>	Land used primarily for the production and harvest of annual or perennial field, forage, food, fiber, horticultural, orchard, vineyard, or energy crops.
<b>Crude fiber</b>	Fiber made up primarily of plant structural carbohydrates, such as cellulose and hemicellulose, but it also contains some lignin.
<b>Crude protein</b>	A calculated portion from the nitrogen content of a feedstuff, using the Kjeldahl procedure. The crude protein content is made up of those compounds defined as proteins and designated true proteins, as well as nonprotein nitrogen compounds such as free amino acids, amides of amino acids, ammonium salts or urea. The protein content of feedstuffs is currently estimated only on the basis of crude protein.
<b>Cryptogam</b>	A plant in any of the groups Thallophytes, Byophytes, Pteridiophytes mosses, lichens, and ferns.
<b>Culm</b>	The stem of a grass that has elongated internodes between nodes (jointed).
<b>Culmless</b>	A vegetative tiller of some grasses that holds its growing point close to the ground by not elongating internodes until it is ready to initiate reproductive growth.
<b>Cultivar (derived from cultivated variety)</b>	A named variety selected within a plant species. Distinguished by any morphological, physiological, cytological, or chemical characteristics. A variety of plant produced and maintained by cultivation which is genetically retained through subsequent generations.
<b>Cultivars</b>	(1) A variety, strain, or race of plant that has originated and persisted under cultivation or was specifically developed for use as a cultivated crop. (2) For cultivated crops, the equivalent of botanical variety, in accordance with the International Code of Nomenclature of Cultivated Plants-1980.
<b>Cultivated crops</b>	(1) Crops grown from seed, bulbs, corms, sprigs, crowns, tubers, cuttings, and graftings and cared for by humans for harvest or landscaping. (2) Crops genetically improved or developed by various agronomic or horticultural techniques.
<b>Cultivating tools</b>	Variously designed machinery used to uproot weeds to keep them from competing with the desired crop. The class of equipment includes field and row crop cultivators, spike and spring tooth harrows, chain drags, and rotary hoes.
<b>Cultural hayland</b>	A land use subcategory of cropland managed for the production of forage crops that are culturally established and typically machine-harvested.
<b>Cut</b>	(1) (v) To separate one or more animals from the herd or band. (n) The animal(s) so separated. (2) To reduce livestock grazing, particularly on a public land allotment.
<b>Cyclonic precipitation</b>	Classified as frontal and non-frontal and is related to the movement of air masses from high pressure to low pressure regions.
<b>DBH</b>	Abbreviation of diameter-at-breast-height of a tree.
<b>Debris</b>	Accumulated plant and animal remains.

<b>Decadent</b>	The natural aging process in plants characterized by dying plants or plant parts that eventually results in mortality. This technical reference version replaces the term decadent with “dying plants or plant parts.”
<b>Deciduous (plant)</b>	A plant whose parts, particularly leaves, are shed at regular intervals or at a given stage of development.
<b>Decomposer</b>	Heterotrophic organisms, chiefly the micro-organisms, that break down the bodies of animals or parts of dead plants and absorb some of the decomposition products, releasing similar compounds usable by producers.
<b>Decomposition</b>	The biochemical breakdown of organic matter into its original compounds and nutrients.
<b>Decreaser</b>	Plant species that will decrease in relative amount with continued heavy defoliation (grazing).
<b>Deferment</b>	Generally, deferment implies a nongrazing period less than a calendar year, while rest implies nongrazing for a full year or longer. See Deferred grazing and Rest.
<b>Deferred grazing</b>	Postponing grazing or resting an area for a prescribed period, usually to meet a specific management objective.
<b>Deferred-rotation</b>	Any grazing system, that provides for a systematic rotation of the deferment among pastures. The time of the rest period generally changes in succeeding years.
<b>Defoliation</b>	The removal of plant leaves, i.e., by grazing or browsing, chemical defoliant, or natural phenomena, such as hail, fire, or frost.
<b>Degree of use</b>	The proportion of current year’s forage production that is consumed and/or destroyed by grazing animals. May refer either to a single species or to the vegetation as a whole. (Syn.) Use.
<b>Density</b>	(1) The number of individuals per unit area. (2) Refers to the relative closeness of individuals to one another.
<b>Depositional area</b>	Location where windblown soil accumulates; the deposited soil may originate from either on- or offsite. Soil deposition due to water movement is assessed with other soil/site stability indicators.
<b>Describing indicators of rangeland health</b>	Protocol to describe the soil profile and 17 indicators of rangeland health to assist in the preparation of a reference sheet to conduct future assessments of rangeland health. There is no predefined reference for this protocol.
<b>Desert</b>	An arid area with insufficient available water for dense plant growth.
<b>Desertification</b>	The process by which an area or region becomes more arid through loss of soil and vegetative cover. The process is often accelerated by excessive, continuous overstocking and drought.
<b>Describing indicators of pasture health</b>	Assessment tool recognized in NRCS planning criteria to identify resource concern criteria thresholds. It is designed to provide information about how well ecological processes – such as the water cycle, energy flow, and nutrient cycling – are functioning on pastureland.

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<b>Desirable plants</b>	Desirable plants are useful forage plants. Although not as highly preferred by grazing animals, they can provide forage. Some of these plants may increase, if the more highly preferred plants are grazed heavily.
<b>Desired plant community</b>	One of the several plant community types that may occupy an ecological site, the one or combination that meets the minimum quality criteria for the soil, water, air, plant, and animal resources, and that meets the landowner's or manager's objective.
<b>Deteriorated range</b>	Range on which present vegetation and soil conditions represent a significant departure from natural potential.
<b>Detritus</b>	Fragmented particulate organic matter derived from the decomposition of debris.
<b>Digestible dry matter (DDM)</b>	See Digestible organic matter.
<b>Digestible organic matter (DOM)</b>	A percentage of energy and protein in forages expressed as organic matter intake minus fecal dry matter divided by dry matter intake times 100.
<b>Discount rate</b>	The interest rate for the opportunity cost of money. The discount rate is determined by summoning the time value of money, the rate of inflation, and the rate of risk.
<b>Disturbance indicators</b>	Displacement or dislocation of the natural state of a sample site resulting from human-induced, natural events, or other occurrences.
<b>Diurnal</b>	Active during daylight hours.
<b>Diversity</b>	A measure of the number of species and their relative abundance in a community.
<b>Dominant</b>	(1) Plant species or species groups that, by means of their number, coverage, or size, have considerable influence or control upon the conditions of existence of associated species. (2) Those individual animals that, by their aggressive behavior or otherwise, determine the behavior of one or more animals resulting in the establishment of a social hierarchy.
<b>Dormant</b>	(1) A living plant that is not actively growing aerial shoots. (2) A pesticide application made on crop plants that are not actively growing.
<b>Double sampling</b>	Double sampling combines the accuracy of harvesting with the speed of estimating to assess biomass. Observers estimate the weight of plant material in multiple plots and then harvest the plant materials from a subset of the plots. The clipped weights obtained from harvesting are used to create a correction factor to adjust the estimated values, which tends to improve the accuracy of the estimations.
<b>Drainage class</b>	A method of classifying the natural drainage condition of the soil that refers to the frequency and duration of soil wetness.
<b>Drift</b>	(v) (1) The movement of materials by wind or water. (2) The natural movement of animals. (n) Vegetative material moved and deposited by wind and water. See Spray drift.
<b>Drip line</b>	The area under the outermost branches of a tree or shrub.

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<b>Drought</b>	(1) A prolonged chronic shortage of water. (2) A period with below normal precipitation during which the soil water content is reduced to such an extent that plants suffer from lack of water; frequently associated with excessively high temperatures and winds during spring, summer, and fall in many parts of the world.
<b>Dry matter</b>	The amount of a feedstuff remaining after all the free moisture is evaporated out. The feedstuff is placed in an oven at a temperature of 100 to 105°C.
<b>Dry weight rank</b>	Determines species composition. It consists of observing various quadrats and ranking the three species which contribute the most weight in the quadrat. Dry weight rank results are expressed only as percentage values.
<b>Dugout</b>	An artificially constructed depression that collects and stores water and differs from a reservoir in that a dam is not relied upon to impound water.
<b>Dust</b>	(1) Windblown soil. (2) A formulation that is a finely ground, dry mixture of an inert carrier and a pesticide. Danger of drift and inhalation by user during use.
<b>Ecohydrology</b>	The study of the functional interrelationships between hydrology and biota at the catchment scale, is a new approach to achieving sustainable management of water.
<b>Ecological processes</b>	Includes the water cycle (the capture, storage, and redistribution of precipitation), energy flow (conversion of sunlight to plant and then animal matter), and nutrient cycle (the cycle of nutrients, such as nitrogen and phosphorus, through the physical and biotic components of the environment). Ecological processes functioning within a natural range of variability support specific plant and animal communities.
<b>Ecological site</b>	An ecological site is a conceptual classification of the landscape. It is a distinctive land unit based on a recurring landform with distinct soils (chemical, physical, and biological attributes), kinds and amounts of vegetation, hydrology, geology, climatic characteristics, inherent ecological resistance and resiliency, unique successional dynamics and pathways, natural disturbance regimes, geologic and evolutionary history including herbivore and other animal impacts, and response to management actions and natural disturbances.
<b>Ecological site description</b>	The documentation of the characteristics of an ecological site. The documentation includes the data used to define the distinctive properties and characteristics of the ecological site; the biotic and abiotic characteristics that differentiate the site (i.e., climate, physiographic characteristics, soil characteristics, plant communities); and the ecological dynamics of the site that describe how changes in disturbance processes and management can affect the site. An ecological site description also provides interpretations about the land uses and ecosystem services that a particular ecological site can support and management alternatives for achieving land management.
<b>Ecology</b>	The study of the interrelationships of organisms with their environment.
<b>Ecosystem</b>	Organisms together with their abiotic environment, forming an interacting system, inhabiting an identifiable space.
<b>Ecosystem Dynamics Interpretive Tool (EDIT)</b>	An information system framework designed to help construct, catalog, and share conceptual models of ecosystem change and ecological site descriptions.
<b>Edaphic</b>	Refers to the soil.

