

**COLORADO CANYONS NATIONAL CONSERVATION AREA**  
**Resource Management Plan and Environmental Impact Statement**

**CHAPTER 6— RESOURCE MANAGEMENT PLAN GLOSSARY**

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

**Acid Mine Drainage:** The exposure, usually as a result of mining, of sulfide-bearing minerals to air and water, forming sulfuric acid. This acid dissolves metals such as lead, zinc, copper, arsenic, selenium, mercury, and cadmium, into ground and surface water. Acid rock/mine drainage can poison ground and drinking water and destroy aquatic life and habitat. Commonly mined ore bodies that pose the risk of acid rock drainage include gold, silver, copper, iron, zinc, and lead.

**Acre-foot:** The volume of water or solids that could cover an acre at a depth of 1 foot, or 43,560 cubic feet.

**Active Preference:** That portion of the total grazing preference for which grazing use may be authorized.

**Activity Plan:** Site-specific plan that precedes actual development. This is the most detailed level of BLM planning.

**Alternative Dispute Resolution:** Any process used to prevent, manage, or resolve conflicts using procedures other than traditional courtroom litigation or formal agency adjudication.

**Actual Use:** The amount of animal unit months (AUM) consumed by livestock based on the numbers of livestock and grazing dates submitted by the livestock operator and confirmed through periodic field checks by the BLM.

**Acute Toxicity:** Any poisonous effect produced by a single short-term exposure and resulting in severe biological harm or death.

**Adit:** Horizontal, or nearly horizontal, passage from the surface by which a mine is worked or dewatered.

**Administrative Determination:** Process to determine if a proposed action is fully analyzed by an existing environmental document and to determine if further National Environmental Policy Act (NEPA) compliance is required.

Administrative Unit: Field Office, Resource Area, District, or State.

Aggradation: The building up of land surfaces by sedimentation or deposition of mineral matter.

Air Quality: Refers to standards for various classes of land as designated by the Clean Air Act of 1978.

Alevin: A young fish, especially a newly hatched salmon still attached to the yolk sac.

All-Terrain Vehicle: A wheeled or tracked vehicle, other than a snowmobile or work vehicle, designed primarily for recreational use or for the transportation of property or equipment exclusively on undeveloped road rights-of-way, marshland, open country, or other unprepared surfaces.

Allotment: An area of land where one or more livestock operators graze their livestock. Allotments generally consist of BLM lands but may also include other federally managed, state-owned, and private lands. An allotment may include one or more separate pastures. Livestock numbers and periods of use are specified for each allotment.

Allotment Categorization: Grazing allotments and rangeland areas used for livestock grazing are assigned to an allotment category during resource management planning. Allotment categorization is used to establish priorities for distributing available funds and personnel during plan implementation to achieve cost-effective improvement of rangeland resources. Categorization is also used to organize allotments into similar groups for purposes of developing multiple-use prescriptions, analyzing site-specific and cumulative impacts, and determining trade-offs.

Allotment Management Plan: A written program of livestock grazing management, including supportive measures if required, designed to attain specific management goals in a grazing allotment.

Allowable Sale Quantity: The volume that a sustained yield unit can produce annually under an approved land use plan.

Alluvial Fan: A low, outspread, relatively flat-to-gently sloping mass of loose rock material deposited by a stream where it flows from a narrow mountain valley onto a plain or broad valley.

Alluvium: Any sediment deposited by flowing water, as in a riverbed, floodplain, or delta.

**Amendment:** The process for considering or making changes in the terms, conditions, and decisions of approved Resource Management Plans or Management Framework Plans using the prescribed provisions for resource management planning appropriate to the proposed action or circumstances. Usually only one or two issues are considered that involve only a portion of the planning area.

**Anadromous Fish:** Fish, such as salmon and steelhead that hatch in fresh water, migrate to the ocean, mature there, and return to fresh water to reproduce.

**Anaerobic:** Characterized by the absence of oxygen.

**Analysis of the Management Situation:** A comprehensive documentation of the present conditions of the resources, current management guidance, and opportunities for change.

**Animal Unit Month:** A standardized measurement of the amount of forage necessary for the sustenance of one cow unit or its equivalent for 1 month. Approximately 800 pounds of forage.

**Annual Vegetation:** Plants that complete their life cycles and die in 1 year or less.

**Appeal:** Application for review by a higher court.

**Adaptive Management:** The continuous process of modifying management actions based on the results of inventory and monitoring.

**Aquatic:** Living or growing in or on the water.

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

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

**Aquatic Systems:** A complete interacting system of organisms considered together with their environment.

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

**Archaeological Quarry Site:** Place where minerals occur that were a source of raw material for prehistoric/historic industries.

**Area of Critical Environmental Concern:** Areas within the public lands where special management attention is required to: (1) protect and prevent irreparable damage to important historic, cultural, or scenic values; fish and wildlife resources, or other natural systems or processes, or (2) protect life and safety from natural hazards.

**Arid Region:** A region where precipitation is insufficient to support any but drought-adapted vegetation.

**Arroyo:** A term applied in the arid and semiarid regions of the southwestern United States to the small, deep, flat-floored channel or gully of an ephemeral stream or of an intermittent stream usually with vertical or steeply cut banks of unconsolidated material at least 2 feet high. It is usually dry, but may be transformed into a temporary watercourse or short-lived torrent after heavy rainfall.

**Aspect:** (1) The visual first impression of vegetation at a particular time or seen from a specific point. (2) The predominant direction of the slope of the land.

**Assessment:** The act of evaluating and interpreting data and information for a defined purpose.

**Attenuation:** The process of decreasing contaminant concentration away from the source due to a variety of physical and chemical processes. Attenuation can occur in the unsaturated zone as contaminants move downward from the surface (from spills for example) or in the saturated zone within aquifers as contaminants move in the groundwater flow system.

**Authorized Officer:** The Federal employee who has the delegated authority to make a specific decision.

**Avoidance Areas:** Areas with sensitive resource values where rights-of-way and Section 302 permits, leases, and easements would be strongly discouraged. Authorizations made in avoidance areas would have to be compatible with the purpose for which the area was designated and not otherwise be feasible on lands outside the avoidance area.

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**Backcountry Byways:** Vehicle routes that traverse scenic corridors utilizing secondary or backcountry road systems. National backcountry byways are designated by the type of road and vehicle needed to travel the byway.

**Backfill:** Material used to replace soil and earth removed during mining.

**Backfilling:** The replacement of soil and earth removed during mining.

**Background Level:** The amount of a pollutant present in water or air from natural sources.

**Bank Cubic Yard:** A unit volume for material in its natural state before disturbance, often referred to as “in-place” or “in-situ” material.

**Barite:** A mineral used to increase the weight of the drilling mud.

**Barren Solution:** A solution in hydrometallurgical treatment from which all valuable constituents have been removed.

**Basalt:** Fine-grained, dark-colored igneous rock that is either intrusive or extrusive.

**Base Flow:** The portion of stream discharge derived from such natural storage sources as groundwater, large lakes, and swamps but not derived from direct runoff or flow from stream regulation, water diversion, or other human activities.

**Base Metal:** A metal inferior in value to gold and silver, a term generally applied to the commercial metals such as copper and lead.

**Basin:** A depressed area having no surface outlet (*topographic basin*); a physiographic feature or subsurface structure that is capable of collecting, storing, or discharging water by reason of its shape and the characteristics of its confining material (*water*); a depression in the earth’s surface, the lowest part often filled by a lake or pond (*lake basin*); a part of a river or canal widened (*drainage, river, stream basin*).

**Basin and Range:** Topography characterized by a series of tilted fault block mountain ranges and broad intervening basins.

**Basin and Range Physiographic Province:** A province in the southwestern United States characterized by a series of tilted fault blocks forming longitudinal ridges or mountains and broad intervening basins.

**Bedload:** Sediment in a stream that moves by sliding, rolling, or bounding on or near the streambed.

**Beneficiation:** The dressing or processing of ores to (1) regulate the size of a desired product, (2) remove unwanted constituents, and (3) improve the quality, purity, or assay grade of a desired product. Beneficiation includes concentration or other preparation of ore for smelting by drying, flotation, or magnetic separation.

**Benthic:** Occurring or living on or in the bottom of any water body.

**Bentonite:** Naturally occurring clay used to keep the cuttings in suspension as they move up the borehole.

**Best Management Practices:** A suite of techniques that guide, or may be applied to, management actions to aid in achieving desired outcomes. Best management practices are often developed in conjunction with land use plans, but they are not considered a land use plan decision unless the land use plan specifies that they are mandatory. They may be updated or modified without a plan amendment if they are not mandatory.

**Big Game:** Large species of wildlife that are hunted, such as elk, deer, bighorn sheep, and pronghorn antelope.

**Bioaccumulation:** The net accumulation of a chemical by an organism as a result of uptake from all routes of exposure.

**Biodiversity:** The diversity of living organisms considered at all levels of organization including genetics, species, and higher taxonomic levels, and the variety of habitats and ecosystems, as well as the processes occurring therein.

**Biogenic Rock:** An organic rock produced directly by the physiological activities of living organisms, either plant or animal; e.g., coral reefs, shelly limestone, pelagic ooze, coal, peat.

**Bioherm:** A mound-, dome-, lens-, or reef-like or otherwise circumscribed mass of rock built up by, and composed almost exclusively of, the remains of sedentary organisms (corals, algae, foraminifers, mollusks, gastropods, stromatopods) and enclosed or surrounded by rock of different lithology.

**Biological Assessment:** The gathering and evaluation of information on proposed endangered and threatened species and critical habitat and proposed critical habitat. Required when a management action potentially conflicts with endangered or threatened species, the biological assessment is the way federal agencies enter into formal consultation with the U.S. Fish and Wildlife Service and describe a proposed action and the consequences to the species the action would affect.

**Biological Oxygen Demand:** A measure of the oxygen used in meeting the metabolic needs of aerobic microorganisms in water rich in organic matter.

**Biomagnification:** The concentration of certain substances up a food chain, an important mechanism in concentrating pesticides and heavy metals in organisms such as fish and raptors.

**Biomass:** Vegetative material leftover from stand treatments. This term usually refers to such material that can be gathered and transported to cogeneration plants, and there utilized for production of electricity.

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

**Block Caving:** A method of mining in which large blocks of ore are undercut, and the ore breaks and caves under its own weight.

**Blowout:** An uncontrolled expulsion of gas, oil, or other fluids from a drilling well. A blowout occurs when formation pressure exceeds the pressure applied to it by the column of drilling fluid and when blowout prevention equipment is absent or fails.

**Board Feet:** A unit of solid wood one foot square and one inch thick.

**Bored Crossing:** A subterranean crossing of a road, railway, river, or other obstacle, by a pipeline, transmission line, or other transport system.

**Bradenhead Testing:** The portion of the wellhead that is in communication with the annular volume between the surface casing and the next smaller casing string. Conceptually, if there is positive pressure at the bradenhead, this indicates that a casing leak or an inadequate cement job could exist on a well.

**Brine:** A highly saline solution.

**Browse:** To browse (verb) is to graze a plant; also, browse (noun) is the tender shoots, twigs and leaves of trees and shrubs often used as food by livestock and wildlife.

**Bucket-line Dredge (Bucket-ladder Dredge):** A dredge whose digging mechanism consists of a bladder-like truss on the periphery of which is attached an endless chain that rides on sprocket wheels and on which buckets are attached.

**Buffer strip:** A protective area adjacent to an area of concern requiring special attention or protection. In contrast to riparian zones, which are ecological units, buffer strips can be designed to meet varying management concerns.

**Bulk Sampling:** As part of exploration, the removal of large amounts of mineral substances for testing.

Bulkhead: A partition or wall in mines for protection against gas, fire, and water.

Bunchgrass: Individual grasses that have the characteristic growth habit of forming a "bunch" as opposed to having stolons or rhizomes or single annual habit.

Bureau Directive System: Bureau manuals, handbooks, and Instruction Memorandum.

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Cambrian: The oldest of the periods of the Paleozoic Era; also the system of strata deposited during that period.

Candidate Species: Any species included in the *Federal Register* notice of review that are being considered for listing as threatened or endangered by the U.S. Fish and Wildlife Service.

Canopy: The uppermost layer consisting of the crowns of trees or shrubs in a forest or woodland.

Carbonaceous: Coaly; pertaining to, or composed largely of, carbon.

Carrying Capacity: The maximum stocking rate possible without damaging vegetation or related resources.

Casing: Steel pipes of varying diameter and weight, joined together by threads and couplings, "inserted" into the well bore for the purpose of supporting the walls of the well and preventing them from caving in. Surface casing is inserted from the ground surface to approximately 250 feet; production casing is inserted to the total depth of the well (smaller diameter pipe than surface casing), cemented in place, and later perforated for production.

Casual Use: Activities ordinarily resulting in negligible disturbance of federal lands and resources.

Categorical Exclusion: A category of actions (identified in agency guidance) that do not individually or cumulatively have a significant effect on the human environment, and for which neither an environmental assessment nor an Environmental Impact Statement is required.

Cave Resource: Any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge, including any cave resource therein, that is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Also included is any natural pit or sinkhole.

**Cenozoic:** The most recent era of geologic history (65 million years ago until the present) during which the world's modern landforms, animals, and plants came into being.

**Centralizer:** A device secured around the casing at various intervals to center the casing in the hole and provide a uniform cement sheath around the casing.

**Channel:** An open conduit either naturally or artificially created which periodically or continuously contains moving water or forms a connecting link between two bodies of water.

**Channel Morphology:** The structure and form of a stream channel.

**Channel Stability:** A relative term describing erosion or movement of the channel walls or bottom due to water flow.

**Chaparral:** A vegetation community consisting of dense and often thorny shrubs and small trees.

**Chlorosis:** The conditions of plants when chlorophyll fails to develop, and plants are yellowish white-to-white and poorly developed.

**Christmas Tree:** An assemblage of valves, located at the top of casing, from which tubing in the well is suspended.

**Cinnabar:** The mineral mercuric sulfide; an ore of mercury.

**Clean Air Act:** Federal legislation governing air pollution.

**Climax:** The culminating stage in plant succession for a given site where vegetation has reached a highly stable condition.

**Climax Vegetation:** The final vegetation community and highest ecological development of a plant community that emerges after a series of successive vegetational stages. The climax community perpetuates itself indefinitely unless disturbed by outside forces.

**Closed:** Generally denotes that an area is not available for a particular use or uses; refer to specific definitions found in law, regulations, or policy guidance for application to individual programs.

**Closed Area or Trail:** Designated areas and trails where the use of off-road vehicles is permanently or temporarily prohibited. The use of off-road vehicles in closed areas may be allowed only with the approval of the authorized officer.

**Closed Road:** A road or segment that is restricted from certain types of use during certain seasons of the year. The prohibited use and the time period of closure are specified.

**Coal:** A readily combustible rock containing more than 50 percent weight and more than 70 percent by volume of carbonaceous material, including inherent moisture, formed from compaction and induration of variously altered plant remains similar to those in peat. Differences in the kinds of plant materials (type), in degree of metamorphism (rank), and in the range of impurity (grade) are characteristic of coal and are used in classification.

**Code of Federal Regulations:** The official, legal tabulation or regulations directing federal government activities.

**Cold Desert:** Areas that are consistently dry (evaporation equals or exceeds precipitation), that have 7 or fewer months when temperatures average above 50° F, and that have average annual temperatures below 65° F.

**Collaboration:** A cooperative process in which interested parties, often with widely varied interests, work together to seek solutions with broad support for managing public and other lands. This may or may not involve an agency as a cooperating agency.

**Collaborative Partnerships and Collaborative Stewardship:** Refers to people working together, sharing knowledge and resources, to achieve desired outcomes for public lands and communities within statutory and regulatory frameworks.

**Colluvium:** A general term applied to loose and incoherent deposits, usually at the foot of a slope or cliff and brought there chiefly by gravity. Talus and cliff debris are included in such deposits.

**Commercial Forest Land:** Forest land which is producing, or has a site capable of producing, at least 20 cubic feet per acre per year of a commercial tree species.

**Commercial Tree Species:** Tree species whose yields are reflected in the allowable cut: pines, firs, spruce, Douglas fir, and larch.

**Common Variety Minerals:** Stone, gravel, pumice, pumicite, and cinders that, though possibly having value for trade, manufacture, the sciences, or the mechanical or ornamental arts, do not have a distinct, special value for such use beyond normal uses. On public lands, such minerals are considered saleable and are disposed of by sales or by special permits to local governments.

**Community:** An assemblage of plant and animal populations in a common spatial arrangement.

**Competent Rock:** Rock that, because of its physical and geological character, can sustain openings without any structural support except pillars and walls left during mining.

**Competitive Forage:** Those forage species utilized by two or more animal species.

**Completion:** The activities and methods to prepare a well for production. Includes installation of equipment for production from an oil or gas well.

**Conditional Suppression:** Suppression actions based on predetermined, stringent conditions, i.e., fire location, weather condition, forces available, and fire size. Monitoring must be done throughout the fire's duration, and direct suppression will be taken if any one condition is exceeded.

**Conditions of Approval:** Conditions or provisions (requirements) under which an Application for a Permit to Drill or a Sundry Notice is approved.

**Cone of Depression:** A change (depression) in the water table surface at the site of an active well, resulting from the withdrawal of water.

**Conformance:** That a proposed action shall be specifically provided for in the land use plan or, if not specifically mentioned, shall be clearly consistent with the goals, objectives, or standards of the approved land use plan.

**Conifer:** A tree of the order *Coniferae* with cones and needle-shaped or scale-like leaves.

**Coniferous:** Pertaining to conifers, which bear woody cones containing naked seeds.

**Connate Water:** Water entrapped in the interstices of a sedimentary rock at the time the rock was deposited.

**Conservation Agreement:** A formal, signed agreement between the U.S. Fish and Wildlife Service or National Marine Fisheries Service and other parties that implements specific actions, activities, or programs designed to eliminate or reduce threats or otherwise improve the status of a species. A CA can be developed at a state, regional, or national level and generally include multiple agencies, as well as tribes, at both the state and federal level. Depending on the types of commitments the BLM makes in a CA and the level of signatory authority, plan revisions or amendments may be required prior to signing the CA, or subsequently in order to implement the CA.

**Conservation for Future Use:** This category is reserved for any unusual cultural property, which, because of scarcity, a research potential that surpasses the current state of the art, singular historic importance, cultural importance, architectural interest, or comparable reasons, is not currently available for consideration as the subject of scientific or historical study that would result in its physical alteration. A cultural property included in this category is deemed worthy of segregation from all other land or resource uses, including cultural resource uses, that would threaten the maintenance of its present condition or setting, as pertinent, and will remain in this use category until specified provisions are met in the future.

**Conservation Strategy:** A strategy outlining current activities or threats that are contributing to the decline of a species, along with the actions or strategies needed to reverse or eliminate such a decline or threats. Conservation strategies are generally developed for species of plants and animals that are designated as BLM Sensitive Species or that have been determined by the U.S. Fish and Wildlife Service or National Marine Fisheries Service to be federal candidates under the Endangered Species Act.

**Consistency:** The proposed land use plan does not conflict with officially approved plans, programs, and policies of tribes, other federal agencies, and state and local governments to the extent practical within federal law, regulation, and policy.

**Consumers:** Organisms, chiefly animals, that ingest other organisms or particulate organic matter.

**Contiguous:** Lands or legal subdivisions having a common boundary; lands having only a common corner are not contiguous.

**Controlled Surface Use:** A fluid minerals leasing constraint under which use and occupancy is allowed (unless restricted by another stipulation), but identified resource values require special operational limitations that may modify lease rights.

**Cool-Season Plants:** Plants whose major growth occurs during the late fall, winter, and early spring.

**Cooperating Agency:** Assists the lead federal agency in developing an Environmental Analysis or Environmental Impact Statement. The Council on Environmental Quality regulations implementing NEPA defines a cooperating agency as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA. Any tribe or federal, state, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

Corporate Guarantees (Bonding): The use of corporate assets as part or all of the financial assurance for reclamation.

Corridor: A wide strip of land within which a proposed linear facility could be located.

Council on Environmental Quality: An advisory council to the President of the United States established by the National Environmental Policy Act of 1969. It reviews federal programs for their effect on the environment, conducts environmental studies, and advises the president on environmental matters.

Country Rock (Wall Rock): The general mass of rock next to a body of ore, as distinguished from the vein or ore deposit itself.

Cover: Any form of environmental protection that helps an animal stay alive (mainly shelter from weather and concealment from predators).

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

Critical Growth Period: A specified period of time in which plants need to develop sufficient carbohydrate reserves and produce seed.

Critical Habitat: An area occupied by a threatened or endangered species "on which are found those physical and biological features (1) essential to the conservation of the species, and (2) which may require special management considerations or protection."

Critical Minerals: Minerals essential to the national defense, the procurement of which in war, while difficult, is less serious than those of strategic minerals because they can be either domestically produced or obtained in more adequate amounts or are less essential, and for which some degree of conservation and distribution control is needed.

Cryptobiotic (Crytogamic) Crusts: Biological communities that form a surface layer or crust on some soils. These communities consist of cyanobacteria (blue-green bacteria), microfungi, mosses, lichens, and green algae and perform many important functions, including fixing nitrogen and carbon, maintaining soil surface stability, and preventing erosion. Cryptobiotic crusts also influence the nutrient levels of soils and the status and germination of plants in the desert. These crusts are slow to recover after severe disturbance, requiring 40 years or more to recolonize even small areas.

Cultural Plants: Plants traditionally used by Native Americans for subsistence, economic, or ceremonial purposes.

Cultural Resources: Nonrenewable elements of the physical and human environment, including archaeological remains (evidence of prehistoric or historic human activities) and sociocultural values traditionally held by ethnic groups (sacred places, traditionally utilized raw materials, etc.).

Cultural Site: Any location that includes prehistoric and/or historic evidence of human use, or that has important sociocultural value.

Cumulative Impact: The impact on the environment that results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Cutterhead Dredge: A hydraulic dredge in which the suction action is augmented by a rotating propeller that operates at the point of suction. The cutterhead performs two functions: (1) it cuts into and loosens compacted soils and soft rock, and (2) it increases dredge capacity by channeling the soils into the end of the suction pipe.

Cuttings: Fragments of rock dislodged by the bit and brought to the surface in the drilling mud.

Cyanide Leaching: The extraction of metal from an ore by its dissolution in a cyanide solution.

**-D-**

Dacite: A fine-grained extrusive rock with the same composition as its intrusive equivalent, granodiorite.

Debitage (Cultural Resources): Waste flakes from tool-making activities.

Deciduous: Pertaining to plants that shed all their leaves every year in a certain season.

Deferred Rotation Grazing: Discontinuance of livestock grazing on various parts of a range in succeeding years. Two, but more commonly three or more, separate pastures are required.

**Depth of Burial:** The depth below the ground surface and/or thickness of overlying stratum over a particular rock unit of geologic interest. Coals buried at a depth of more than 4,000 feet do not have the flow capacity needed for economic methane gas development.

**Depth to Coal Pay:** The depth below the ground surface of a potential economic coal unit.

**Desert Pavement:** A desert ground surface of thin, smooth, or sheet-like, wind-polished, closely packed pebbles, boulders, gravel, and other rock fragments, where wind and sheetwash have removed all small particles. These fragments are commonly cemented by mineralized solution.

**Desiccation:** The removal of moisture; to become dried up.

**Designated Roads and Trails:** Specific roads and trails where some type of motorized vehicle use is allowed either seasonally or yearlong.

**Desired Condition:** Description of those factors that should exist within ecosystems both to maintain their survival and to meet social and economic needs.

**Detritus:** Disintegrated matter such as rock fragments or organic debris accumulated in pond water or on mud or soil.

**Development Well:** A well drilled within the known or proven productive area of an oil field with the expectation of producing oil or gas from the producing reservoir.