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<b>Emergency feeding</b>	Supplying feed to range animals when available forage is insufficient because of heavy storms, fires, or other such emergencies. See maintenance feeding and Supplemental feeding.
<b>Enclosure</b>	An area fenced to confine animals.
<b>Endemic</b>	Native to or restricted to a particular area, region, or country.
<b>Energy flow</b>	Conversion of sunlight to plant and then animal matter; one of the ecological processes. Annual production is an indicator of energy flow because it assesses the conversion of sunlight to plant biomass, which is then available for consumption by animals.
<b>Energy for maintenance</b>	The amount of feed energy intake that will result in no net loss or gain of energy from the tissues of the animal body. Maintenance is comprised of the following processes or functions: body temperature regulation, essential metabolic processes, and physical activity.
<b>Ensilage</b>	(1) To preserve a forage crop as silage. (2) The act of placing a forage crop in a silo.
<b>Enterprise</b>	Any segment of the land unit's business that can be isolated by accounting procedures so revenue and expenses can be allocated to it.
<b>Environment</b>	The sum of all external conditions that affect an organism or community to influence its development or existence.
<b>Episodic</b>	Occurring, appearing, or changing at usually irregular intervals.
<b>Erosion</b>	(v) Detachment and movement of soil or rock fragments by water, wind, ice, or gravity. (n) The land surface worn away by running water, wind, ice, or other geological agents, including such processes as gravitational creep.
<b>Escarpment</b>	A steep slope or ridge, terminating high lands abruptly, which was formed by erosion or by faulting.
<b>Essential element</b>	A chemical element that is essential to the life of an organism.
<b>Evaluation area</b>	The area (generally 1/2 to one acre in size) where the IIRH protocol is applied.
<b>Evaluation matrix</b>	A matrix used in IIRH to determine indicator departure from the reference sheet ("none to slight" category). A generic evaluation matrix is provided in this technical reference (Table E-B-14), but development and use of ecological site-specific evaluation matrices are strongly recommended.
<b>Evaluator</b>	The person or persons conducting an assessment of rangeland health in an evaluation area.
<b>Evaporation</b>	The physical process where water transitions from a liquid to a gaseous state.
<b>Evapotranspiration</b>	The process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants.
<b>Evergreen (plant)</b>	A plant that has leaves all year round and sheds them more or less regularly through all seasons.

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<b>Exclosure</b>	An area fenced to exclude animals.
<b>Exotic</b>	An organism or species that is not native to the region in which it is found.
<b>Exposure</b>	Direction of slope with respect to points of a compass.
<b>Facilitating practices</b>	A conservation practice that facilitates management or the function of another practice, or both, but does not achieve the desired effects on its own. Example: A fence is a facilitating practice for prescribed grazing. Prescribed grazing helps improve forage for livestock. A facilitating practice is also referred to as a supporting practice.
<b>Fauna</b>	The animal life of a region. A listing of animal species of a region.
<b>Feed</b>	(n) Any non-injurious, edible material having nutritive value when ingested. (v) The act of providing feed to animals.
<b>Feed additives</b>	Materials other than the feeds themselves added to diets; e.g., vitamins, mineral supplements, or antibiotics.
<b>Feedstuffs</b>	Any substance suitable for animal feed.
<b>Fence</b>	A structure that acts as a barrier to livestock, wildlife, or people.
<b>Fencing</b>	Enclosing or dividing an area of land with a suitable structure that acts as a barrier to livestock, wildlife, or people.
<b>Feral</b>	Escaped from cultivation or domestication and existing in the wild.
<b>Fibrous root system</b>	A plant root system having a large number of small, finely divided, widely spreading roots, but no large taproots. Typified by grass root system.
<b>Firebreak</b>	A natural or manufactured barrier used to prevent or retard the spread of fire, that is in existence or made before a fire occurs. It is usually created by the removal of vegetation. See Fireline and Fuel break.
<b>Fireline</b>	A narrow line, 2 to 10 feet wide, from which all vegetation is removed by soil sterilization, yearly maintenance, treatment with chemical fire retardant, or clearing just before ignition of a prescribed burn.
<b>Fixation</b>	A soil process that renders available plant nutrients unavailable or fixed in the soil.
<b>Flexibility</b>	Characteristics of a management plan that allow it to accommodate changing conditions.
<b>Flock</b>	A group of sheep managed in fenced pastures. See Band.
<b>Flooding</b>	The temporary covering of the soil surface by water that flows over it from any source, such as a stream, irrigation canal, tidal action, or runoff from adjacent or surrounding slopes.
<b>Flora</b>	(1) The plant species of an area. (2) A simple list of plant species or a taxonomic manual.

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<b>Floral resources</b>	Flowers producing nectar and pollen, which serve as food for adult bees and butterflies, and some flies, beetles, wasps, and moths. A key habitat resource necessary to support diverse pollinator communities.
<b>Flowable</b>	A pesticide formulation that is a finely ground material suspended in a liquid carrier. It is easy to handle and apply.
<b>Flushing</b>	Improving the nutrition of female breeding animals prior to and during the breeding season to stimulate ovulation.
<b>Fluvial</b>	Pertaining to or produced by the action of a stream or river.
<b>Foliage</b>	The green or live leaves of plants; mass leaves or leafage.
<b>Foliar cover</b>	The percentage of ground covered by the vertical projection of the aerial portion of plants. Small openings in the canopy and intraspecific overlap are excluded. Foliar cover is always less than canopy cover; either may exceed 100 percent. (Syn.) cover.
<b>Food reserves</b>	The excess carbohydrates in plants produced during photosynthesis and stored in a readily available form in various plant parts. Depending on forage species, they may be stored in the root, stem base, stolon, or rhizome. Often erroneously called root reserves.
<b>Forage</b>	(n) All browse and herbage that is available and acceptable to grazing animals, or that may be harvested for feeding purposes. (v) Act of consuming forage. (Syn.) graze.
<b>Forage allowance</b>	Weight of forage per unit of animal demand at any instant of time. It is the inverse of grazing pressure and synonymous with herbage allowance.
<b>Forage crops</b>	(Specific) Forage plants mechanically harvested before being fed to animals. These crops are fed to animals primarily as hay, haylage, fodder (stover), silage, or green chop. (General) A crop of cultivated plants, whose plant parts, other than separated grain, are produced to be grazed or harvested for use as feed for animals.
<b>Forage harvest management</b>	The timely cutting and removal of forages from the field as hay, green- chop, or ensilage.
<b>Forage harvester</b>	A machine that cuts standing forage or picks up windrowed forage and chops it to the desired length of cut for silage and blows the chopped forage into a trailing forage wagon or truck box.
<b>Forage inventory</b>	An estimate of available forage in each pasture and for the operating unit as a whole; used to project stocking rates and feed requirements for specific time periods (i.e., annually, grazing season, rotation cycle).
<b>Forage production</b>	Forage production is palatable species of plants utilized for animal(s). Total forage is the total herbaceous and woody palatable plant biomass available to herbivores.
<b>Forage utilization</b>	Grazing use of current growth, usually expressed as a percent of the current growth (by weight) which has been removed. See Use.
<b>Forage value rating</b>	A utilitarian rating of forage plants on a particular area for a specific kind of herbivore. Forage ratings are based on preference, quality, nutritional value, and plant maturity. This is not an ecological rating.

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<b>Forb</b>	Any broad-leaved herbaceous plant other than those in the Gramineae (or Poaceae), Cyperaceae, and Juncacea families.
<b>Forest land (forest)</b>	A spatially defined site where the historic climax plant community was dominated by a 25 percent overstory canopy of trees, as determined by crown perimeter-vertical projection. For conservation planning purposes, Land on which the historic and/or introduced vegetation is predominantly tree cover managed for the production of wood products or non-timber forest products.
<b>Free ranging</b>	Ability to roam or forage at-will, unrestricted by fences.
<b>Frequency (vegetation metric)</b>	The ratio between the number of sample units that contains species and the total number of sample units.
<b>Frost heave</b>	Soil and plants displaced by ice needles and lenses. Primary frost heave is caused by ice needles producing minor soil displacement. Secondary frost heave is caused by ice lenses producing major soil displacement. Primary frost heave tends to displace seedlings. Secondary frost heave can displace mature overwintering plants. The heaving action pushes plants upward. This causes root breakage, desiccation of exposed roots, and often death of susceptible plant species.
<b>Function</b>	In IIRH this refers to the ecophysiological role that plants and biological soil crusts play on a site. This may include the plant’s life cycle (e.g., annual, monocarpic perennial, or perennial), phenology, photosynthetic pathway, nitrogen fixer associations, sprouting ability, and water infiltration.
<b>Functional/structural group</b>	A suite or group of plant species that, because of similar shoot or root structure, photosynthetic pathways, nitrogen fixing ability, life cycle, etc., are grouped together on an ecological site basis. Plant species (including nonvascular plants such as visible biological soil crusts) that are grouped together on the basis of similar growth forms or ecophysiological roles.
<b>Functionally present</b>	In IIRH this pertains to the number of plants within a functional/structural group that is necessary to consider the functional/structural group as functioning in an evaluation area. Generally, if only a few individuals in a functional/structural group are present in an evaluation area, that functional/structural group is no longer considered functionally present. The rationale for this determination is that the ecological role of that functional/structural group has been diminished to the degree that it is essentially providing little to no ecological function or reproductive capability. This concept is applied when rating the indicators functional/structural groups and vigor with an emphasis on reproductive capability of perennial plants.
<b>Functioning</b>	In IIRH, (1) refers to the rangeland health attributes in which the majority (see definition of “preponderance of evidence”) of the associated indicators are rated as having little or no deviation from that described in the reference sheet (Appendix 1a and 1b) for the ecological site; (2) refers to the presence and integrity of ecological processes (energy flow, water cycle, and nutrient cycle) being within the range of expectations for the ecological site.
<b>Game</b>	(1) Wild birds, fish, and other animals hunted. (2) Wildlife species so designated by law and the harvest of which is regulated by law.
<b>Geographic Information System (GIS)</b>	A spatial type of information management system that provides for the entry, storage, manipulation, retrieval, and display of spatially oriented data.

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<b>Global Positioning System (GPS)</b>	A computer-based receiver system that uses satellite transmissions to determine precise latitude and longitude readings at any location in a field. This system is used to map crop yield, soil fertility, weed infestations, soil type, and other yield influencing differences. It then forms the basis for variable rate applications of fertilizer and pesticides. Application equipment is guided by a georeferenced program to deliver different application rates as it traverses back and forth across a field.
<b>Graminoid</b>	Grass or grass-like plant, such as Poa, Carex, and Juncus species.
<b>Grass</b>	A member of the family Gramineae (Poaceae).
<b>Grassland</b>	Land on which the vegetation is dominated by grasses, grass-like plants, and/or forbs.
<b>Grasslike plant</b>	A plant of the Cyperaceae or Juncaceae families that vegetatively resembles a true grass of the Gramineae family.
<b>Graze</b>	(1) (vi) The consumption of standing forage by livestock or wildlife. (2) (vt) To put livestock to feed on standing forage.
<b>Grazed</b>	A land use modifier to provide another level of specificity and help denote what the land is managed for. This modifier is used when grazing animals impact how land is managed.
<b>Grazed forest land</b>	Land that is currently used for forest land and livestock grazing.
<b>Grazer</b>	A grazing animal.
<b>Grazing</b>	(vt) To graze.
<b>Grazing behavior</b>	The foraging response elicited from a herbivore by its interaction with its surrounding environment.
<b>Grazing capacity</b>	The total number of animals that may be sustained in a given area based on total forage resources available, including harvested roughages and concentrates. See Carrying capacity.
<b>Grazing distribution</b>	Dispersion of livestock grazing within a management unit or area.
<b>Grazing land</b>	(1) Collective term used by NRCS for rangeland, pastureland, grazed forest land, native and naturalized pasture, hayland, and grazed cropland. Although grazing is generally a predominate use, the term is used independent of any use. (2) Land used primarily for production of forage plants maintained or manipulated primarily through grazing management. Includes all lands having plants harvestable by grazing without reference to land tenure, other land uses, management, or treatment practices.
<b>Grazing land mechanical treatment</b>	Renovating, contour furrowing, pitting, or chiseling native grazing land by mechanical means. The purpose of this practice is to improve plant cover and water quality by aerating the soil, increasing infiltration and available moisture, reducing erosion, and protecting low areas or structures from siltation.
<b>Grazing license</b>	Official written permission to graze a specific number, kind, and class of livestock for a specified period on a defined allotment or management area.
<b>Grazing management</b>	The manipulation of grazing and browsing animals to accomplish a desired result.