**Dewatering:** The process of pumping large amounts of groundwater from wells to lower the water table over a large area to allow an open pit or underground mine to operate in dry conditions.

**Diatomite:** An accumulation of microscopic siliceous skeletons of aquatic plants (diatoms).

**Directional Drilling:** The intentional deviation from vertical, of a well bore, to reach subsurface areas off to one side from the drilling site.

**Discharge (Water):** The rate of flow or volume of water flowing in a stream at a given place or within a given period of time.

**Discharged from Management:** This category is assigned to cultural properties that have no remaining identifiable use. Most often these are prehistoric and historic archaeological properties, such as small surface scatters of artifacts or debris, whose limited research potential is effectively exhausted as soon as they

have been documented. Also, more complex archaeological properties that have had their salient information collected and preserved through mitigation or research may be discharged from management, as should cultural properties destroyed by any natural event or human activity. Properties discharged from management remain in the inventory, but they are removed from further management attention and do not constrain other land uses. Particular classes of unrecorded cultural properties may be named and described in advance as dischargeable upon documentation, but specific cultural properties must be inspected in the field and recorded before they may be discharged from management.

**Discovery:** The knowledge of the presence of valuable minerals within or close enough to a location to justify a reasonable belief in their existence. Discovery is extremely important to public lands mining because the Mining Law of 1872 provides that mining claims can be located only after a discovery is made.

**Discretionary Closure:** Those lands where the BLM has determined that fluid minerals leasing, even with the most restrictive stipulations, would not adequately protect other resources, values, or land uses.

**Dispersed/Extensive Recreation:** Recreation activities of an unstructured type that are not confined to specific locations, such as recreation sites. Examples of these activities may be hunting, fishing, off-road vehicle use, hiking, and sightseeing.

**Disposal Well:** A well into which produced water from other wells is injected into an underground formation for disposal.

**Disseminated Ore:** Ore carrying small particles of valuable minerals spread more or less uniformly through the worthless minerals, as distinct from massive ore, in which valuable materials occur in almost solid form with little waste material included.

**Distribution Line:** An electric power line operating at a voltage of less than 69 kilovolts.

**Disturbance Zone:** Area of influence around a disturbance causing a change in animal behavior such as leaving the area, increased stress, abandoning young, not breeding, and aberrant behavior.

**Diurnal:** Describes a cyclic event recurring daily, or the nature or habit of an organism to be active during daylight hours.

**Diversity:** The relative abundance of wildlife species, plant species, communities, habitats, or habitat features per unit of area.

Dolomite: A mineral that consists of calcium magnesium carbonate and is found in crystals and in extensive beds as a limestone.

Drainage: The removal of excess water from land by surface or subsurface flow.

Drawdown, Groundwater: A lowering of the groundwater surface caused by pumping, measured as the difference between the original groundwater level and the level after a period of pumping.

Drift: A voluntary or accidental dislodgment of aquatic invertebrates from the stream bottom into the water column, where they move or float with the current.

Drilling: The operation of boring a hole in the earth, usually for the purpose of finding and removing subsurface formation fluids such as oil and gas.

Drilling Fluids: The circulating fluid used to bring cuttings out of the well bore, cool the drill bit, provide hole stability, and pressure control.

Drilling Rig: The derrick, draw-works, and attendant surface equipment of a drilling or workover unit.

Dry Drill Hole: A drill hole in which no water is used for drilling.

Dry Hole: Any well incapable of producing oil or gas in commercial quantities. A dry hole may produce water, gas, or even oil, but not enough to justify production.

## **-E-**

Easement: A right, afforded a person or agency, to make limited use of another's real property for access or other purposes.

Echolocation: A process used by bats for locating distant or invisible objects (prey) by detecting sound waves reflected back from the objects.

Ecological Balance: The stability of an ecosystem resulting from interacting processes of its components.

Ecological Site Inventory: The basic inventory of present and potential vegetation on BLM rangelands. Ecological sites are differentiated on the basis of significant differences in kind, proportion, or amount of plant species present in the plant community. Ecological site inventory (ESI) utilizes soils, the existing plant community, and ecological site data to determine the appropriate ecological site for a specific area of rangeland and to assign the appropriate ecological status.

**Ecological Status:** Ecological status is the present state of vegetation of a range site in relation to the potential natural community for that site. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a plant community resemble that of the potential natural plant community for the site. Four classes are used to express the degree to which the production or composition of the present plant community reflects that of the potential natural community (climax).

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

**Ecosystem:** A complete, interacting system of living organisms and the land and water that make up their environment; the home places of all living things, including humans.

**Edge Effect:** The influence of two bordering biotic communities on each other.

**Effluent:** Treated or untreated waste material discharged into the environment.

**Electrowinning:** The recovery of metal from an ore by means of electrochemical processes.

**Eluviation:** A process of removal of organic material and clay in solution or in suspension from the soil by percolating waters. The removal of soil material in suspension or solution from a layer or layers of a soil. The loss of material in solution is usually called "leaching."

**Embargo:** A restriction imposed on commerce by law; especially a prohibition of trade in a particular commodity.

**Emergent Vegetation:** Aquatic plant species that are rooted in wetlands but extend above the water's surface.

**Emission:** Effluent discharge into the atmosphere, usually specified by mass per unit time.

**Endangered Species:** A plant or animal species whose prospects for survival and reproduction are in immediate jeopardy, as designated by the Secretary of the Interior, and as is further defined by the Endangered Species Act.

**Enhanced Recovery:** The use of artificial means to increase the amount of hydrocarbons that can be recovered from a reservoir. A reservoir depleted by normal extraction usually can be restored by secondary or tertiary methods of enhanced recovery.

Entry: An application to acquire title to public lands.

Environmental Assessment: A concise public document that analyzes the environmental impacts of a proposed federal action and provides sufficient evidence to determine the level of significance of the impacts.

Environmental Impact Statement: A detailed written statement required by NEPA when an agency proposes a major federal action significantly affecting the quality of the human environment.

Eolian Ice Cells: Perennial ice formed from snowfall and insulated from summer heat by a cover of windblown sands.

Ephemeral stream: A stream that flows only after rains or during snowmelt.

Equilibrium Partitioning Sediment Guidelines: The U.S. Environmental Protection Agency's chemical-specific guidance for assessing and protecting against contaminated sediments.

Erosion: The wearing away of the land surface by running water, wind, ice, or other geological agents.

Erosion Blanket: Material such as straw, jute matting, or rock that is applied to the land surface to minimize erosion of soil particles caused by the impact of rain drop splash and by flowing water.

Eutrophication: The slow aging process of a lake evolving into a marsh and eventually disappearing. During eutrophication the lake is choked by abundant plant life. Human activities that add nutrients to a water body can speed up this action.

Evaluation (Plan Evaluation): The process of reviewing the land use plan and the periodic plan monitoring reports to determine whether the land use plan decisions and NEPA analysis are still valid and whether the plan is being implemented.

Evapoconcentration: The process of a solution's becoming more concentrated as its liquid evaporates.

Evaporite: Sedimentary rock formed by the evaporation of a saline solution. Examples include rock salt, gypsum, and chemically precipitated limestone.

Evapotranspiration: The combined process by which water is transferred from the earth's surface (from soil, snow, water bodies, and vegetation) to the atmosphere.

**Exclusion Area:** Areas with sensitive resource values where rights-of-way and 302 permits, leases, and easements would not be authorized.

**Existing Management Situation:** A component of the analysis of the management situation; a description of the existing management direction governing resource management programs of a planning area.

**Experimental Use:** This category may be applied to a cultural property judged well-suited for controlled experimental study, to be conducted by BLM or others concerned with the techniques of managing cultural properties, which would result in the property's alteration, possibly including loss of integrity and destruction of physical elements. Committing cultural properties, or the data they contain, to loss must be justified in terms of specific information that would be gained and how it would aid in the management of other cultural properties. Experimental study should aim toward understanding the kinds and rates of natural or human-caused deterioration, testing the effectiveness of protection measures, or developing new research or interpretation methods and similar kinds of practical management information. It should not be applied to cultural properties with strong research potential, traditional cultural importance, or good public use potential, if it would significantly diminish those uses.

**Exploration:** The work of investigating a mineral deposit to determine by geological surveys, geophysical surveys, geochemical surveys, boreholes, pits, and underground workings if it is feasible to mine.

**Exploration Well:** A well drilled in the area where there is no oil or gas production (also known as wildcat well).

**Exsolve:** From exsolution, the process whereby an initially homogeneous solid solution separates into two (or possibly more) distinct crystalline phases without addition or removal of material to or from the system, i.e., without change in the bulk composition. Generally, though not necessarily, occurs on cooling.  
Synonym: unmixing.

**Extensive Recreation Management Area:** Areas where significant recreation opportunities and problems are limited, and explicit recreation management is not required. Minimal management actions related to the Bureau's stewardship responsibilities are adequate in these areas.

**Extra Lateral Rights:** Rights relating to the apex law. If a vein outcrops (apex or highest point) on the surface of a claim, the claimant of the vein's apex has rights to all of the vein that is continuous in the downward dip, including the portion of the vein outside the claim boundary.

**Eyrie:** The nest of birds of prey.

**-F-**

**Factor of Safety:** The ratio of the ultimate strength of a material to the allowable or working stress.

**Fan:** An accumulation of debris brought down by a stream descending through a steep ravine and debouching in the plain beneath, where the detrital material spreads out in the shape of a fan, forming a section of a very low cone.

**Federal Land Policy and Management Act of 1976:** Public Law 94-579. October 21, 1976, often referred to as the BLM's "Organic Act," which provides the majority of the BLM's legislated authority, direction, policy, and basic management guidance.

**Federal Register:** A daily publication reporting Presidential and Federal Agency documents.

**Fire Management Plan:** A strategic plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan; the plan is supplemented by operational procedures such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

**Fire Preparedness:** Activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination.

**First-order Tributary:** A nonbranching headwater channel segment.

**Fish Stock:** A discrete population of a fish species that tends to inhabit the same waters and breed in the same stream.

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

**Flare:** An arrangement of piping and a burner to dispose of surplus combustible vapors, usually situated around a gasoline plant, refinery, or producing well.

**Flood Plain:** The relatively flat area or lowlands adjoining a body of standing or flowing water that has been or might be covered by floodwater.

**Flow Regimes:** Characteristics of stream discharge over time. The natural flow regime is the regime that occurred historically.

**Fluid Minerals:** Oil, gas, and geothermal resources.

**Fluvial:** Pertaining to streams or produced by stream action.

Forage: All browse and herbaceous foods available to grazing animals, which may be grazed or harvested for feeding.

Forbs: An herbaceous plant that is not a grass, sedge, or rush.

Forest Land: Land that is now, or has the potential of being, at least 10 percent stocked by forest trees (based on crown closure) or 16.7 percent stocked (based on tree stocking).

Formation: A body of rock identified by lithic characteristics and stratigraphic position; it is prevailing, but not necessarily, tabular and is mappable at the earth's surface or traceable in the subsurface.

Fossil: Mineralized or petrified form from a past geologic age, especially from previously living things.

Fractured: Fissured, broken, or cracked.

Fragile Soil: A soil that is especially vulnerable to erosion or deterioration due to its physical characteristics and/or location. Disturbance to the surface, or the vegetative cover, can initiate a rapid cycle of loss and destruction of soil material, structure, and ability to sustain a biotic community.

Free Water: Groundwater free to move in response to gravity.

Free-flowing River: Existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway.

Fugitive Dust: Airborne particles emitted from any source other than through a stack or vent.

## **-G-**

Gaining (Effluent) Stream: A stream, or reach of a stream, that receives water from the zone of saturation and provides base flow; its channel lies below the water table.

Geographic Information System: A computer system capable of storing, analyzing, and displaying data and describing places on the earth's surface.

Geophysical Exploration: The use of geophysical instruments and methods to determine subsurface conditions by analyzing such properties as specific gravity, electrical conductivity, or magnetic susceptibility.

Geophysics: Study of the earth by quantitative physical methods.

Goal: A broad statement of a desired outcome. Goals are usually not quantifiable and may not have established time frames for achievement.

Graben: Fault block valley; elongated, depressed crustal block bounded by faults on its long side.

Grandfather, to: To exempt groups or individuals from provisions of laws or regulations because of pre-existing conditions, such as exempting mining operations existing before new mining regulations are implemented from provisions of those new regulations.

Grazing System: The manipulation of livestock grazing to accomplish a desired result.

Greenstripping: The practice of establishing or using patterns of fire-resilient vegetation and/or material to reduce wildland fire occurrence and size. This practice also breaks up monocultures, such as cheatgrass areas, and creates some biodiversity.

Gross Domestic Product (GDP): The sum of the gross state products of the 50 states.

Gross State Product (GSP): The sum of the gross outputs of each of a state's industries minus intermediate goods and services purchased from other industries or imported.

Ground Cover: Vegetation, mulch, litter, rock, etc.

Groundwater: Water contained in pore spaces of consolidated and unconsolidated surface material.

Guidelines: Actions or management practices that may be used to achieve desired outcomes, sometimes expressed as best management practices. Guidelines may be identified during the land use planning process, but they are not considered a land use plan decision, unless the plan specifies that they are mandatory.

Gully Erosion: The removal of soil by the forming of relatively large gullies or channels cut into the soil by concentrated surface runoff.

**-H-**

**Habitat:** A specific set of physical conditions that surround a species, group of species, or a large community. In wildlife management, the major constituents of habitat are considered to be food, water, cover, and living space.

**Hardpan:** A hardened soil layer, in the lower A or B horizon, caused by cementation of soil particles with organic matter or with materials such as silica or calcium carbonate.

**Heap:** A large, engineered pile of ore over which chemical agents, such as cyanide, are sprinkled in extracting metals by heap leaching.

**Heap Leaching:** A low-cost technique for extracting metals from ore by percolating leaching solutions through heaps of ore placed on impervious pads. This method is generally used on low-grade ores.

**Heap Leach Pad:** A large impermeable foundation or pad used as a base for ore during heap leaching.

**Heavy Metal:** Any of the metals that react readily with dithizone, including zinc, copper, cobalt, lead, bismuth, gold, cadmium, iron, manganese, nickel, tantalum, tellurium, platinum, and silver.

**Herbaceous:** Pertaining to, or characteristic of, an herb (fleshy-stem plant) as distinguished from the woody tissue of shrubs and trees.

**Herd Area:** The geographic area identified as having been used by wild horse or burro herds as their habitat in 1971.

**Herd Management Area Plan:** An action plan that prescribes measures for the protection, management, and control of wild horses and burros and their habitat on one or more herd management areas, in conformance with decisions made in approved management framework or resource management plans.

**Herd Management Area:** Public land under the jurisdiction of the BLM that has been designated for special management emphasizing the maintenance of an established wild horse herd.

**Herpetofauna:** Reptiles and amphibians.

**Highbanker:** A placer mining tool similar to a sluice box, but instead of being placed in a stream, the highbanker uses a water pump to carry water to higher and sometimes richer placer reserves. The highbanker also can run more material in less time than a sluice.

**Highwall:** The unexcavated face of exposed overburden and ore in an open-pit mine.

**Historic:** Period wherein nonnative cultural activities took place, based primarily upon European roots, having no origin in the traditional Native American culture(s).

**Home Range:** The area in which an animal travels in the scope of natural activities.

**Host Rock:** A body of rock with younger rocks or mineral deposits introduced into it or formed within or next to it.

**Hummocky:** Like a hummock, full of hummocks (a low, rounded hill, knoll, hillock; a tract of wooded land higher than a nearby swamp or marsh).

**Hydraulic Conductivity:** The property of a soil that governs the rate of groundwater flow within it. The hydraulic conductivity of a particular soil is defined by the size, abundance, and geometry of its open pores, and the rate of groundwater flow increases with increasing hydraulic conductivity. Fine-grained soils such as clay and silt have very small pores and have much lower hydraulic conductivities than coarse-grained soils such as sand and gravel.

**Hydraulic Fracturing:** A method of stimulating production by increasing the permeability of the producing formation.

**Hydraulic Gradient:** The slope of the free surface of water in a stream flowing in an open channel.

**Hydraulic Resistance:** The resistance to the flow of water for a given stream channel, as defined by the mathematical relationship between stream depth, bed material size, mean flow velocity, and shear velocity.

**Hydric:** Characterized by decided moist or wet conditions.

**Hydric Soils:** Saturated soils.

**Hydrocarbons:** Organic compounds of hydrogen and carbon, whose densities, boiling points, and freezing points increase as their molecular weights increase. Although composed mostly of carbon and hydrogen, hydrocarbons exist in a great variety of compounds, owing to the strong affinity of the carbon atom for other atoms and itself. The smallest molecules are gaseous; the largest are solids. Petroleum is a mixture of many different hydrocarbons.

**Hydrogeologically Connected:** The connection of two or more hydrologic systems; usually refers to separate aquifers in which water can pass and exchange with other aquifers.

**Hydrologic Balance:** An accounting of water inflow to, outflow from, and storage in a hydrologic unit such as a drainage basin, aquifer, lake, or reservoir; the relationship between evaporation, precipitation, runoff, and change in water storage.

**Hydrophytic:** Water-loving; ability to grow in water or saturated soils.

**Hydrostatic Pressure:** The pressure exerted by the water, at any given point, in a water body at rest. The hydrostatic pressure of groundwater is generally due to the weight of water at higher levels in the zone of saturation.

**Hydrostatic Test:** The testing of pipeline integrity by closing all openings and pumping water into the pipe at a pressure greater than the normal operating pressure to determine whether or not leaks are present.

**Hyporheic Zone:** The area where water in a stream channel has moved back into the subsurface sediments. The hyporheic zone may occur under or next to the streambed.

**-|-**

**Igneous Rock:** Rock, such as granite and basalt that has solidified from a molten or partially molten state.

**Illuviation:** The process of deposition of soil material removed from one horizon to another in the soil, usually from an upper to a lower horizon in the soil profile.

**Impact:** A modification of the existing environment caused by an action (such as construction or operation of facilities).

**Impacts (or Effects):** Environmental consequences (the scientific and analytical basis for comparison of alternatives) as a result of a proposed action. Effects may be either direct, which are caused by the action and occur at the same time and place, or indirect, which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable, or cumulative.

**Implementation Decisions:** Decisions that take action to implement land use plan decisions. They are generally appealable to Interior Board of Land Appeals.

**Implementation Plan:** A site-specific plan written to implement decisions made in a land use plan. An implementation plan usually selects and applies best management practices to meet land use plan objectives. Implementation plans are synonymous with “activity” plans. Examples of implementation plans include interdisciplinary management plans, habitat management plans, and allotment management plans.

**In Situ Mining:** A method of extracting valuable minerals from ore by remobilizing or leaching them from where they occur in the ground. Under this process, the ore deposit is drilled with holes in a grid pattern, and a dissolving or leaching solution is injected through the holes into the deposit, where the chemicals extract the desired minerals. The pregnant liquid is then recovered at a different well, or series of wells, and is piped to a recovery plant. There the minerals are recovered. The barren solution is then returned to the injection wells, and the cycle begins again.

**Incised Channels:** Deeply and sharply cut stream channels.

**Incline:** A nonvertical mining shaft, usually along the dip of a vein.

**Increments:** Maximum allowable increases over legally established baseline concentrations of pollutants covered by the Prevention of Significant Deterioration provisions designated as Class I, II, and III areas.

**Independent Millsite:** A millsite in which the mill does not depend on specific mines for the minerals it processes.

**Indian Mineral Estate:** A mineral estate owned by the federal government and held in trust for the Indian people. The Bureau of Indian Affairs and Bureau of Land Management, as agents of the Secretary of the Interior, have the responsibility for administering the leasing and development of oil and gas resources in such a case. However, under the auspices of the Indian Self Determination Act of 1968 and Indian Mineral Development Act of 1982, Indian people may take a leadership role in the management of their mineral resources.

**Indian Tribe:** Any Indian group in the conterminous United States that the Secretary of the Interior recognizes as possessing tribal status.

**Indicator Species:** A species of animal or plant whose presence is a fairly certain indication of a particular set of environmental conditions. Indicator species serve to show the effects of development actions on the environment.

**Indirect Impacts:** Secondary effects that occur in locations other than the initial action or later in time.

**Indurated:** Said of a compact rock or soil hardened by the action of pressure, cementation, and especially heat. Also said of an impure, hard, slaty variety of talc.

**Industrial Minerals:** Rock and minerals that are not produced as sources of metals and are not mineral fuels. Examples include salt, gravels, building materials, talc, and sands.

**Infiltration:** The downward entry of water into the soil or other material.

**Infrastructure:** The facilities, services, and equipment needed for a community to function, including roads, sewers, waterlines, police and fire protection, and schools.

**Initial (Fire) Attack:** An aggressive fire suppression action consistent with firefighter and public safety and values to be protected.

**Injection Well:** A well used to inject fluids into an underground formation to increase reservoir pressure.

**Injection:** The forcing, under abnormal pressure, of material (downward from above, upward from below, or laterally) into a pre-existing deposit or rock, either along some plane or weakness or into a pre-existing crack or fissure.

**Interdisciplinary Team:** A group of individuals with different training, representing the physical sciences, social sciences, and environmental design arts, assembled to solve a problem or perform a task. The members of the team proceed to a solution with frequent interaction so that each discipline may provide insights to any stage of the problem, and disciplines may combine to provide new solutions. The number and disciplines of the members preparing the plan vary with circumstances. A member may represent one or more discipline or Bureau program interest.

**Interim Management Policy:** Policy that guides management of the BLM's Wilderness Study Areas. The policy balances the various uses of Wilderness Study Areas with the requirement to protect the lands wilderness values.

**Interior Board of Land Appeals:** The Department of the Interior, Office of Hearings and Appeals Board that acts for the Secretary of the Interior in responding to appeals of decisions on the use and disposition of public lands and resources. Because the Interior Board of Land Appeals acts for and on behalf of the Secretary of the Interior, its decisions usually represent the Department's final decision but are subject to the courts.

**Intermediate Goods and Services:** Goods and services that are purchased for further reprocessing and resale, as opposed to final goods and services, which are sold to ultimate users. For example, wool would be an intermediate good, whereas a wool shirt would be a final good.

**Intermittent Stream:** A stream that occasionally is dry or reduced to pool stage.

**Inversion:** The state of the atmosphere in which a layer of cool air is trapped near the earth's surface by an overlying layer of warm air so that the lower layer

cannot rise. Serious air pollution problems may result from air pollutants being emitted into the limited mixing depth below the inversion.

Invertebrates: Animals without backbones or internal bony skeletons.

Isopleth: A line on a map connecting points at which a given variable has a specified constant value.

**-J-**

Jib: The lifting arm of a crane or derrick having a pulley at its outer end over which the hoisting rope passes.

Jig: An appliance in which a vertically pulsed column of water is manipulated to stratify crushed ore with lighter particles above and heavier particles below.

Joint Patterns: Patterns of fractures in rock, generally vertical or transverse to bedding, along which no appreciable movement has occurred.

Jurisdiction: The legal right to control or regulate use of a transportation facility. Jurisdiction requires authority, but not necessarily ownership.

**-K-**

K-factor: Soil erodibility factor.

Karst: An area underlain by limestone in which erosion has formed sinkholes, fissures, caverns, and underground streams.

**-L-**

Lacustrine: Pertaining to, formed in, growing in, or inhabiting lakes.

Land Classification: A process for determining the suitability of public lands for certain types of disposal or lease under the public land laws or for retention under multiple-use management.

Land Use Allocation: The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions.

Land Use Plan: A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land-use-plan-level decisions developed through the planning process, regardless of the scale at which the decisions were developed.