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<b>Grazing management plan</b>	A program of action designed to secure the best practicable use of the forage resources by manipulation of the grazing animal.
<b>Grazing period</b>	The length of time that animals are allowed to graze on a specific area.
<b>Grazing permit</b>	(Syn.) grazing license.
<b>Grazing preference</b>	(1) Selection of certain plants, or plant parts, over others by grazing animals. (2) In the administration of public lands, a basis upon which permits and licenses are issued for grazing use.
<b>Grazing pressure</b>	(1) Animal-demand per unit weight of forage at any instant; i.e., AU/T; an animal/forage relationship. (2) The relationship between the amount of forage utilized by grazing animals on a given area.
<b>Grazing season</b>	(1) The time interval when animals are allowed to use a certain area. (2) On public lands, an established period for which grazing permits are issued. May be established on private land in a grazing management plan.
<b>Grazing system</b>	A specialization of grazing management that defines systematically recurring periods of grazing and deferment for two or more pastures or management units. Descriptive common names, such as Merrill, Hormay, or South African switchback, may be used. However, the first usage of a grazing system name in a publication should be followed by a description using a standard format. This format shall consist of a numerical description in the following prescribed order: the number of pastures (or units), number of herds, length of grazing periods, length of deferment periods for any given unit in the system followed by an abbreviation of the unit of time used. Examples: <b>Merrill system</b> (4-3;12: 4 mo.) is a grazing system with 4 pastures, 3 herds of livestock, a 12-month grazing period, and a 4-month deferment period. <b>South African switchback</b> (2-1; 3:3, 6:3, 3:6 mo.) is a grazing system with 2 pastures, 1 herd, and a grazing schedule of 3 months grazing, 3 months deferment, 6 months grazing, 3 months deferment, 3 months grazing, 6 months deferment. <b>High intensity, low frequency (HILF)</b> (14-1; 12:156 da.) A grazing system consisting of 14 pastures, 1 herd, a 12-day grazing period, and a 156-day deferment period for each pasture.
<b>Grazing unit</b>	An area of land which is grazed as an entity. (Syn.) pasture, paddock, range, planning land unit (PLU).
<b>Green chop</b>	Mechanically harvested forage fed to animals while still fresh.
<b>Gross primary production</b>	Total amount of organic material produced, both above ground and below ground.
<b>Ground cover</b>	The percentage of material, other than bare ground, covering the land surface. It may include live and standing dead vegetation, litter, cobble, gravel, stones, and bedrock. Ground cover plus bare ground would total 100 percent.
<b>Ground truth</b>	Measurements or observations made on the ground for the purpose of verifying interpretations made from aerial photography or remote sensing.
<b>Ground water</b>	Subsurface water that is in the zone of saturation. The top surface of the ground water is the water table. Source of water for wells, seepage, and springs.
<b>Growing season</b>	That portion of the year when temperature and moisture permit plant growth.

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<b>Growth form</b>	The characteristic shape or appearance of a plant.
<b>Grubbing</b>	The act of removing roots, whether woody or herbaceous, by humans or animal activity.
<b>Gully</b>	A furrow, channel, or miniature valley, usually with steep sides, through which water commonly flows during and immediately after rains or snowmelt.
<b>Gully erosion</b>	Occurs when runoff is concentrated at a nickpoint where there is an abrupt change of elevation, slope gradient, and a lack of protective vegetation.
<b>Habitat</b>	The natural abode of a plant or animal, including all biotic, climatic, and edaphic factors affecting life.
<b>Habitat type</b>	The collective area which one plant association occupies. The habitat type is defined and described on the basis of the vegetation and its associated environment.
<b>Half-shrub</b>	A perennial plant with a woody base whose annually produced stems die each year.
<b>Hardiness</b>	The ability to survive exposure to adverse conditions.
<b>Hardpan</b>	A hardened soil layer in the lower part of the horizon A or in the B horizon caused by cementation of soil particles with organic matter or with such materials as silica, sesquioxide's, or calcium carbonate. The hardness does not change appreciably with changes in moisture content, and pieces of the hard layer do not crumble in water.
<b>Harvest</b>	Removal of animal or vegetation products from an area of land.
<b>Harvest efficiency</b>	The total percent of vegetation harvested by a machine or ingested by a grazing animal compared to the total amount of vegetation grown in the area in a given year. For continuous grazing, harvest efficiency usually averages: Rangeland, 25 percent; Pastureland, 30 percent; Grazed cropland, 35 percent.
<b>Harvest interval</b>	The length of time that occurs between forage cuttings.
<b>Hay</b>	The herbage of grasses, legumes, or comparatively fine-stemmed forbs cut and cured (dried) to preserve forage for later use as livestock feed.
<b>Hay crop</b>	Forage crops traditionally harvested for dry hay that can also be ensiled.
<b>Haylage</b>	A fermented product resulting from ensiling forage that ranges from 40 to 55 percent moisture in the absence of oxygen.
<b>Headcut</b>	Abrupt elevation drop in the channel of a gully that accelerates erosion as it undercuts the gully floor and migrates upstream.
<b>Hedged</b>	The appearance of woody plants that have been repeatedly browsed so as to appear artificially clipped.
<b>Hedging</b>	The persistent browsing of terminal buds of browse species causing excessive lateral branching and a reduction in main stem growth.
<b>Heifer</b>	A female of the cattle species less than 3 years of age that has not borne a calf.
<b>Herb</b>	Any flowering plant except those developing persistent woody stems above ground.

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<b>Herbaceous</b>	Vegetative growth with little or no woody component. Nonwoody vegetation, such as graminoids and forbs.
<b>Herbage</b>	(1) Total aboveground biomass of plants including shrubs regardless of grazing preference or availability. (2) Herbs taken collectively.
<b>Herbage production</b>	Production of certain herbaceous plants or groups of herbaceous plants.
<b>Herbicide</b>	A chemical used to kill or inhibit the growth of plants.
<b>Herbivore</b>	An animal that subsists principally or entirely on plants or plant materials.
<b>Herd</b>	An assemblage of animals usually of the same species.
<b>Herding</b>	The handling or tending of a herd.
<b>High intensity, low frequency</b>	Usually a single herd multi-pasture grazing system, that normally includes a slow rotation for range improvement (usually characterized by relatively long grazing periods and substantially longer rest periods).
<b>Historic plant community</b>	The plant community that was best adapted to the unique combination of factors associated with the ecological site. It was in a natural dynamic equilibrium with the historic biotic, abiotic, climatic factors on its ecological site in North America at the time of European immigration and settlement.
<b>Home range</b>	The area over which an animal normally travels in search of food.
<b>Host plant</b>	A key habitat resource necessary to support diverse pollinator communities. Host plants provide vegetative forage needed for larval development of most butterfly and moth species, as well as for some flies and beetles.
<b>Humus</b>	The organic fraction of soil in which decomposition is so far advanced that its original form is not distinguishable.
<b>Hybrid</b>	Offspring of a cross between genetically dissimilar individuals.
<b>Hybrid vigor</b>	The increased performance (rate of gain) associated with F1 crossbreeding.
<b>Hydrocyanic acid</b>	A poisonous compound, HCN, produced when forages containing antiquality chemicals called cyanogenic glycosides and the proper enzymes are eaten by a grazing animal. Plants developed cyanogenic compounds as a defense mechanism against herbivore feeding. It is the scientific term for prussic acid.
<b>Hydrologic cycle</b>	A continuous process by which water is transported from the oceans to the atmosphere, to the land, through the environment, and back to the sea.
<b>Hydrologic function</b>	The capacity of an area to capture, store, and safely release water from rainfall, runoff, and snowmelt (where relevant), to resist a reduction in this capacity, and to recover this capacity when a reduction does occur; one of the three attributes of rangeland health.
<b>Hydrology</b>	The science dealing with the occurrence of water on the earth and its physical and chemical properties, transformation, combinations, and movements, especially with the course of water movement from the time of precipitation on land and movement to the sea or atmosphere.

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<b>Improved pasture</b>	Grazing land permanently producing introduced or domesticated native forage species that receives varying degrees of periodic cultural treatment to enhance forage quality and yields and is primarily harvested by grazing animals.
<b>Increaser</b>	Native plants in Ecological Site reference plant community that increase under excessive continuous grazing by livestock. If heavy grazing continues, livestock will reduce the more palatable plants and shift to the increaser species.
<b>Indicators</b>	Components of an ecosystem whose characteristics (e.g., presence or absence, quantity, distribution) are used as an index of an attribute (soil/site stability, hydrologic function, and biotic integrity) that is not feasible or too expensive to measure.
<b>Indigenous</b>	Born, growing, or produced naturally(native) in an area, region, or country.
<b>Infestation</b>	Invasion by large numbers of parasites or pests.
<b>Infiltration</b>	The process by which water enters the soil surface and is affected by the combined forces of capillarity and gravity.
<b>Infiltration capacity</b>	When rainfall during a storm exceed infiltration paucity of the soil, surface runoff or ponding on the soil surface occurs.
<b>Infiltration rate</b>	Infiltration rate is related to the volume of water moving into the soil profile per unit area of surface area.
<b>Initial stocking rate</b>	A safe starting stocking rate assumed to ensure against excessive grazing utilization. It is intended as a guide until experienced yields can be determined and realistic stocking rates established for a given area.
<b>Insecticide</b>	A pesticide used to control or prevent damage by insects.
<b>Integrated pest management</b>	Controlling pest populations using a combination of proven methods that achieve the proper level of control of them while minimizing harm to other organisms in the ecosystem. Control methods include natural suppression, biological control, resistance breeding, cultural control, and direct control.
<b>Interest</b>	Interest is the earning power of money; what someone will pay for the use of money.
<b>Internal rate of return</b>	The compounded interest rate that the practice will return based upon the inputs provided.
<b>Interrill erosion</b>	The removal of a fairly uniform layer of soil on a multitude of relatively small areas by splash due to raindrop impact and by sheetflow.
<b>Interseeding</b>	Planting seed in the center of narrow seedbed strips, commonly 6 inches to 6 feet wide and prepared by mechanical or chemical methods.
<b>Introduced species</b>	A species not a part of the original fauna or flora of the area in question.
<b>Invader</b>	Plants that are not a part of the original plant community that invade an area as a result of disturbance, or plant community deterioration, or both. (Syn.) Invasive.
<b>Invasion</b>	The migration of organisms from one area to another area and their establishment in the latter.

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<b>Invasive plants</b>	Plant species that are typically not found on the ecological site or should only be in the trace or minor categories under the natural disturbance regime and have the potential to become a dominant or codominant species on the site if their establishment and growth are not actively controlled by natural disturbances or management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are ruderal plants and not invasive plants.
<b>Inventory</b>	The identification of attributes, features, and other data pertaining to natural resources and special environmental concerns on and surrounding a planning area.
<b>Jointed</b>	A grass stem that has distinct, elongated internodes between nodes.
<b>Key grazing area</b>	A relatively small portion of a pasture or management unit selected because of its location, use, or grazing value as a monitoring point for grazing use. It is assumed that key areas, if properly selected, will reflect the current grazing management over the pasture or management unit as a whole.
<b>Key species</b>	Key grazing species are forage species whose use serves as an indicator of the degree of use of associated species. They are species that must, because of their importance, be considered in the management program.
<b>Kind of animal</b>	An animal species or species group, such as sheep, cattle, goats, deer, horses, elk, antelope.
<b>Lamb crop</b>	The number of lambs produced by a given number of ewes, usually expressed in percent of lambs weaned of ewes bred.
<b>Land treatments</b>	A wide range of vegetation and soil manipulations, such as use of mechanical equipment, herbicides, prescribed fire, or seeding.
<b>Landscape</b>	Large, connected geographical regions that have similar environmental characteristics and that may consist of part or all of one or more watersheds.
<b>Leaf area index (LAI)</b>	Sum of leaf area expressed as a percentage of ground surface. Leaf area index may exceed 100 percent.
<b>Lentic</b>	A riparian system characterized by still water (such as lakes, ponds, or swamps).
<b>Lessee</b>	One who has specified rights or privileges under lease. (Syn.) permittee.
<b>License</b>	See Grazing license or Permit.
<b>LiDAR</b>	A surveying method that measures distance to a target by illuminating the target with pulsed laser light and measuring the reflected pulses with a sensor. Differences in laser return times and wavelengths is used to make digital 3-D representations of the target.
<b>Life-form</b>	Characteristic form or appearance of a species at maturity, e.g., tree, shrub, herb.
<b>Lime</b>	(1) Calcium oxide. (2) All limestone-derived materials applied to neutralize acid soils.
<b>Limiting factor</b>	Any environmental factor that exists at suboptimal level and thereby prevents an organism from reaching its full biotic potential.

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<b>Linear extensibility percent</b>	The unit of measurement that determines soil shrink-swell classes. It is the linear expression of the volume difference of natural soil fabric at one-third bar or one-tenth bar water content and oven dryness. It equals the moist length minus the dry length value sum divided by the dry length times 100.
<b>Litter</b>	The uppermost layer of organic debris on the soil surface; essentially the freshly fallen or slightly decomposed vegetal material.
<b>Litter movement</b>	Change in the location of litter due to wind or water.
<b>Livestock</b>	Domestic animals used for the production of goods and services.
<b>Livestock exclusion</b>	Land closed to grazing by domestic livestock.
<b>Livestock management</b>	Application of technical principles and business methods to livestock production.
<b>Livestock operation</b>	(Farm) See Ranch.
<b>Livestock production</b>	(1) The weight, number of animals, etc., that a rangeland area, seeded pasture, or management system produces. (2) The business of producing livestock.
<b>Lotic</b>	A riparian system characterized by actively moving water.
<b>Maintenance</b>	Condition in which a nonproductive animal neither gains nor loses body energy reserves.
<b>Maintenance feeding</b>	Supplying feed to range animals when available forage does not meet their minimum daily requirement. This may be necessitated by excessive grazing, inclement weather, or the inability of the site to produce the desired quality forage.
<b>Major Land Resource Area (MLRA)</b>	Broad geographic areas that are characterized by a particular pattern of soils, climate, water resources, vegetation, and land use. Each MLRA in which rangeland and forest land occur is further broken into range sites.
<b>Management area</b>	An area for which a single management plan is developed and applied.
<b>Management plan</b>	A program of action designed to reach a given set of objectives.
<b>Management practice</b>	A conservation practice that requires regular input from the land manager. Examples include nutrient management, residue management, integrated pest management, etc. (See also “structural practice.”)
<b>Management unit</b>	A subdivision of a management area.
<b>Marker</b>	(1) A colored or otherwise marked sheep in a range band. (2) Dye, foam, or paper strips to indicate area covered in earlier pass of sprayer. (3) An infertile (vasectomized) male animal, often equipped with a dye marker, used to identify ovulating females for artificial insemination.
<b>Marking</b>	Any method, other than branding, of placing a sign on an animal for the purpose of identification. For example: ear slits, tags, wattles. See Brand, Earmarking, and Tagging.

<b>Marsh</b>	Flat, wet, treeless areas usually covered by standing water and supporting a native growth of grasses and grass-like plants.																					
<b>Mature soil</b>	A soil with well-developed characteristics produced by the natural processes of soil formation and in equilibrium with its environment. See Soil.																					
<b>Maximum economic yield</b>	The yield reached where the last increment of an input, such as fertilizer, just pays for itself by producing a yield increment of equal value.																					
<b>Meadow</b>	An area of perennial herbaceous vegetation, usually grass or grasslike, used primarily for hay production.																					
<b>Mesa</b>	A flat-topped mountain, or other elevation bounded on at least one side by a steep cliff. Local in Southwest.																					
<b>Metric units</b>	<table border="1"> <thead> <tr> <th>To Convert:</th> <th>To:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>Kilograms per hectare</td> <td>Pounds per acre</td> <td>0.891</td> </tr> <tr> <td>Kilograms</td> <td>Pounds</td> <td>2.2046</td> </tr> <tr> <td>Hectares</td> <td>Acres</td> <td>2.471</td> </tr> <tr> <td>Pounds per acre</td> <td>Kilograms per hectare</td> <td>1.12</td> </tr> <tr> <td>Pounds</td> <td>Kilograms</td> <td>0.4536</td> </tr> <tr> <td>Acres</td> <td>Hectares</td> <td>0.4047</td> </tr> </tbody> </table>	To Convert:	To:	Multiply by:	Kilograms per hectare	Pounds per acre	0.891	Kilograms	Pounds	2.2046	Hectares	Acres	2.471	Pounds per acre	Kilograms per hectare	1.12	Pounds	Kilograms	0.4536	Acres	Hectares	0.4047
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<b>Migrant</b>	One that moves from place to place.																					
<b>Minor</b>	In IIRH, species or functional/structural groups within a plant community with less size per unit area than subdominant plants and generally greater than 1% and less than 10% of the community composition; elimination of these species or groups from the community would have a minor impact on the composition of the remaining groups.																					
<b>Monitoring</b>	The orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting management objectives. This process must be conducted over time in order to determine whether or not management objectives are being met.																					
<b>Morphology</b>	The form and structure of an organism, with special emphasis on external features.																					
<b>Mott</b>	A group of trees and/or shrubs.																					
<b>Mottling</b>	Variation of coloration in soils as represented by localized spots, patches, or blotches of contrasting color. Commonly develops under alternating wet and dry periods with associated reduction and oxidation environments. Mottling generally indicates poor aeration and impeded drainage.																					
<b>Mower-conditioner</b>	A pull-type or self-propelled machine that has a mower unit mounted in front of a conditioner unit for one pass mowing and conditioning of forages being prepared for harvest. Both units are enclosed in the same housing.																					
<b>Mulch</b>	(n) (1) A layer of dead plant material on the soil surface. (2) An artificial layer of material, such as paper or plastic, on the soil surface. (v) Cultural practice of placing rock, straw, asphalt, plastic, or other material on the soil's surface as a mulch.																					
<b>Multiple use</b>	Use of land for more than one purpose; i.e., 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.																					

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<b>National Resources Inventory (NRI)</b>	Grazingland On-Site Study collects and produces scientifically credible information on the status, condition, and trends of land, soil, water, and related resources on the Nation’s non-federal lands in support of efforts to protect, restore, and enhance the lands and waters of the United States.
<b>Native pasture</b>	See Naturalized pasture.
<b>Native species</b>	A species which is a part of the original fauna or flora of the area in question. See Indigenous.
<b>Natural disturbance regime</b>	The kind, frequency, and intensity of natural disturbance events that would have occurred on an ecological site prior to European influence (ca. 1600) in North America (Winthers et al. 2005). Natural disturbances include, but are not limited to, native insect outbreaks, wildfires, native wildlife activities (herbivory, burrowing, etc.), indigenous human activities, and weather cycles and extremes (including droughts and unusual wet periods, temperatures, and snow and wind events).
<b>Natural range of variability</b>	The deviation of characteristics of biotic communities and their environment that can be expected given natural variability in climate and natural disturbance regimes. The natural range of variability does not include influences of nonnative species and also does not encompass soil degradation, such as accelerated erosion, organic matter loss, changes in nutrient availability, or soil structure degradation, beyond what would be expected to occur under the natural disturbance regime.
<b>Naturalized pasture</b>	Naturalized pasture is cleared, converted, past cultivation, and “old-field” or “go-back land.” It is forestland and cropland that primarily contain introduced species that are largely adapted and have become established without agronomic and cultural inputs, persist under the current conditions of the local environment, and are stable over long time periods.
<b>Naturalized species</b>	An introduced species that has become adapted to a new climate, different ecological site, or a different environment and can perpetuate itself in the community without cultural treatment.
<b>Nematodes</b>	Tiny, tubular, unsegmented, eel-like, soil-borne worms that feed on plant roots or parasitize grazing animals.
<b>Net energy (NE)</b>	Energy available to the animal for the maintenance or various productive purposes.
<b>Net primary production</b>	The net increase in plant biomass within a specified area and time interval. It is the amount of carbon uptake during photosynthesis after subtracting plant respiration. This measure is an important indicator for studying the health of plant communities.
<b>Net present value</b>	The difference between returns and costs when compared in present dollars. Value of today’s dollar=Present value.
<b>Niche</b>	The ecological role of a species in a community.
<b>Nitrogen fixation</b>	The biological reduction of molecular nitrogen to chemical forms that can be used by organisms in the synthesis of organic molecules.
<b>Non-consumed plants</b>	Non-consumed plants are unpalatable to grazing animals, or they are unavailable for use because of structural or chemical adaptations. They may become abundant if more highly preferred species are over utilized or grazed out.