**Land Use Plan Decision:** Establishes desired outcomes and actions needed to achieve them. Decisions are reached using the BLM planning process. When they are presented to the public as proposed decisions, they can be protested to the BLM Director. They are not appealable to the Interior Board of Land Appeals.

**Land Use Planning Base:** The entire body of land use plan decisions resulting from Resource Management Plans, Management Framework Plans, planning analyses, the adoption of other agency plans, or any other type of plan where land-use-plan-level decisions are reached.

**Leachate:** The liquid that has percolated through and dissolved minerals out of ore.

**Leaching:** The separating or dissolving of soluble constituents from a rock or ore by chemical solutions or water.

**Leasable Minerals:** Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. They include coal, phosphate, asphalt, sulfur, potassium, and sodium minerals, and oil, gas, and geothermal.

**Lease:** (1) A legal document that conveys to an operator the right to drill for oil and gas; (2) the tract of land, on which a lease has been obtained, where producing wells and production equipment are located.

**Lease Notice:** Provides more detailed information concerning limitations that already exist in law, lease terms, regulations, and operational orders. A Lease Notice also addresses special items the lessee would consider when planning operations but does not impose new or additional restrictions

**Lease Stipulation:** A modification of the terms and conditions on a standard lease form at the time of the lease sale.

**Legal Land Description:** The method of locating or describing the land in relation to the public land survey.

**Lek:** An assembly area where birds, especially sage grouse, carry on display and courtship behavior.

**Lenticular:** Shaped approximately like a double convex lens.

**Level of Service:** In transportation studies, a qualitative measure of traffic flow along a given road considering a variety of factors, including speed and travel time, traffic interruptions and freedom to maneuver. Levels of service are designated "A" through "F"; "A" being a free-flow condition with low volumes at

high speeds and “F” being a congested condition of low speeds and stop-and-go traffic.

Lignin: The major noncellulose constituent of wood.

Limited Areas or Trails: Designated areas or trails where the use of off-road vehicles is subject to restrictions, such as limiting the number or types of vehicles allowed, dates and times of use (seasonal restrictions), limiting use to existing roads and trails, or limiting use to designated roads and trails. Under the designated roads and trails designation, use would be allowed only on roads and trails that are signed for use. Combinations of restrictions are possible, such as limiting use to certain types of vehicles during certain times of the year.

Limits of Acceptable Change: A framework for establishing acceptable and appropriate resource and social conditions in recreation settings; a system of management planning.

Liquefaction: A change in the phase of a substance to the liquid state; usually a change from the gaseous to the liquid state, especially of a substance that is a gas at normal pressure and temperature.

Lithology: The physical characteristics of a rock, generally as determined megascopically or with the aid of a low-power magnifier.

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

Livestock Operation: The management of a ranch or farm so that a significant portion of the income is derived from the production of livestock.

Loading: The total amount of a pollutant generated from a specific area of land or received by a water resource during a fixed period of time.

Loamy: Intermediate in texture and properties between fine- and course-textured soils.

Local Planning Tier: Site-specific plans developed as necessary to implement decisions made at higher tiers or to solve local issues.

Locatable Minerals: Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

Location: The act of taking or appropriating a parcel of mineral land, including the posting of notices, the recording thereof when required, and marking the

boundaries so they can be readily traced; also the claim acquired by an act of location.

Location Quotient: An index for comparing an area's share of a particular activity with the area's share of some basic or aggregate phenomenon.

Lode: A mineral deposit in solid rock.

Lode Claim: A public lands mining claim that contains valuable minerals occurring in a vein or lode.

Lode Mining: Mining of a mineral deposit in solid rock.

Logging Tool: Electric tools that are lowered down a well bore by wire cable and are capable of taking measurements of the physical properties of the rock formations downhole (i.e., resistivity, self-potential, gamma-ray, intensity, or velocity). The data is recorded and displayed on well logs that aid in defining physical rock characteristics, such as lithology, porosity, pore geometry, and permeability.

Loose Cubic Yard: A unit volume for material that is in a loose, broken, or blasted state or that has been excavated or loaded.

Losing (Influent) Stream: A stream or reach of a stream that contributes water to the zone of saturation and develops bank storage; its channel lies above the water table.

## **-M-**

Macroinvertebrates: Large or exceptionally prominent animals that lack a spinal column.

Macrophyte: Any plant that can be seen with the unaided eye, such as aquatic mosses, ferns, liverworts, or rooted plants.

Management Decision: A decision made by the BLM to manage public lands. Management decisions include both land use plan decisions and implementation decisions.

Management Situation Analysis: Assessment of the current management direction. It includes a consolidation of existing data needed to analyze and resolve identified issues, a description of current BLM management guidance, and a discussion of existing problems and opportunities for solving them.

Management Framework Plan: Planning decision document prepared before the effective date of the regulations implementing the land use planning provisions of

the FLPMA, which establishes, for a given area of land, land-use allocations, coordination guidelines for multiple use, and objectives to be achieved for each class of land use or protection.

**Management Opportunities:** A component of the analysis of the management situation; actions or management directions that could be taken to resolve issues or management concerns.

**Marlaceous:** Containing calcareous clay or mixture of clay and particles of calcite or dolomite; usually contains fragments of shells.

**Mass Movement:** A single landslide or the gradual simultaneous downhill movement of the whole mass of loose earth material on a slope face.

**Maximum Contaminant Level:** The maximum permissible level of a contaminant in water delivered to any user of a public water system.

**Maximum Contaminant Level Goal:** A number that is associated with no adverse health effects from drinking water containing a particular contaminant over a lifetime; a non-enforceable, ideal health goal issued as part of the National Primary Drinking Water Regulations.

**Mesozoic:** The era of geologic history (245 million to 65 million years ago) during which the world's animal and plant life changed dramatically. The Mesozoic is called the "age of the dinosaurs" because it witnessed the evolution and extinction of these creatures.

**Metamorphic Rock:** Any rock derived from pre-existing rocks by mineralogical, chemical, and structural changes, essentially in the solid state, in response to marked changes in temperature, pressure, shearing stress, and chemical environment at depth in the earth's crust.

**Metes and Bounds:** A method of describing a parcel of land by citing the owners of abutting lands and describing the length of each course of a boundary as "*along*" some apparent line, such as "*along a stream*" or "*along the road.*" In modern usage, a metes and bounds description includes the bearings and distances of each course.

**Metric Ton:** 1.102 short tons or 2,204 pounds.

**Microbiotic Crusts:** Lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing on or just below the surface of soils.

**Microclimate:** Local site-specific climatic conditions that differ from the general climate because of local differences in elevation and exposure.

**Microhabitat:** A small habitat, within a larger one, in which environmental conditions differ from those in the surrounding area. A hole in a tree trunk or an animal carcass is a microhabitat within a forest.

**Migration (oil and gas):** The movement of liquid and gaseous hydrocarbons from their source or generating beds, through permeable formations into reservoir rocks.

**Mil:** A unit of length equal to 1/1,000 of an inch.

**Mill:** A plant in which ore is treated for the recovery of valuable minerals, or valuable minerals are concentrated into a smaller bulk for shipping to a smelter or other reduction works.

**Millsite Claim (Millsite):** A site located on non-mineral land and used for erecting a mill or reduction works, or for other uses reasonably incident to support of a mine. Millsites are limited to 5 acres and may be located either by metes and bounds or by legal subdivision.

**Mine:** An opening or excavation in the earth for extracting minerals.

**Mine Capacity:** The greatest amount of production a mine is designed to produce.

**Mine Drainage:** Any water forming on or discharging from a mine.

**Mine Tailing Impoundment:** An area closed at its lower end by a constraining wall or dam into which mill effluents are run and from which, after solids have settled out, clear water may be returned via penstocks and piping.

**Mineral:** Any solid or fluid inorganic substance that can be extracted from the earth for profit.

**Mineral Claimant:** A person, association, corporation, or government that claims minerals rights or title in the public lands.

**Mineral Entry:** The filing of a claim on public land to obtain the right to any minerals it may contain.

**Mineral Estate:** The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

**Mineral Materials:** Materials, such as common varieties of sand, stone, gravel, pumice, pumicite, and clay, that are not obtainable under the mining or leasing laws but that can be acquired under the Mineral Materials Act of 1947, as amended.

**Mineral Prospect:** A mineral property whose value has not been proved by exploration.

**Mineral Reserves:** Known mineral deposits that are recoverable under present conditions but are as yet undeveloped.

**Mineral Rights:** Mineral rights outstanding are third-party rights, an interest in minerals not owned by the person or party conveying the land to the United States. It is an exception in a deed that is the result of prior conveyance separating title of certain minerals from the surface estate.

**Mineral Withdrawal:** A formal order that withholds federal lands and minerals from entry under the Mining Law of 1872 and closes the area to mineral location (staking mining claims) and development.

**Mineralization:** The processes taking place in the earth's crust resulting in the formation of valuable minerals or ore bodies.

**Mineralogy:** The study of minerals: their formation, occurrence, properties, composition, and classification.

**Minimize:** To reduce the adverse impact of an operation to the lowest practical level.

**Mining Claim:** A parcel of land that a miner takes and holds for mining purposes, having acquired the right of possession by complying with the Mining Law and local laws and rules. A single mining claim may contain as many adjoining locations as the locator may make or buy. There are four categories of mining claims: lode, placer, millsite, and tunnel site.

**Mining Claim Validity Examination:** An examination of a mining claim by a mineral examiner to determine if the claim has a discovery, or if all requirements for a millsite claim have been met. All claims for which a patent application has been filed must undergo such an exam.

**Mining District:** An area, usually designated by name, with described or understood boundaries, where minerals are found and mined under rules prescribed by the miners, consistent with the Mining Law of 1872.

**Mining Location:** A mining claim on public lands.

**Mitigation Measures:** Methods or procedures that reduce or lessen the impacts of an action.

**Monitoring:** The periodic observation and orderly collection of data on (1) changing conditions of public land related to management actions, and (2) the effects of implementing decisions.

**Modification:** A change in a Plan of Operations that requires some level of review by BLM because it exceeds what was described in the approved Plan of Operations.

**Monitoring, Plan:** The process of tracking the implementation of land use plan decisions.

**Monoculture:** The growth of only a single plant species within an area.

**Moraine:** An accumulation of boulders, stones, and other earth debris carried and deposited by a glacier.

**Mud:** The mixture of water or oil and clay, and sometimes other special materials, used as a drill circulation liquid in drilling a borehole.

**Multijurisdictional Planning:** Collaborative planning in which the purpose is to address land use planning issues for an area, such as an entire watershed or other landscape unit, in which there is a mix of public and/or private land ownerships and adjoining or overlapping tribal, state, local government, or other federal agency authorities.

**Multiple Use:** The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the lands for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some lands for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including but not limited to recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the lands and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or greatest unit output.

**Multiplier:** The number of times new investment spending will be re-spent to produce a certain amount of new income.

## **-N-**

**National Ambient Air Quality Standards:** The allowable concentrations of air pollutants in the ambient (public outdoor) air. National ambient air quality standards are based on the air quality criteria and divided into primary standards (allowing an adequate margin of safety to protect the public health) and secondary standards (allowing an adequate margin of safety to protect the public welfare). Welfare is defined as including (but not limited to) effects on soils, water, crops, vegetation, human-made materials, animals, wildlife, weather, visibility, climate, and hazards to transportation, as well as effects on economic values and on personal comfort and well being.

**National Conservation Area:** A congressionally designated public land area that contains important resources and whose management objectives are (1) to conserve and protect these resources, (2) to maintain environmental quality, and (3) to provide for present and future users within a framework of multiple use and sustained yield.

**National Environmental Policy Act of 1969:** An Act that encourages productive and enjoyable harmony between man and his environment and promotes efforts to prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enriches the understanding of the ecological systems and natural resources important to the Nation; and establishes the Council on Environmental Quality.

**National Landscape Conservation System:** A system of Congressional, Presidential, or other designated areas managed by the BLM, the components of which include National Monuments, National Conservation Areas, Wilderness Areas, Wilderness Study Areas, Wild and Scenic Rivers, National Historic Trails, National Scenic Trails, the California Desert Conservation Area, and the Headwaters Forest Reserve.