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<b>Nonjointed</b>	See Culmless.
<b>Nonprotein nitrogen</b>	Sources other than natural protein, such as urea, biuret, and ammonia hydroxide.
<b>Normalized Difference Vegetation Index (NDVI)</b>	A measure of the state of plant health based on how the plant reflects light at certain frequencies (some waves lengths are absorbed, and others are reflected).
<b>Noxious weed</b>	An unwanted plant specified by Federal or State laws as being especially undesirable, troublesome, and difficult to control. It grows and spreads in places where it interferes with the growth and production of the desired crop.
<b>Nurse crop</b>	A temporary crop seeded at or near the time primary plant species are seeded to provide protection and otherwise ensure establishment of the latter. (Syn.) companion crop.
<b>Nutrient</b>	Any food constituent or ingredient that is required for or aids in the support of life.
<b>Nutrient cycle</b>	The cycle of nutrients, such as nitrogen and phosphorus, through the physical and biotic components of the environment; one of the ecological processes.
<b>Nutrient management</b>	Managing the amount, form, placement, and timing of plant nutrient applications to optimize plant growth, provide safe nutritious food, and minimize environmental degradation.
<b>Nutrition</b>	Ingestion, digestion, and/or assimilation of food by plants and animals.
<b>Nutritive value</b>	Relative capacity of a given forage or other feedstuff to furnish nutrition for animals. In range management, the term is usually prefixed by high, low, or moderate.
<b>Open</b>	A term commonly used to describe a nonpregnant female animal.
<b>Open range</b>	(1) Rangeland that has not been fenced into management units. (2) All suitable rangeland of an area upon which grazing is permitted. (3) Untimbered rangeland. (4) Rangeland on which the livestock owner has unlimited access without benefit of land ownership or leasing.
<b>Operating unit</b>	(Syn.) Ranch, (Syn.) Planning Area (NPPH).
<b>Opportunity cost</b>	When money is used for a particular purpose, the opportunity to use it or invest it in some other way is foregone. The expected return from the lost opportunity from another investment (i.e., savings account, certificate of deposit, IRA) is the opportunity cost of using it in the manner chose.
<b>Organic matter</b>	Living plant tissue and decomposed or partially decomposed material from living organisms.
<b>Organism</b>	Any living entity: plant, animal, fungus.
<b>Orographic precipitation</b>	Results when moist air is lifted over mountains or other natural barriers. Important factors in the orographic process include elevation, slope, aspect or orientation of slope and distance from the moisture source.
<b>Outcrop</b>	The exposure of bedrock or strata projecting through the overlying cover of detritus and soil.

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<b>Oven-dry weight</b>	The weight of a substance after it has been dried in an oven at a specific temperature to equilibrium.
<b>Overgrazing</b>	Grazing that exceeds the recovery capacity of the individual species or the plant community.
<b>Overland flow</b>	Movement of water over the land’s surface. Overland flow occurs when rainfall or snowmelt intensity exceeds soil infiltration capacity and water accumulates on the soil and starts moving downslope toward a drainage network. Sometimes referred to as sheetflow. The path that the overland flow takes constitutes the water flow patterns. See Runoff.
<b>Overstocking</b>	Placing a number of animals in a given area that will result in overuse if continued to the end of the planned grazing period.
<b>Overstory</b>	The upper canopy or canopies of plants. Usually refers to trees, tall shrubs, and vines.
<b>Overuse</b>	Utilizing an excessive amount of the current year’s plant growth which, if continued, will result in deterioration.
<b>Overwintering sites</b>	A key habitat resource necessary to support diverse pollinator communities. The great majority of insect pollinators do not migrate and are full-year residents. In most U.S. states, cold winter temperatures restrict insect activity, and those insects need somewhere to safely survive the winter while immobile.
<b>Paddock</b>	(1) One of the subdivisions or subunits of the entire pasture unit. (2) A relatively small enclosure used as an exercise and saddling area for horses, generally adjacent to stalls or a stable. (Syn.) pasture.
<b>Palatability</b>	The relish with which a particular species or plant part is consumed by an animal.
<b>Pan (soils)</b>	Horizon or layer in soils that is strongly compacted, indurated, or very high in clay content.
<b>Partial budgeting</b>	Economic evaluation of a conservation practice or resource management system can be estimated through partial budgeting. Partial budgeting examines only the change in costs, returns, and benefits resulting from the practice.
<b>Pasture condition scoring</b>	Assessment tool recognized in NRCS planning criteria to identify resource concern criteria thresholds. It is used for assessing ecological condition on pastureland through the visual evaluation of 10 indicators, which rate pasture vegetation and soils.
<b>Pasture planting</b>	Establishing adapted herbaceous species on land to be treated and grazed as pasture.
<b>Pasture/Pastureland</b>	Land composed of introduced or domesticated native forage species that is used primarily for the production of livestock. Pastures receive periodic renovation and cultural treatments, such as tillage, fertilization, mowing, weed control, and may be irrigated. Pastures are not in rotation with crops.
<b>Peak standing crop</b>	The greatest amount of plant biomass above ground present during a given year.
<b>Pedestaled</b>	A condition where the soil has eroded from around individual plants or other objects, such as small rocks, leaving them on small pedestals of soil. Sometimes the result of frost heaving.

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<b>Pellets</b>	A pesticide formulation similar to granules except pellets are usually more uniform, of a specific weight or shape, and greater than 10 cubic millimeters in size. Often used as rodenticide and slug baits.
<b>Percent use</b>	Grazing use of current growth, usually expressed as a percent of the current growth (by weight) that has been removed. See Degree of use.
<b>Percolation</b>	Downward movement of water through the soil profile.
<b>Perennial plant</b>	A plant that has a life span of three or more years.
<b>Permanent water</b>	A watering place that supplies water at all times throughout the year or grazing season.
<b>Permit</b>	See Grazing license.
<b>Permittee</b>	One who holds a permit to graze livestock on State, Federal, or certain privately-owned lands. (Syn.) Lessee.
<b>Pesticide</b>	Any chemical agent such as herbicide, fungicide, or insecticide, used for control of specific organisms.
<b>Phenology</b>	The study of periodic biological phenomena that are recurrent, such as flowering, or seeding, especially as related to climate.
<b>Photo point</b>	An identified point from which photographs are taken at periodic intervals.
<b>Photo sensitization</b>	A noncontagious disease resulting from the abnormal reaction of light-colored skin to sunlight after a photodynamic agent has been absorbed through the animal's system. Grazing certain kinds of vegetation or ingesting certain molds under specific conditions causes photo sensitization.
<b>Physical crust</b>	Thin surface layers induced by the impact of raindrops on bare soil causing the soil surface to seal and absorb less water.
<b>Pitting</b>	Making shallow pits or basins of suitable capacity and distribution on range to reduce overland flow from rainfall and snowmelt.
<b>Plain</b>	A broad stretch of relatively level treeless land.
<b>Planned grazing system</b>	A system in which two or more grazing units are rested and grazed in a planned sequence over a period. Planned grazing systems are designed and applied to meet the needs of the vegetation, the animals, and the overall objectives of the operator.
<b>Planned trend</b>	The change in plant composition within an ecological site from one plant community type to another relative to management objectives and to protecting the soil, water, air, plant, and animal resources. Planned trend is described as moving towards or away from the desired plant community or objective.
<b>Plant association</b>	A particular type of plant community, which has been repeatedly described over a geographic area that has relatively consistent floristic composition, uniform physiognomy, and distribution that is characteristic of a particular habitat.
<b>Plant community type</b>	A classification based on inherent attributes and characteristics of the vegetation structure, growth form, and plant species that can repeatedly occur over a geographic area.

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<b>Plant mortality</b>	As used in this technical reference, this term refers to the prevalence of dead plants in an evaluation area.
<b>Plant succession</b>	(Syn.) succession.
<b>Plant vigor</b>	Plant health.
<b>Poisonous plant</b>	A plant containing or producing substances that cause sickness, death, or a deviation from the normal state of health of animals. See Toxic plant species.
<b>Pollination</b>	The transfer of pollen grains from a plant’s anther (the pollen producing part of the flower) to a stigma (the pollen-receiving part of a flower). There are 3 major types of pollination (self-pollination, wind-pollination, animal pollination).
<b>Pond</b>	A water impoundment made by constructing a dam or an embankment, or by excavating a pit or dugout usually to supply drinking water for livestock and or wildlife.
<b>Ponding</b>	Water standing in a closed depression that is removed by percolation, transpiration, evaporation, or a combination of these processes.
<b>Potential Natural Community (PNC)</b>	The biotic community that would become established on an ecological site if all successional sequences were completed without interferences by man under the present environmental conditions. Natural disturbances are inherent in its development. The PNC may include acclimatized or naturalized nonnative species.
<b>Prairie</b>	An extensive tract of level or rolling land that was originally grass-covered and treeless.
<b>Precipitation</b>	The primary input of the hydrologic cycle. The three major categories of precipitation are convective, orographic and cyclonic.
<b>Preference</b>	See Grazing preference.
<b>Preferred plants</b>	Preferred plants are species that are preferred by animals and are grazed first by choice. These plants are generally more sensitive to grazing misuse than other plants and decline under continued heavy grazing.
<b>Preplant</b>	A herbicide applied on the soil surface before seeding or transplanting.
<b>Preponderance of evidence (IIRH)</b>	The rating of an attribute of rangeland health by observing where the distribution of indicators for each attribute fall under the five departure categories, while also taking into account local knowledge and other information.
<b>Prescribed burn</b>	A prescribed burn is a thoughtfully planned out with written prescriptions that describes the objectives of the burn unit, firebreaks, fuel considerations, acceptable weather parameters that include (wind speed and direction, temperature, and relative humidity, and smoke management), labor and equipment required, notifications to neighbors and civil authorities, ignition procedures, contingency plans, and mop-up and monitoring procedures. The prescribed burn is only ignited when all the procedures and considerations are in adherence to the burn plan prescriptions.
<b>Prescribed grazing</b>	The controlled harvest of vegetation with grazing or browsing animals, managed with the intent to achieve a specified objective. Syn Managed grazing.
<b>Primary practice</b>	A practice resulting in treatment of the identified resource concerns.

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<b>Primary production</b>	The conversion of solar energy to chemical energy through the process of photosynthesis. It is represented by the total quantity of organic material produced within a given period by vegetation.
<b>Primary productivity</b>	The rate of conversion of solar to chemical energy through the process of photosynthesis. It is represented by the total quantity of organic material produced within a given period by vegetation.
<b>Producer</b>	Rancher or stock farmer.
<b>Productivity</b>	The rate of production per unit area, usually expressed in terms of weight.
<b>Proper Functioning Condition (PFC)</b>	An assessment for riparian areas. The protocol addresses the physical functioning of perennial or intermittent lotic (flowing water) riparian systems, such as rivers or streams.
<b>Proper grazing use</b>	Grazing at an intensity that will maintain enough cover to protect the soil and maintain or improve the quantity and quality of desirable vegetation.
<b>Proper stocking</b>	Placing a number of animals in a given area that will result in proper use at the end of the planned grazing period.
<b>Proper use</b>	A degree of utilization of current year's growth that, 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.
<b>Prussic acid</b>	A poison, hydrocyanic acid, released when forages containing cyanogenic glycosides and the proper enzymes are chewed by a grazing ruminant.
<b>Pure live seed</b>	Purity and germination of seed expressed in percent; may be calculated by this formula: P.L.S. = % germination x % purity x 100. See Seed purity.
<b>Qualitative data</b>	Observational data derived from visual observations and recorded descriptively but not measured (e.g., descriptive or nonnumerical data).
<b>Quantitative data</b>	Data derived from measurements, such as counts, dimensions, weights, etc., and recorded numerically; may include ratios or other values. Qualitative numerical estimates, such as ocular cover and production estimates, are often referred to as semiquantitative.
<b>Ranch</b>	An establishment or firm with specific boundaries, together with its lands and improvements, traditionally used for the grazing and production of domestic livestock and/or wildlife. A ranch may also have nontraditional uses and produce other goods and services as well as environmental and social benefits.
<b>Rancher</b>	One who owns, leases, or manages a ranch.
<b>Range</b>	Land on which the historic and/or introduced vegetation is predominantly grasses, grass-like plants, forbs or shrubs managed as natural ecosystem. Range land may include natural grasslands, savannas, shrublands, tundra, alpine communities, marshes and meadows.

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<b>Range improvement</b>	(1) Any structure or excavation to facilitate management of rangeland or livestock. (2) Any practice designed to improve range condition or facilitate more efficient utilization of the rangeland. (3) An increase in the grazing capacity of rangeland; i.e., improvement of rangeland condition.
<b>Range management</b>	The art and science of manipulating, using, and conserving native grazing land resources to benefit society.
<b>Range plan</b>	(Syn.) management plan.
<b>Range readiness</b>	The defined stage of plant growth at which grazing may begin under a specific management plan without permanent damage to vegetation or soil. Usually applied to seasonal range.
<b>Range resources</b>	(Syn.) related resources.
<b>Range seeding</b>	The process of establishing vegetation by the artificial dissemination of seed.
<b>Rangeland</b>	Rangeland is a land cover or use composed of grasses, grass-like plants, forbs, shrubs, and trees that is typically unsuited to cultivation because of physical limitations such as low and erratic precipitation, rough topography, poor drainage, or cold temperatures. Rangeland can include the following: (i) natural lands that have not been cultivated and consist of a historic complement of adapted plant species; and (ii) natural (go-back lands, old-field) or converted revegetated lands that are managed like native vegetation. Note: The USDA-NRCS rangeland Natural Resources Inventory (NRI) includes this designation in their definition of rangeland. In assessing rangeland conditions and health, keeping these designations separate would provide for more detailed information about rangeland trends and health.
<b>Rangeland Analysis Platform (RAP)</b>	An online app providing vegetation maps (30m resolution) across rangelands of the western U.S. from 1986-present. Products leverage satellite data, NRI, and other plot data to produce maps of annual percent cover of perennial forbs and grasses, annual forbs and grasses, shrubs, trees, and bare ground, as well as herbaceous production (lbs/ac) every 16 days and annually.
<b>Rangeland Brush Evaluation Tool (RaBET)</b>	Estimates foliar cover of woody plant species.
<b>Rangeland ecological site</b>	An ecological site is a conceptual division of the landscape. It is defined as a distinctive kind of land based on recurring soil, landform, hydrology, geology, and climate characteristics that differs from other kinds of land in its ability to produce distinctive kinds and amounts of vegetation and in its ability to respond similarly to management actions and natural disturbances.
<b>Rangeland health</b>	The degree to which the integrity of the soil, vegetation, water, and air as well as the ecological processes of the rangeland ecosystem is balanced and sustained. Integrity is defined as maintenance of the structure and functional attributes characteristic of a particular locale, including the natural range of variability.
<b>Rangeland hydrology</b>	Rangeland Hydrology is founded on basic biological and physical principles and is a specialized branch of science, which studies land use effects on infiltration, runoff, sedimentation, and nutrient cycling (hydrologic assessments) in natural and reconstructed ecosystems.

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<b>Rangeland inventory</b>	(1) The systematic acquisition and analysis of resource information needed for planning and for management of rangeland. (2) The information acquired through rangeland inventory.
<b>Rangeland trend</b>	The direction of change in an existing plant community relative to the historic plant community for the ecological site.
<b>Rangeland trend worksheet</b>	A rating of the direction of change that may be occurring on a site, either towards a desirable condition or away and degrading from a desirable condition.
<b>Reclaim</b>	To make a site usable again for a particular land use or crop.
<b>Reclamation</b>	Restoration of a site or resource to a desired condition to achieve management or stated goals. See revegetation.
<b>Reconnaissance</b>	A general examination or survey of a region with reference to its main features, usually as a preliminary to a more detailed survey.
<b>Recovery period</b>	The length of time occurring between grazing periods on rotationally stocked pastures. Synonymous with rest period that is animal-oriented terminology. Although relieved of grazing pressure, the forages are recovering their photosynthetic area early on, and near the end of the recovery period they are replenishing food reserves and resuming root growth.
<b>Recreation area</b>	A land area reserved and managed for developed and/or undeveloped recreation.
<b>Recruitment</b>	The successful entry of new individuals into the breeding population.
<b>Reference sheet (IIRH)</b>	A form that is a component of an ecological site description that describes the status of each indicator within the natural disturbance regime for the reference state. It is the primary reference for all assessments of rangeland health and is required to conduct an assessment.
<b>Reference state</b>	The state (see definition of “state”) where the functional capacities represented by soil/site stability, hydrologic function, and biotic integrity are functioning at a sustainable/resilient level under the natural disturbance regime. This state usually includes more than one community phase, but is not limited to, what is often referred to as the potential natural plant community.
<b>Rejuvenation (browse)</b>	Treatments, such as mechanical, pyric, or even chemical, applied to woody plants to encourage new growth as sprouts or seedlings available for browsing.
<b>Related resources</b>	Those resources that bear relationship to one another because of common location and interdependency, such as range, game, recreation, watershed, soil, or timber.
<b>Relative dominance (composition)</b>	The percent of cover or production represented by a species or life form expressed relative to the total cover or production. It can also be based on biomass.
<b>Relative feed value (RFV)</b>	An index that ranks hay crops relative to the digestible dry matter intake of full bloom alfalfa (RFV = 100).
<b>Relict area</b>	A remnant or fragment of the historic plant community that remains from a former period when it was more widely distributed.

<b>Remote sensing</b>	Methodology for data collection, analysis, and the parameterization of environmental models from satellite data. Remote sensing requires an interdisciplinary knowledge to be able to interpret the data received and make it operational.
<b>Remote sensing integration</b>	Refers to the simultaneous use of field and remote-sensing data for inventory, assessment and monitoring.
<b>Reseeding</b>	(Syn.) range seeding.
<b>Resident species</b>	Species common to an area without distinction as to being native or introduced.
<b>Residual stubble (grazing height)</b>	The height of the forage stand after being grazed, whether intermittently or continuously. When grazed continuously, monitoring must be done regularly as it means at any moment in time under that stocking method.
<b>Resilience</b>	(1) The ability of a plant community to recover to its former state after it has been altered. (2) The ability of an agroecosystem to return to some previous state or other successional alternative following disturbance, such as fire, plow out, and drought.
<b>Resistance</b>	(1) A measure of the amount of stress a plant community can endure before it is displaced by a given type of disturbance. (2) Site immunity to being impacted by catastrophic events that have the potential of creating long-term declines in productivity. The basic components, climate and soil, dictate the brittleness of a land-based ecological community.
<b>Resource Management System (RMS)</b>	An RMS is a combination of conservation practices and resource management activities that treats all identified resource concerns for soil, water, air, plants, animals and energy to a level that meets or exceeds the planning criteria in the FOTG.
<b>Rest</b>	The absence of grazing by livestock to benefit plants for regrowth between grazing periods, for critical periods of plant growth and development, or for critical periods of plant establishment. Generally, deferment implies a nongrazing period less than a calendar year, while rest implies nongrazing for a full year or longer. (Syn.) deferment.
<b>Rest period</b>	A period of deferment included as part of a grazing system.
<b>Rest-rotation</b>	See Grazing system.
<b>Restricted area</b>	An area on which grazing tenure is limited.
<b>Retrogression</b>	(Syn.) rangeland degeneration.
<b>Revegetation</b>	Establishing or re-establishing desirable plants in areas where the plant community is not adequate to meet management objectives by management techniques alone. See Range seeding.
<b>Rhizome</b>	A horizontal underground stem that usually sends out roots and aboveground shoots from the nodes.
<b>Rill</b>	A small, intermittent watercourse with steep sides, usually only several centimeters deep. Rills generally are linear erosion features running parallel to a slope.
<b>Riparian</b>	Area, zone, and/or habitat adjacent to streams, lakes, or other natural free water, which have a predominant influence on associated vegetation or biotic communities.

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<b>Riparian community type</b>	A repeating, classified, defined, and recognizable assemblage of riparian plant species.
<b>Riparian ecosystems</b>	Ecosystems that occur along watercourses or waterbodies. They are distinctly different from the surrounding lands because of unique soil and vegetation characteristics that are strongly influenced by free or unbound water in the soil.
<b>Riparian species</b>	Plant species occurring within the riparian zone. Obligate species require the environmental conditions within the riparian zone; facultative species tolerate the environmental conditions, therefore may also occur away from the riparian zone.
<b>Riparian vegetation</b>	Plant communities in the riparian zone comprised of riparian species.
<b>Risk</b>	The variability of outcomes. In evaluating the economics of a conservation practice or RMS, risk is the probability that a conservation or RMS will be unsuccessful.
<b>Rock fragments</b>	The unattached pieces of rock 2 millimeters or larger in diameter contained in or lying on the soil.
<b>Rodent</b>	Any animal of the order Rodentia, and commonly includes the order Lagomorpha, many of which influence rangeland by such habits as grazing and burrowing. Important rangeland rodents include pocket gophers, prairie dogs, ground squirrels, certain terrestrial mice, kangaroo rats, jack rabbits, and marmots.
<b>Rotation grazing</b>	A type of grazing system and involves moving grazing animals from one pasture to another to achieve a desired management objective.
<b>Roughage</b>	Plant materials containing a low proportion of nutrients per unit of weight. Generally bulky and coarse, high in fiber, and low in total digestible nutrients. Roughage may be classed as either dry or green.
<b>Ruderal</b>	A plant inhabiting disturbed sites.
<b>Rumen</b>	The large, first compartment of the stomach of a ruminant from which ingestion is regurgitated for re-chewing and in which digestion is aided by symbiotic action of microbes.
<b>Ruminant</b>	Even-toed, hoofed mammals that chew the cud and have a 4-chamber stomach; i.e., ruminantia.
<b>Runoff</b>	The movement of water from a watershed including both surface and subsurface flow, usually expressed in acre-feet of water yield.
<b>Saltation</b>	A particular type of momentum-dependent transport involving the rolling, bouncing, or jumping action of soil particles 0.1 to 0.5 mm in diameter by wind, usually at a height of < 15 cm above the soil surface, for relatively short distances; the rolling, bouncing, or jumping action of mineral grains, gravel, stones, or soil aggregates affected by the energy of flowing water; the bouncing or jumping movement of material downslope in response to gravity.
<b>Salting</b>	(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.
<b>Sample</b>	Part of a population taken to estimate a parameter of the whole population.