**National Natural Landmarks:** Sites designated by the Secretary of the Interior as containing the best representative examples of geologic features and natural communities composing the nation's natural history. The purpose of the designation is to encourage preservation of such sites through well-informed management and use and consideration of these sites in both public and private land use planning. Designation has no legal effect on land ownership, use, or management.

**National Planning Tier:** Identifies goals, objectives, priorities, alternatives, and other factors for use in planning. National policy is established in public laws, federal regulations, executive orders, and other Presidential-, Secretarial- and Director-approved documents.

National Pollutant Discharge Elimination System: A process for controlling the amount of pollution discharged into waters by requiring polluters to obtain permits from the states involved and to comply with discharge standards.

National Primary Drinking Water Standards: Developed by the Environmental Protection Agency to keep drinking water clean and protect the public from waterborne disease; these standards define either a maximum contaminant level or a treatment technique requirement to control the presence of contaminants in drinking water.

National Register of Historic Places: A register of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture, established by the "Historic Preservation Act" of 1966 and maintained by the Secretary of the Interior.

National Register Potential: Status of a cultural resource that is deemed qualified for the National Register of Historic Places, prior to formal documentation and consultation; managed as if it were actually listed.

National Wild and Scenic Rivers System: A system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values and are preserved in a free-flowing condition. The system consists of three types of streams: (1) recreation—rivers or sections of rivers that are readily accessible by road or railroad and that may have some development along their shorelines and may have undergone some impoundments or diversion in the past, (2) scenic—rivers or sections of rivers free of impoundments with shorelines or watersheds still largely undeveloped but accessible in places by roads, and (3) wild—rivers or sections of rivers free of impoundments and generally inaccessible except by trails, with watersheds or shorelines essentially primitive and waters unpolluted.

Negligible Impact: Impacts that are small in magnitude and importance and difficult or impossible to quantify relative to those occurring naturally or due to other actions.

Neotropical Migratory Birds: Birds that travel to Central America, South America, the Caribbean, and Mexico during the fall to spend the winter and then return to the United States and Canada during the spring to breed. These birds include almost half of the bird species that breed in the United States and Canada.

No Surface Occupancy: A fluid minerals leasing constraint that prohibits occupancy or disturbance on all or part of the lease surface to protect special values or uses. Lessees may exploit the fluid mineral resources under the leases restricted by this constraint through use of directional drilling from sites outside the area.

**No Surface Disturbance:** In general, this applies to an area where an activity is allowed so long as it does not disturb the surface.

**Non-Range:** Areas not suitable for livestock grazing due to low forage production, steep slopes, dense brush, or other reasons.

**Noncommercial Tree Species:** Species whose yields are not reflected in the allowable cut, regardless of their salability. Includes all hardwoods, juniper, and mountain mahogany.

**Noncommercial Forestland:** Forestland that is not capable of producing 20 cubic feet per acre of wood per year of commercial tree species.

**Nondiscretionary Closures:** Areas closed to fluid mineral development by law, regulation, or Executive Order.

**Nonoperable:** Forestlands unsuitable for any type of timber harvest activity due to their (1) physical features; for example, extremely rocky, boulder fields, rim rocks, rock outcrops and unsafe for logging operations, and/or (2) forestlands on which logging activity will result in the loss of the site's potential for producing commercial tree species; for example, loss of soil through erosion, slope failure, and/or the inability to reforest the site within acceptable time limits (usually 5 to 15 years) even with special reforestation techniques.

**Nonproblem Site:** A subclass of commercial forestland that requires no special harvesting, reforestation, or other restrictive measures in order to be managed on a sustained yield basis.

**Nonrestricted Forestland:** Nonproblem sites in the timber base on which no special techniques are required for harvest, reforestation, and other management practices.

**Nonuse:** Available grazing capacity that is not permitted during a given time period.

**Notice of Review Species:** A species that is being considered as a candidate for listing as either endangered or threatened under the Endangered Species Act of 1973, as amended.

**Notice:** The notification a mining operator must submit to BLM of the intention to begin an operation that will disturb 5 acres or less a year within a mining claim or project area. The intent of a Notice is to permit operations with limited geographic disturbance to begin after a quick review for potential resource conflicts and to eliminate the need for federal action. A Notice requires no special forms, but an operator must submit specific information. BLM must

complete its review of the Notice within 15 calendar days of its receipt unless more information is needed to determine if the operation would cause unnecessary or undue degradation.

**Notice of Noncompliance:** An authorized officer's decision, sent to the mining operator and claimant, that (1) details provisions of the regulations that a mining operation has violated and (2) states corrective actions that the operator must take within a specified time.

**Notice to Lessees:** A written notice issued by the BLM to implement regulations and operating orders and serve as instructions on a specific item(s) of importance within a state, district, or area.

**Notice-Level Operation:** A mining or exploration operation involving more than casual use but requiring that the operator submit only a Notice, rather than a Plan of Operations.

**Noxious Weeds:** A plant species designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or nonnative, new, or not common to the United States.

**Nutrient Cycling:** The circulation of chemical elements such as nitrogen, oxygen, carbon, and phosphorus in specific pathways from the abiotic (not involving or produced by organisms) portions of the environment into organic substances in plants and animals and then back into abiotic forms.

**-O-**

**Objective:** A description of a desired condition for a resource. Objectives can be quantified and measured and, where possible, have established time frames for achievement.

**Open:** Generally denotes that an area is available for a particular use or uses. Refer to specific program definitions found in law, regulations, or policy guidance for application to individual programs.

**Obligate:** Essential, necessary, unable to exist in any other state, mode, or relationship.

**Off-Highway Vehicle (Off-Road Vehicle):** Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: (1) any nonamphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; (4) vehicles in official use; and (5) any

combat or combat support vehicle when used in times of national defense emergencies.

**Official Use:** Use by an employee, agent, or designated representative of the federal government or one of its contractors, in the course of his or her employment, agency, or representation.

**Old Growth:** Forested stands meeting, or with the capability to meet, the following criteria; at least 40 contiguous acres; contain mature trees with at least 15 trees per acre greater than 20 inches in diameter; a multilayered canopy with two or more age classes; contain snags and down woody material; contains understory plants.

**One-Hundred-Year Flood:** A hydrologic event with a magnitude that has a recurrence interval of 100 years.

**Open Areas and Trails:** Designated areas and trails where off-road vehicles may be operated, subject to operating regulations and vehicle standards, or an area where all types of vehicle use is permitted at all times, subject to standards.

**Open-Pit Mining:** A surface mining method in which overlying rock and soil are removed to expose an ore body, which is then drilled, blasted, and hauled from the pit.

**Operating Rights (Working Interest):** Any interest held in a lease with the right to explore for, develop, and produce leased substances.

**Operator:** Any person who has taken formal responsibility for the operations conducted on the leased lands.

**Ore Reserves:** The portion of a mineral deposit that can be profitably mined. Use of this term implies detailed knowledge of all the geological, engineering, economic, and environmental parameters that might affect the profitability of an operation. For a new mining project or for the mining of new zones in an existing mine, a formal feasibility study is conducted to evaluate all the project's parameters.

**Ore:** A mineral deposit of high enough quality to be mined at a profit.

**Ore Body:** A mineralized mass whose characteristics have been determined and deemed commercially viable. The term ore body is used once the economic limits of the mineralized mass and its grade have been examined.

**Ore Dressing:** Sorting ore.

**Organic Loading:** The total amount of organic matter generated from a specific area of land, or received by a water resource, during a fixed period of time.

**Orographic Effect:** The effect of mountains on the passing flow of air. Mountains may cause lifting or diverting of air, creation of clouds, and decreases in leeward precipitation.

**Outstanding:** (1) Standing out among others of its kind; conspicuous; prominent; (2) superior to others of its kind; distinguished; excellent.

**Outstandingly Remarkable River Values:** Values among those listed in Section 1(b) of the Wild and Scenic Rivers Act are “scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values . . .” Other similar values that may be considered include botanical, hydrological, paleontological, or scientific. Professional judgment is used to determine whether values exist to an outstandingly remarkable degree.

**Overburden Ratio:** In strip mining, the ratio of the vertical thickness of overburden to the vertical thickness of the underlying ore.

**Overburden:** All the earth and other materials that overlie a natural mineral deposit.

**Overstory:** The layer of foliage in a forest canopy.

**Oxidation:** The process of combining with oxygen.

**Oxide Ore:** Ore containing minerals that have been altered by oxidation or the weathering process.

**-P-**

**Paleontological Resources (Fossils):** The physical remains of plants and animals preserved in soils and sedimentary rock formations. Paleontological resources are important for understanding past environments, environmental change, and the evolution of life.

**Paleontology:** A science dealing with the life forms of past geological periods as known from fossil remains.

**Paleosol:** Ancient soil deposit. Paleosols often contain evidence about some of the earliest cultures to inhabit North America.

**Paleozoic:** An era of geologic time between the Precambrian and the Mesozoic (about 550 million to 245 million years ago) whose beginning witnessed an

explosion in the diversity of multi-celled animals, and whose conclusion experienced the greatest mass extinctions in history.

Palustrine: A system of wetlands that includes all non-tidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens.

Parent Material (Soil): The unconsolidated more or less chemically weathered mineral or organic matter from which the upper level of the soil profile has developed.

Particulate Matter: Fine liquid or solid particles suspended in the air and consisting of dust, smoke, mist, fumes, and compounds containing sulfur, nitrogen, and metals.

Passerine Birds: Birds of the order Passeriformes, which includes perching birds and songbirds such as blackbirds, jays, finches, warblers, and sparrows. More than half of all birds belong to this order.

Patent: The instrument by which the federal government conveys title to the public lands.

Pay Gravel: Placer gravel of good to strong profitability.

Pay Layer: Ore; a mineral deposit of high enough quality to be mined at a profit.

Pay Streak: The areas of concentration of gold in placer deposits.

Piedmont: Lying or formed at the base of mountains.

Percentage of Use: Grazing use of current vegetation growth, usually expressed as a percentage of volume removed.

Perched Water Table: A water table, usually of limited area, held above the main body of groundwater by an impermeable layer such as clay.

Perennial Stream: A stream that flows continuously during all seasons of the year.

Perennial Vegetation: Plants that have a life cycle of 3 or more years.

Perforations: Holes that are made through the casing and cement and extend some distance into the production zone.

Period of Use: The time of livestock grazing on a range area based on type of vegetation or stage of vegetative growth.

**Periphyton:** Microscopic plants and animals that are firmly attached to such solid surfaces under water as rocks, logs, pilings, and other structures.

**Perlite:** A siliceous volcanic glass having numerous concentric spherical cracks that give rise to an onionskin structure. The material can be heated and expanded to form a solid, foam-like material used in ceiling tiles, potting soil, and other applications.

**Permitted Use:** The forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease; expressed in Animal Unit Months.

**Personal Income:** The sum of wage and salary disbursements, other labor income, proprietors' income, rental income of persons, personal dividend income, personal interest income, and transfer payments to persons, less personal contributions for social insurance.

**Petroglyph:** A figure, design, or indentation carved, abraded, or pecked into a rock.

**pH:** A measure of acidity or hydrogen ion activity. Neutral is pH 7.0. All values below 7.0 are acidic, and all values above 7.0 are alkaline.

**Photosynthesis:** The manufacture by plants of carbohydrates and oxygen from carbon dioxide and water in the presence of chlorophyll, using sunlight as an energy source.

**Phreatophyte:** A plant that absorbs its water from a permanent supply in the ground.

**Phyla:** In taxonomy, the primary divisions of the plant and animal kingdoms.

**Physiographic Province:** A region defined by a unified geologic history and a characteristic geologic structure and climate that differ from adjoining regions.