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<b>Savannah</b>	A grassland with scattered trees, either as individuals or clumps; often a transitional type between true grassland and true forest.
<b>Scrub</b>	Vegetation dominated by low growing woody plants, often forming a dense thicket.
<b>Seasonal distribution</b>	(1) The progressive grazing in a sequence of moves from one part of a range to another as vegetation develops. (2) The normal occurrence of precipitation at different periods of the year.
<b>Seasonal distribution of growth or availability</b>	The tabular or graphical display of monthly increments of total annual forage production available for grazing. It may record growing forage production throughout its growing season or the deferment and release later in the year of accumulated grazeable forage mass to grazing animals.
<b>Seasonal grazing</b>	Grazing restricted to a specific season.
<b>Seasonal use</b>	(1) Synonymous with seasonal grazing. (2) Seasonal preference of certain plant species by animals.
<b>Seed</b>	A fertilized ripened ovule of a flowering plant.
<b>Seed scarification</b>	Mechanical or acid treatment of seedcoats to improve moisture absorption and enhance germination.
<b>Seed, dormant</b>	Live seed in a non-germinative condition because of internal inhibitions in the seed; i.e., hard seed, or unfavorable environmental conditions.
<b>Seed, hard</b>	Live seed in a physiological condition that prevents or delays germination, even when a favorable environment exists.
<b>Seedbank</b>	Seeds stored in the soil, generally as hard seed, that are viable and will germinate given the proper conditions. This seedbank is principally built up by seed produced by plants growing on or adjacent to the site over many years. Species long gone may still be represented if their seed is especially long-lived.
<b>Seedbed preparation</b>	Soil treatment prior to seeding to: enhance soil surface layer for seed deposition and optimum opportunity for generation and seedling growth, reduce or eliminate existing vegetation, reduce the effective supply of weed seed, modify physical soil characteristics, and enhance temperature and water characteristics of the microenvironment.
<b>Seedhead</b>	The inflorescence (flowering part) of a grass where the seed will develop.
<b>Seep</b>	Wet areas, normally not flowing, often created when the elevation of the lateral flow of underground water intersects ground level, as on a hillslope. Occasionally seeps occur from water arising from an underground source.
<b>Selective grazing</b>	The grazing of certain plant species, individual plants, or plant parts on rangeland to the exclusion of others.
<b>Semiarid</b>	A term applied to regions or climates where moisture is normally greater than under arid conditions, but still definitely limits the production of vegetation. The upper limit of average annual precipitation in the cold, semiarid regions is as low as 15 inches, whereas in warm, tropical regions it is as high as 45 to 50 inches.

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<b>Senesce</b>	The yellowing and withering of older, lower leaves of plants as they become shaded by higher, younger leaves. Nutrients in these older leaves are translocated to younger tissue.
<b>Seral</b>	Refers to species or communities that are eventually replaced by other species or communities within a sere.
<b>Seral stages</b>	The developmental stages of an ecological succession.
<b>Sere</b>	All temporary communities in a successional sequence.
<b>Short-duration grazing</b>	A grazing system with five or more pastures where the rest period is usually at least four times greater than the grazing period. See Grazing system.
<b>Shrub</b>	A plant that has persistent, woody stems, a relatively low growth habit, and generally produces several basal shoots instead of a single bole. It differs from a tree by its low stature and non-arborescent form. Maximum height is generally 4 meters.
<b>Silage</b>	Forage preserved in a succulent condition by organic acids (lactic acid primarily) produced by partial anaerobic fermentation of sugars in the forage.
<b>Similarity index</b>	A mathematical comparison between two plant communities.
<b>Simple Interest</b>	Simple Interest is money paid or received for the use of money, generally calculated over a base period of one year at a set interest rate.
<b>Site</b>	See Ecological site.
<b>Slope</b>	A slant or incline of the land surface, measured in degrees from the horizontal, or in percent (defined as the number of feet or meters change in elevation per 100 of the same units of horizontal distance); may be further characterized by direction (exposure).
<b>Sod</b>	Vegetation that grows to form a mat of soil and vegetation. (Syn.) turf.
<b>Sod grasses</b>	Stoloniferous or rhizomatous grasses that form a sod or turf.
<b>Soil</b>	(1) The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants. (2) The unconsolidated mineral matter on the surface of the earth that has been subjected to and influenced by genetic and environmental factors of parent material, climate (including moisture and temperature effects), macro and micro-organisms, and topography, all acting over a period of time, producing soil, which differs from the material from which it was derived in many physical, chemical, biological, and morphological properties and characteristics.
<b>Soil aggregates</b>	A group of primary soil particles that cohere to each other more strongly than to other surrounding particles.
<b>Soil amendments</b>	Any material, organic or inorganic, applied to the soil to make it more conducive to vigorous plant growth. Amendments may contain important fertilizer elements, but the term commonly refers to added materials other than fertilizer.
<b>Soil crusts</b>	Biotic and abiotic components found on the surface of soils, including biological, physical, vesicular, and chemical crusts (see respective definitions in this glossary).

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<b>Soil erosion</b>	The detachment of soil by wind and water.
<b>Soil health</b>	The condition of the soil and its potential to sustain biological functions, maintain environmental quality, and promote plant and animal health.
<b>Soil map unit</b>	A map unit is a collection of soil areas or miscellaneous areas delineated in a soil survey. They may encompass one or more kinds of soil or one or more kinds of soil and a miscellaneous area, such as rock outcrop. They are identified by a unique map symbol in a survey area. There are four kinds of map units; consociations, complexes, associations, and undifferentiated groups.
<b>Soil map unit components</b>	The components of a map unit are: (1) The named soil(s) or miscellaneous areas that are dominant and co-dominant in extent. (2) Similar soils or miscellaneous areas that may be extensive, but not as extensive as the named components. (3) Dissimilar soils or miscellaneous areas that are minor in extent. Soil map unit components are rated and assigned to forage suitability groups.
<b>Soil quality</b>	Soil quality relates to quantifiable natural properties that are inherent for a particular soil type e.g., soil physical/chemical characteristics and historical soil-forming factors, which are fixed by nature.
<b>Soil reaction</b>	Numerical expression in pH units of the relative acidity or alkalinity of a soil. The range in soil pH is 1.8 to 11.0. A pH of 7.0 is neutral.
<b>Soil series</b>	Represents a three-dimensional soil body having a unique combination of properties that distinguish it from neighboring series. For U.S. soil maps, the soil series has served as the fundamental mapping concept.
<b>Soil structure</b>	The combination or arrangement of primary soil particles into secondary units or peds. The secondary units are characterized on the basis of size, shape, and grade (degree of distinctiveness).
<b>Soil surface loss and degradation</b>	The reduction in soil surface depth, organic matter, porosity, and structure as a result of wind or water erosion. Soil deposition over the surface horizon can also degrade the soil surface.
<b>Soil surface resistance to erosion</b>	The ability of a surface soil to resist erosion by water. Resistance increases in part with increasing soil organic matter or the presence of biological soil crusts.
<b>Soil survey</b>	The systematic examination, description, classification, and mapping of soils in an area. Soil surveys are classified according to the kind and intensity of field examination.
<b>Soil test</b>	A chemical and physical analysis of a soil used to estimate its nutrient supplying power. It must use chemical extraction techniques appropriate for the elements being extracted and the soil being examined. For the results to be interpreted properly, the test procedures must also be calibrated against nutrient rate experiments in the field and in the greenhouse.
<b>Soil texture</b>	The relative proportions of the various soil separates (sand, silt, and clay) in a soil.
<b>Soil/site stability (IIRH)</b>	The capacity of an area to limit redistribution and loss of soil resources (including nutrients and organic matter) by wind and water and to recover this capacity when a reduction does occur; one of the three attributes of rangeland health.

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<b>Solution</b>	A pesticide formulation where the active ingredient is very soluble in water. It is a liquid that contains the active ingredient and additives.
<b>Species</b>	A taxon or rank species; in the hierarchy of biological classification, the category below genus.
<b>Species composition</b>	The proportions of various plant species in relation to the total on a given area. It may be expressed in terms of cover, density, weight, etc.
<b>Species importance curve</b>	A graphic representation that displays relative species abundance (production), a component of biodiversity. Individual species production is usually the best indicator of resource partitioning in the plant community. The x axis presents the ranking of species from most dominant to least, and the y axis is usually a log scale of production. Other importance values such as foliar cover may also be studied on the y axis. The shape of the curve is an indication of dominance and diversity among species (see Whittaker 1965). Species importance curves are useful in comparing ecological state changes or differences among sites (beta diversity) or monitoring change in species and individual production or cover over time.
<b>Spot grazing</b>	Repeated grazing of small areas while adjacent areas are less intensely grazed.
<b>Spring</b>	Flowing water originating from an underground source.
<b>Spring development</b>	Improving spring and seeps by excavating, cleaning, capping, or providing collection and storage facilities.
<b>Stage of maturity (forage)</b>	The developmental status of a forage crop used to describe a point in time in its progress towards maturity and assess its readiness for harvest as an edible forage or for its seed.
<b>Stand</b>	(1) An existing plant community with definitive bounds that is relatively uniform in composition, structural, and site conditions; thus, it may serve as a local example of a community type. (2) An acceptable level of new plants following a seeding or planting operation.
<b>Standing crop</b>	Standing crop is the amount of plant biomass present above ground at any given point in time (It is often modified to include above ground and below ground portions and further may be modified by the descriptors “dead” or “live” to more accurately define the specific type of biomass.
<b>Standing dead vegetation</b>	The total amount of dead plant material, in aboveground parts, per unit of space, at a given time. This component includes all standing dead vegetation produced in the previous (not the current) growing season that is not detached from the plant and is still standing.
<b>State</b>	An ecological state is a suite of temporally related plant community phases and associated dynamic soil properties that produce persistent characteristic structural and functional ecosystem attributes.
<b>State-and-transition model (STM)</b>	A state-and-transition model (STM) describes the temporal dynamics of an ecological site. They describe the reference state and multiple states and community phases and the transitions between states.
<b>Stem</b>	The culm or branch of a plant.

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<b>Stock</b>	(1) Abbreviated word for livestock. (2) To place animals on a discrete unit of grazing land. The term graze is often erroneously used in place of stock where the animal is the object of the verb, not the subject.
<b>Stocking</b>	The human placement of animals onto a management unit so they can graze or browse the plant resource. The term grazing is often erroneously used in place of stocking. Cattle have only one grazing method, while people have devised several stocking methods. Some stocking methods actually prevent livestock from grazing certain areas for a time.
<b>Stocking density</b>	The relationship between number of animals and area of land at any instant of time. It may be expressed as animal-units per acre, animal-units per section, or AU/ha.
<b>Stocking rate</b>	The number of specific kinds and classes of animals grazing or utilizing a unit of land for a specific period of time. May be expressed as animals per acre, hectare, or section, or the reciprocal (area of land/animal). When dual use is practiced (e.g., cattle and sheep), stocking rate is often expressed as animal units per unit of land or the reciprocal.
<b>Stockpiling</b>	Allowing standing forage to accumulate for grazing at a later period, often for fall and winter grazing after dormancy.
<b>Stolon</b>	A horizontal stem which grows along the surface of the soil and roots at the nodes.
<b>Stream Visual Assessment Protocol, V2 (SVAP2)</b>	A stream assessment tool for qualitatively evaluating the condition of aquatic ecosystems associated with wadable streams and used to determine the presence of a resource concern, or to document current condition of a suspected resource concern in NRCS planning.
<b>Structure (vegetation)</b>	Refers to plant growth forms (e.g., trees, vines, shrubs, grasses, forbs, and nonvascular plants, such as visible biological soil crusts) within the community. Structure may be subdivided to group species with similar growth forms based on height, growth patterns (bunch, sodforming, or spreading through long rhizomes or stolons), root structure (fibrous or tap), rooting depth, or sprouting ability.
<b>Stubble</b>	The basal portion of herbaceous plants remaining after the top portion has been harvested either mechanically or by grazing animals.
<b>Subdominant</b>	Species or functional/structural groups within a plant community with less size per unit area than dominant plants and generally greater than 10% of the community composition; elimination of these species or groups from the community would have a relatively major impact on composition of the remaining groups.
<b>Subunit</b>	The subdivisions of a single grazing system. See Paddock and Pasture.
<b>Succession</b>	A directional, cumulative change of species that colonize and propagate in a given environment through time.
<b>Succulent</b>	Plant with fleshy structures as an adaptation for storing water. Succulents commonly found on rangelands include cacti, Euphorbia spp., and Sedum spp., which may comprise a separate functional/structural group because most succulent species photosynthesize through the crassulacean acid metabolism (CAM) pathway, an adaptation for minimizing water loss through transpiration.
<b>Suitability</b>	(1) The adaptability of an area to grazing by livestock or wildlife. (2) The adaptability of a particular plant or animal species to a given area.

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<b>Summer range</b>	Rangeland, particularly in the mountainous Western States, that is grazed primarily during the summer growing season.
<b>Supplement</b>	Nutritional additive (salt, protein, phosphorus) intended to remedy deficiencies of the range diet.
<b>Supplemental feeding</b>	Supplying concentrates or harvested feed to correct deficiencies of the range diet. Often erroneously used to mean emergency feeding.
<b>Supporting practice</b>	Supporting practices facilitate a primary conservation practice and may not have a direct effect on the identified resource concern.
<b>Surface runoff</b>	Occurs when rainfall rate exceeds infiltration capacity, and the soil becomes saturated.
<b>Swale</b>	An area of low and sometimes wet land.
<b>Swath</b>	A strip of cut herbage lying on the stubble left by the cutter bar, blade, flail, rotary drum, or disc blade setting of the mower, mower-conditioner, binder, swather, or small grain head on a combine.
<b>Tame pasture</b>	Implies the forages growing on the land unit have been purposely cultivated by people as opposed to being wild growth of random origin. In permanent pastures it is often a combination of the two mechanisms and, therefore, a rather subjective and imprecise term. Synonymous with improved pasture.
<b>Terracettes</b>	“Benches” of soil deposition (may include incorporated litter or gravel) that form behind or between obstacles (persistent litter, rocks, or plant bases) caused by water (not wind) movement. Does not include horizontal paths caused by livestock or wildlife trailing on steeper slopes.
<b>Thermoneutral zone (comfort zone)</b>	Within a certain range of ambient temperature, the heat produced by normal metabolism of a resting animal is minimal and is enough to cover the heat loss.
<b>Threshold</b>	A transition boundary that an ecosystem crosses resulting in a new stable state that is not easily reversed without significant inputs of resources.
<b>Tiller</b>	(1) An erect shoot that arises from the crown of a grass. (2) A grass that is growing tillers. (3) The asexual development of a new plant from a meristematic region of the parent plant.
<b>Time value of money</b>	Money has value today and in the future; thus, the value of money is measured for some number of periods in the future. These periods may be years, months, weeks, or days.
<b>Total annual production</b>	Total Annual Production is all aboveground plant biomass produced during a single growing year, including woody material and regardless of palatability or accessibility to grazing animals. Total annual production is expressed in pounds per acre (lb/ac).
<b>Total digestible nutrients (TDN)</b>	The total digested energy in a feedstuff expressed in units of weight or percent.
<b>Toxic plants</b>	Toxic plants are poisonous to grazing animals. They have various palatability ratings and may or may not be consumed. They may become abundant if unpalatable and if the more highly preferred species are removed from the community.

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<b>Trace element</b>	An element essential for normal growth and development of an organism, but required only in minute quantities.
<b>Trail</b>	A well-defined path created by repeated passage of animals.
<b>Trailing</b>	(1) Controlled directional movement of livestock. (2) Natural trailing is the habit of livestock or wildlife repeatedly treading in the same line or path. See Drive.
<b>Trampling</b>	Treading underfoot; the damage to plants or soil brought about by movements or congestion of animals.
<b>Transitions</b>	Transitions are simply the mechanisms by which state shifts occur and are commonly initiated by a trigger (e.g., wildfire, drought, long-term flooding, invasive plants, grazing). A transition from one state to another is associated with “crossing a threshold.”
<b>Tree</b>	A woody perennial, usually single stemmed plant that has a definite crown shape and reaches a mature height of at least 4 meters. The distinction between woody plants known as trees and those called shrubs is gradual. Some plants, such as oaks ( <i>Quercus</i> spp.) may grow as either trees or shrubs.
<b>Trend</b>	A rating of the direction of change occurring on an ecological site. See Rangeland trend and Planned trend.
<b>Trough</b>	(1) A large container with necessary controls and valves that provides drinking water for livestock and wildlife. (2) A feeding container that holds livestock feed and/or minerals for consumption by livestock and some wildlife species.
<b>Turf</b>	(Syn.) sod.
<b>Type line</b>	The boundary line that separates two distinctive vegetation types on a map or photograph.
<b>Understory</b>	Plants growing beneath the canopy of other plants. Usually refers to grasses, forbs, and low shrubs under a tree or shrub canopy.
<b>Undesirable plants</b>	Undesirable plants are species that are not readily eaten by animals and species that conflict with or do not contribute to the management objective. These plants are relatively unpalatable to grazing animals and may become more abundant if the preferred species are over utilized or grazed out.
<b>Ungulate</b>	A hoofed animal, including ruminants, but also horses, tapirs, elephants, rhinoceroses, and swine.
<b>Use</b>	(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. (Syn.) degree of use. (2) Utilization of land for a purpose, such as grazing, bedding, shelter, trailing, watering, watershed, recreation, forestry, and wildlife habitat.
<b>Utilization</b>	(Syn.) use.
<b>Variable cost</b>	Expenses that change with the number of animals in the herd. Examples of variable costs include supplemental feed, veterinary services and supplies, and labor.
<b>Vascular plant</b>	Plants with vessels that conduct sap throughout the plant.

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<b>Vegetation states</b>	The various plant communities produced by an ecological site within given site characteristics.
<b>Vegetation type</b>	A kind of existing plant community with distinguishable characteristics described in terms of the present vegetation that dominates the aspect of physiognomy of the area.
<b>Vegetative</b>	Relating to nutritive and growth functions of plant life in contrast to sexual reproductive functions. (adj.) Of or relating to vegetation.
<b>Vegetative state</b>	Stage of maturity prior to the appearance of inflorescences. In grasses, it is prior to boot stage. In legumes, it is prior to the appearance of buds.
<b>Vigor</b>	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. (Syn.) plant vigor.
<b>Walkway</b>	An earthen embankment constructed to improve the accessibility of marsh rangeland. See Stock trails and walkways.
<b>Warm-season plant</b>	A plant that makes most or all its growth during the spring, summer, or fall and is usually dormant in winter. (2) A plant that usually exhibits the C-4 photosynthetic pathway.
<b>Water cycle</b>	The capture, storage, and redistribution of precipitation; one of the ecological processes. Synonym: hydrologic cycle.
<b>Water flow patterns</b>	Paths that water takes as it moves across the soil surface during periods when surface water from rain or snowmelt exceeds soil infiltration capacity. Sometimes referred to as sheetflow or overland flow.
<b>Water potential</b>	The thermodynamic state of the water in a cell, organism, or soil equal to the difference in free energy per unit volume between matrically bound, pressurized, or osmotically constrained, water and that of pure water.
<b>Watershed</b>	(1) A total area of land above a given point on a waterway that contributes runoff water to the flow at that point. (2) A major subdivision of a drainage basin.
<b>Watershed management</b>	The management of land for optimum production of high-quality water, regulation of water yields, and for maximum soil stability, along with other goods and services from the land.
<b>Waterway</b>	A way or channel for water.
<b>Weather</b>	The current state of the atmosphere with regard to wind, temperature, cloudiness, moisture, pressure, etc. In this technical reference, the term recent weather is used and is defined as weather conditions over the past 2 years.
<b>Weed</b>	(1) Any growing unwanted plant. (2) A plant having a negative value within a given management system.
<b>Well</b>	A water source developed by drilling vertically through soil, subsoil, and geological strata to intercept underground water storage or stream areas.
<b>Well horizontal</b>	A water source developed by drilling horizontally into a hillside to intercept a perched water table or underground water source.

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<b>Wetland communities</b>	Plant communities that occur on sites with soils typically saturated with or covered with water most of the growing season.
<b>Wetlands</b>	Areas characterized by soils that are usually saturated or ponded; i.e., hydric soils, and that support mostly water-loving plants; i.e., hydrophytic plants.
<b>Wildlife</b>	Undomesticated vertebrate animals considered collectively, with the exception of fish.
<b>Windrow</b>	(1) Curing herbage dropped or raked into a narrow swath sized to be picked up easily by the head of a baler, combine, or forage harvester. (2) To cut or rake into windrows.
<b>Winter range</b>	Range that is grazed during the winter months.
<b>Woody</b>	A term used in reference to trees, shrubs or browse that characteristically contain persistent ligneous material.
<b>Xeric</b>	Having very little moisture; tolerating or adapted to dry conditions.
<b>Yearling</b>	An animal approximately one year of age. A short yearling is from 9 to 12 months of age and a long yearling is from 12 to 18 months.
<b>Yearlong grazing</b>	Continuous grazing for a calendar year.
<b>Yield</b>	(1) The quantity of a product in a given space and/or time. (2) The harvested portion of a product.

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