**Phytoplankton:** Unattached microscopic plants of plankton, subject to movement by wave or current action.

**Pictograph:** A figure or design painted onto a rock.

**Pit Lake:** Water body that forms at the bottom of an open-pit mine when mining extends below the water table.

**Placer:** An alluvial deposit of sand and gravel containing valuable minerals such as gold.

**Placer Claim:** A mining claim located upon gravel or ground whose mineral contents are extracted by the use of water.

**Placer Deposit:** A mass of gravel, sand, or similar material resulting from the crumbling and erosion of solid rocks containing particles of gold or other valuable minerals that have been derived from rocks or veins.

**Placer Mining:** A method of mining in which the overburden is removed to expose gold-bearing gravel deposits beneath. The gravel is then sluiced to separate the gold.

**Plan:** A document that contains a set of comprehensive, long-range decisions concerning the use and management of Bureau-administered resources in a specific geographic area.

**Plan of Development:** A mandatory plan, developed by an applicant of a mining operation or construction project, that specifies the techniques and measures to be used during construction and operation of all project facilities on public land. The plan is submitted for approval to the appropriate federal agency before any construction begins.

**Plan of Operations:** A plan for mining exploration and development that an operation must submit to BLM for approval when more than 5 acres a year will be disturbed, or when an operator plans to work in an area of critical environmental concern or a wilderness area. A Plan of Operations must document in detail all actions that the operator plans to take from exploration through reclamation.

**Plankton:** Suspended, floating, or weakly swimming microscopic plants and animals in the water that provide a basis for the aquatic food chain. Plankton include bacteria, algae, protozoans, rotifers, larvae, and small crustaceans.

**Planning Area:** A geographical area for which land use and resource management plans are developed and maintained.

**Planning Criteria:** The standards, rules, and other factors developed by managers and interdisciplinary teams for their use in forming judgments about decision making, analysis, and data collection during planning. Planning criteria streamline and simplify the resource management planning actions.

**Planning Analysis:** A process using appropriate resource data and NEPA analysis to provide a basis for decisions in areas not yet covered by a Resource Management Plan.

**Planning Base:** Includes law, regulation, policy, land use plan decisions (e.g. Resource Management Plans, Resource Management Plan Amendments, and Management Framework Plan Amendments), NEPA documents (e.g.

Environmental Impact Statements, Administrative Determinations, Environmental Assessments, and Categorical Exclusion Reviews), and supporting data (e.g. automated data bases, research and evaluations).

Playa: A dried-up, flat-floored area consisting of thin, evenly layered sheets of fine clay, silt, or sand, and representing the bottom of a shallow, undrained desert lake basin in which water accumulates and is quickly evaporated, usually leaving deposits of soluble salts.

Pleistocene Megafauna: Large mammals that inhabited North America before the end of the last glaciation and that became extinct. Such animals include the mammoth, mastodon, camel, giant sloth, *Bison antiquus*, and *Bison occidentalis*.

Plug: Any object or device that serves to block a hole or passageway, as a cement plug in a borehole.

Plume: A visible or measurable discharge of a contaminant from a given point of origin. A plume can be visible or thermal in water, or visible in the air.

Population: Within a species, a distinct group of individuals that tend to mate only with members of the group. Because of generations of inbreeding, members of a population tend to have similar genetic characteristics.

Pore Water Pressure (Pore Pressure): The stress transmitted through the fluid that fills the voids between particles of a soil or rock mass.

Porosity: A rock, soil, or other material's property of containing interstices. Porosity is commonly expressed as a percentage of the bulk volume of a material occupied by interstices.

Potential Natural Community: The biotic community that would become established if all successional sequences were completed without interferences by man under the present environmental conditions.

Potential Wild and Scenic River: A flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes.

Precambrian Era: The earliest era of geological history extending from 4.5 billion to 540 million years ago and encompassing 7/8 of the earth's history. Just before the end of the Precambrian, complex multi-cellular organisms, including animals, evolved.

Precious Metal: A general term for gold, silver, or any of the minerals of the platinum group.

Pregnant Pond: A pond containing liquid that is charged with valuable minerals.

Pregnant Solution: A solution in hydrometallurgical treatment that is charged with valuable minerals and awaits their removal.

Prehistoric: Refers to the period wherein Native American cultural activities that were not yet influenced by contact with historic nonnative culture(s) took place.

Preplan: Describes the purpose, location, issues to be resolved, participants' roles and responsibilities, budget, and schedule.

Prescribed Fire: The introduction of fire to an area under regulated conditions for specific management purposes.

Presuppression: All actions involved in the location or allocation of suppression resources in order to be prepared to suppress wildland fires.

Prevention of Significant Deterioration: A regulatory program based not on the absolute levels of pollution allowable in the atmosphere but on the amount by which a legally defined baseline condition will be allowed to deteriorate in a given area. Under this program, geographic areas are divided into three classes; each allowing different increases in nitrogen dioxide, particulate matter, and sulfur dioxide concentrations.

Prey Base: Populations and types of prey species available to predators.

Primary Porosity: The porosity that developed during the final stages of sedimentation or was present within sedimentary particles at the time of deposition.

Primary Producers: Green plants that can manufacture food from simple organic substances.

Primary Production: The production of organic substances by photosynthesis; the amount of material so produced per unit time.

Primary Pollutant: A pollutant emitted directly from a source.

Primary Containment: The vessel, package, tank, or pond that holds hazardous materials.

Prime Farmland: Land that is best suited for producing food, feed, forage, fiber, and oilseed crops.

Primitive and Unconfined Recreation: Non-motorized, non-mechanized, and undeveloped types of recreational activities.

**Probable Maximum Precipitation:** The precipitation that may be expected from the most severe combination of critical meteorological conditions and that is reasonably possible in an area as found in the National Weather Service Hydrometeorological Reports.

**Production Well:** A well drilled in a known field that produces oil or gas.

**Project Plan:** Detailed survey and design plan.

**Project Area:** The area of land upon which an operator conducts mining operations, including the area needed for building or maintaining of roads, transmission lines, pipelines, or other means of access.

**Proppants:** Sandgrains, aluminum pellets, glass beads, or similar materials used in hydraulic fracturing.

**Proprietary Income:** Payments received by the self-employed as income, including income received by private business owners, doctors, and lawyers.

**Protest:** Application for review by a higher administrative level.

**Prudent Operator:** An operator who in good faith tries to develop a mineral operation, doing the best possible job, both economically and environmentally.

**Public Land:** Land or interest in land owned by the United States and administered by the Secretary of the Interior through the BLM, except lands located on the Outer Continental Shelf, and land held for the benefit of Indians, Aleuts, and Eskimos.

**Public Use:** This category may be applied to any cultural property found to be appropriate for use as an interpretive exhibit in place, or for related educational and recreational uses by members of the general public. The category may also be applied to buildings suitable for continued use or adaptive use, for example as staff housing or administrative facilities at a visitor contact or interpretive site, or as shelter along a cross-country ski trail.

**-Q-**

**Quagmire:** Soft, wet, miry land that shakes or yields under foot.

**Quarry:** An open or surface working, usually for the extraction of stone, slate, limestone, etc.

**Quaternary:** The younger of the two geologic periods or systems in the Cenozoic Era.

**-R-**

**Rain Shadow:** An area on the leeward side of mountains that is relatively dry because the mountains block the movement of moisture-laden winds and cause most of the precipitation to fall on the windward side.

**Range Development:** A structure, excavation, treatment, or development to rehabilitate, protect, or improve public lands to advance range betterment.

**Range Trend:** The direction of change in range condition.

**Range Betterment Fund:** A fund established by Congress in FLPMA comprised of 50 percent of the grazing fees collected by the U.S. Treasury. This fund is used for on-the-ground rehabilitation, protection, and improvement of the public lands that will arrest rangeland deterioration and improve forage conditions with resulting benefits to wildlife, watershed protection, and livestock production.

**Range Readiness:** Stage of plant development at which grazing may begin in an area/pasture/allotment without damage to vegetation or soil.

**Rangeland:** Land used for grazing by livestock and big game animals on which vegetation is dominated by grasses, grass-like plants, forbs, or shrubs.

**Raptor:** Bird of prey with sharp talons and strongly curved beaks such as hawks, owls, vultures, and eagles.

**Rare Earth Metals:** A group of widely distributed metals consisting of the elements scandium, yttrium, and 15 elements of atomic numbers 57 to 71, inclusive. These metals have the same arrangement of the two external shells of electrons in their atoms and resemble one another closely in chemical and physical properties, being thus most difficult to separate from each other. It is for this property, rather than their actual rarity in nature, that they are so described.

**Reach:** A specified length of a stream or channel.

**Reactivity:** A substance's tendency to undergo chemical reaction either by itself or with other materials with the release of energy. Undesirable effects such as pressure buildup, temperature increase, or formation of noxious, toxic, or corrosive byproducts may result from a substance's reactivity to heating, burning, direct contact with other materials, or other conditions.

**Reasonable Foreseeable Development Scenario:** The prediction of the type and amount of oil and gas activity that would occur in a given area. The prediction is based on geologic factors, past history of drilling, projected demand for oil and gas, and industry interest.

**Recharge Area:** An area that absorbs water that eventually reaches the zone of saturation in one or more aquifers.

**Reciprocation:** A technique performed while cementing, whereby casing is moved up and down the well bore in order to move the cement slurry uniformly around the well bore to eliminate channeling and provide an effective cement bond on the casing and formation walls.

**Reclamation:** The process of converting disturbed land to its former use or other productive uses.

**Record of Decision:** A document signed by a responsible official recording a decision that was preceded by the preparation of an environmental impact statement.

**Record of Noncompliance:** An administrative compliance procedure and document that BLM issues to an operator who has not resolved a notice of noncompliance.

**Recreation Opportunity Spectrum:** A planning process that provides a framework for defining classes of outdoor recreation environments, activities, and experience opportunities. The settings, activities, and opportunities for experiences are arranged along a continuum or spectrum of six classes: primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, rural, and urban. The resulting analysis defines specific geographic areas on the ground, each of which encompasses one of the six classes.

**Recreational River Areas:** Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

**Redd:** The spawning ground or nest of various fishes.

**Reducers:** Organisms, usually bacteria or fungi, that break down complex organic material into simple compounds.

**Refractory Grade Ores:** Ores that resist the action of chemical reagents in the normal treatment processes and generally require roasting or other means to fully recover valuable minerals.

**Relict:** A remnant or fragment of the vegetation of an area that remains from a former period when the vegetation was more widely distributed.

**Replacement Growth Media:** Material below the C horizon of the soil that can be substituted for topsoil or subsoil when it is equal or superior in quality as a surface cover for growing plants on reconstructed mine surfaces.

**Research Natural Area:** An area where natural processes predominate and which is preserved for research and education. Research Natural Areas must meet the relevance and importance criteria of Areas of Critical Environmental Concern and are designated as Areas of Critical Environmental Concern.

**Reserve Base:** The part of an identified resource that meets specified minimum physical and chemical criteria for current mining and production. The reserve base includes resources that are currently economic and marginally economic, and some that are currently sub-economic.

**Reserve Pit:** (1) Usually an excavated pit that may be lined with plastic that holds drill cuttings and waste mud. (2) Term for the pit that holds the drilling mud.

**Reservoir (Oil and Gas):** A naturally occurring, underground container of oil and gas, usually formed by deformation of strata and changes in porosity.

**Residual Ground Cover:** That portion of the total vegetative ground cover that remains after the livestock grazing season.

**Resource Advisory Council:** A council established by the Secretary of the Interior to provide advice or recommendations to BLM management.

**Resource Use Level:** The level of use allowed within an area. It is based on the desired outcomes and land use allocations in the land use plan. Targets or goals for resource use levels are established on an area-wide or broad-watershed level in the land use plan. Site-specific resource use levels are normally determined at the implementation level, based on site-specific resource conditions and needs as determined through resource monitoring and assessments.

**Resource Management Plan:** A land use plan as prescribed by the Federal Land Policy and Management Act that establishes, for a given area of land, land-use allocations, coordination guidelines for multiple use, objectives, and actions to be achieved.

**Retort:** A vessel used for the distillation of volatile materials.

**Revision:** The process of completely rewriting the land use plan due to changes in the planning area affecting major portions of the plan or the entire plan.

**Rhyolite:** A group of extrusive igneous rocks with the same composition as its intrusive equivalent, granite.

Rift: A system of fractures or faults in the earth's crust and the associated valley or depression.

Right-Of-Way: A permit or an easement that authorizes the use of public lands for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, reservoirs, etc.; also, the lands covered by such an easement or permit.

Right-Of-Way Corridor: A parcel of land that has been identified by law, Secretarial order, through a land use plan or by other management decision, as being the preferred location for existing and future right-of-way grants and suitable to accommodate one type of right-of-way or one or more rights-of-way that are similar, identical or compatible.

Rill: A small, intermittent watercourse with steep sides, usually only a few inches deep.

Riparian Area: A form of wetland transition between permanently saturated wetlands and upland areas. Riparian areas exhibit vegetation or physical characteristics that reflect the influence of permanent surface or subsurface water. Typical riparian areas include lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are ephemeral streams or washes that lack vegetation and depend on free water in the soil.

River Area Boundary: For study rivers, that portion of a river (segment or corridor) and its immediate environment comprising a minimum area extending at least one-quarter mile (one-half mile in Alaska) from the ordinary high water mark. For designated rivers, the river and adjacent land within the authorized boundaries.

River Classification: The process whereby designated rivers are classified as wild, scenic and/or recreational according to criteria established in Section 2(b) of the Wild and Scenic Rivers Act.

River Designation: The process whereby rivers are added to the National Wild and Scenic Rivers System by an act of Congress or by administrative action of the Secretary of the Interior with regard to state-designated rivers under Section 2(a)(ii) of the Wild and Scenic Rivers Act.

River Eligibility: Qualification of a river for inclusion into the National Wild and Scenic Rivers System through the determination (professional judgment) that it is free-flowing and, with its adjacent land area, possesses at least one river-related value considered to be outstandingly remarkable.

**Riverine:** A system of wetlands that includes all wetland and deep-water habitats contained within a channel that lacks trees, shrubs, persistent emergents, and emergent mosses or lichens.

**Roadless:** Refers to the absence of roads that have been improved and maintained by mechanical means to ensure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.

**Roasting:** Heating sulfide-bearing ores to release sulfur dioxide.

**Rock Art:** Petroglyphs or pictographs.

**Rock Characterization:** A program of testing and evaluating the physical, chemical, and mineralogical nature of rock to evaluate its potential to produce acid rock drainage or other deleterious leachate.

**Rockshelter:** Naturally formed recess in a rock formation that provided shelter to prehistoric occupants.

**Rotation:** A technique performed while cementing, whereby casing is rotated in the hole in order to move the cement slurry uniformly around the casing to eliminate channeling and provide an effective cement bond on the casing and formation walls.

**Runoff:** The water that flows on the land surface from an area in response to rainfall or snowmelt.

## **-S-**

**Saleable Minerals:** Common variety minerals on the public lands, such as sand and gravel, which are used mainly for construction and are disposed of by sales or special permits to local governments.

**Saline Water:** Water containing high concentrations of salt.

**Salinity:** A measure of the mineral substances dissolved in water.

**Salmonid:** Any fish of the Salmonidae family, including salmon and trout.

**Satisfactory Big Game Habitat Condition:** Big game habitat that does not have any habitat component deficiencies.

**Scablands:** These are areas with low sagebrush and other forbs communities on extremely shallow, stoney soils usually subtended by basalt or clay.

**Scale:** Refers to the geographic area and data resolution under examination in an assessment or planning effort.

**Scarify:** To break the surface of the soil with a narrow-bladed instrument.

**Scenic Byways:** Highway routes that have roadsides or corridors of special aesthetic, cultural, or historic value. An essential part of the highway is its scenic corridor. The corridor may contain outstanding scenic vistas, unusual geologic features, or other natural elements.

**Scenic Quality:** The degree of harmony, contrast, and variety within a landscape.

**Scenic River:** A river or section of a river that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.

**Scientific Use:** This category applies to any cultural property determined to be available for consideration as the subject of scientific or historical study at the present time, using currently available research techniques. Study includes methods that would result in the property's physical alteration or destruction. This category applies almost entirely to prehistoric and historic archaeological properties, where the method of use is generally archaeological excavation, controlled surface collection, and/or controlled recordation (data recovery). Recommendations to allocate individual properties to this use must be based on documentation of the kinds of data the property is thought to contain and the data's importance for pursuing specified research topics. Properties in this category need not be conserved in the face of a research or data recovery (mitigation) proposal that would make adequate and appropriate use of the property's research importance.

**Scoping:** The process of identifying the range of issues, management concerns, preliminary alternatives, and other components of an environmental impact statement or land use planning document. It involves both internal and public viewpoints.

**Scraper Trap:** A device on the pipeline used to receive a scraper pig or inside pipe inspection pig.

**Scratchers:** A device fastened to the outside of the casing that removes drilling mud from the wall of the hole to condition the hole for cementing. By rotating or moving the casing up and down as it is being inserted into the hole, the scratcher, formed of stiff wire, removes drilling mud so that cement can bond solidly to the formation wall.

**Screened:** The depth at which a well screen has been placed on a well. A well screen allows fluids to enter the well casing.

Season-Long Use: Grazing throughout the growing period, with little or no effort to control the amount of distribution of livestock use in area/pasture/allotments.

Seasonal Grazing: Grazing use throughout a specific season.

Secondary Containment: An outer structure that would contain hazardous materials in the event of chronic or catastrophic spillage.

Secondary Pollutant: A pollutant that is formed by a chemical or photochemical reaction in the atmosphere rather than emitted from an identifiable source.

Secondary Porosity: The porosity developed in a rock formation after its deposition or emplacement, either through the natural processes of dissolution or stress distortion, or artificially through acidization or the mechanical injection of coarse sand.

Secondary Range: Areas where livestock grazing occurs but at lower intensities than primary range, due to less favorable conditions of forage production, terrain, distance from water source, or other factors.

Section 7 Consultation: The requirement of Section 7 of the Endangered Species Act that all federal agencies consult with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service if a proposed action might affect a federally listed species or its critical habitat.

Section 106 Compliance: The requirement of Section 106 of the National Historic Preservation Act that any project funded, licensed, permitted, or assisted by the federal government be reviewed for impacts to significant historic properties and that the State Historic Preservation Officer and the Advisory Council on Historic Preservation be allowed to comment on a project.

Sediment Yield: The amount of sediment produced in a watershed, expressed in tons, acre feet, or cubic yards, of sediment per unit of drainage area per year.

Sediment: Soil, rock particles, and organic or other debris carried from one place to another by wind, water, or gravity.

Sedimentary Rock: Rock resulting from consolidation of loose sediment that has accumulated in layers.

Sedimentation: The process or action of depositing sediment.

Seedbank: Seeds stored in the soil, generally as hard seed, that are viable and will germinate given the proper conditions. This seedbank is mainly built up by seed produced by plants growing on or next to the site over many years.

Species long gone may still be represented in the seedbank if their seed is especially long lived.

Segregation: Any act such as a withdrawal or exchange that suspends the operation of the public land laws.

Selenium: A chemical element of the sulfur group.

Sensitive Lands: Any areas recognized in BLM land use or activity plans where BLM has determined that a Plan of Operations is required to provide detailed review of project effects on unique, irreplaceable, or outstanding historical, cultural, recreational, or natural resource values, such as threatened or endangered species or their critical habitat.

Sensitive Species: All species that are under status review, have small or declining populations, live in unique habitats, or need special management. Sensitive species include threatened, endangered, and proposed species as classified by the U.S. Fish and Wildlife Service and National Marine Fisheries Service.

Seral: Pertaining to the successional stages of biotic communities.

Seral Community: A successional plant community that differs in species composition from the climax or potential natural community.

Settling Pond: A natural or artificial pond for recovering the solids from the excess water discharged from a washery—the place where ore is freed from impurities and dust by washing.

Shaft: A vertical or inclined opening to an underground mine.

Shear Strength: The maximum resistance of a soil to shearing stress.

Shooting: Discharge of any projectile, including but not limited to firearms, paint balls, bow and arrow, and crossbow. Exclusions include law enforcement and hunting.

Short Ton: 2,000 pounds.

Shrub: A low, woody plant, usually with several stems, that may provide food and/or cover for animals.

Shut-In: An oil and gas well that is capable of production but is temporarily not producing.

**Significance Criteria:** Criteria identified for specific resources used to determine whether or not impacts would be significant.

**Significant:** An effect that is analyzed in the context of the proposed action to determine the degree or magnitude of importance of the effect, either beneficial or adverse. The degree of significance can be related to other actions with individually insignificant but cumulatively significant impacts.

**Siliceous:** Containing silica (silicon dioxide).

**Silicic:** Containing silica in dominant amount.

**Silviculture:** The science and art of producing and tending a forest.

**Skarn:** Contact metamorphic rock rich in iron; ores consisting almost entirely of lime-bearing silicates and derived from nearly pure limestones and dolomites in which large amounts of silicon, aluminum, iron, and magnesium have been introduced.

**Slash:** The branches, bark, tops, cull logs, and broken or uprooted trees left on the ground after logging.

**Slope:** The degree of deviation of a surface from the horizontal.

**Slope Failure:** The downward and outward movement of rock or unconsolidated material as a unit or series of units.

**Slope Stability:** The resistance of any slope to failure by sliding or collapsing.

**Slug Tests:** A test used to calculate hydraulic conductivity, transmissivity, and the storage coefficient (i.e. the well's potential yield).

**Sluice Box:** A long, inclined trough or launder containing in its bottom, riffles that provide a lodging place for heavy minerals in ore concentration. The material to be concentrated is carried down through the sluices on a current of water. Sluice boxes are widely used in placer operations for concentrating such minerals as gold and platinum from stream gravels.

**Snowpack:** A seasonal accumulation of slow-melting packed snow.

**Social Science:** The study of society and of individual relationships in and to society, generally including one or more of the academic disciplines of sociology, economics, political science, geography, history, anthropology, and psychology.

**Soil Horizon:** A layer of soil or soil material roughly parallel to the land surface and differing from adjoining genetically related layers in physical, chemical, and biological properties or characteristics, such as color, structure, and texture.

**Soil Productivity:** The capacity of a soil to produce a plant or sequence of plants under a system of management.

**Soil Profile:** A vertical section of the soil from the surface through all of its horizons.

**Soil Regime:** The layer of soil or growth media roughly parallel to the land surface upon which plants and their roots will penetrate and grow.

**Soil Series:** A group of soils having genetic horizons (layers) that, except for texture of the surface layer, have similar characteristics and arrangement in profile.

**Soil Structure:** The physical constitution of soil material as expressed by size, shape, and the degree of development of primary soil particles and voids into naturally or artificially formed structural units.

**Soil Texture:** The relative proportions of the three size groups of soil grains (sand, silt, and clay) in a mass of soil.

**Solitude:** (1) The state of being alone or remote from others; isolation; (2) a lonely or secluded place.

**Spawning Gravels:** Stream-bottom gravels where fish deposit and fertilize their eggs. The covering of these gravels with silt can block the supply of oxygen to the eggs or serve as a cementing agent to prevent fry from emerging.

**Special Recreation Management Area:** Areas that require explicit recreation management to achieve recreation objectives and provide specific recreation opportunities.

**Special Status Species:** Includes proposed species, listed species, and candidate species under the ESA; State-listed species; and BLM State Director-designated sensitive species (see BLM Manual 6840 - Special Status Species Policy).

**Species Diversity:** The number, different kinds of, and relative abundances of species present in a given area.

**Split-Estate:** Land whose surface rights and mineral rights are owned by different entities. Such a condition commonly occurs when surface rights are owned by the federal government and the mineral rights are privately or state owned.

Spoil: In surface mining, overburden or waste excavated and redeposited.

Standard: A description of the physical and biological conditions or degree of function required for healthy, sustainable lands (e.g., land health standards).

Standard Lease Terms and Conditions: Areas may be open to leasing with no specific management decisions defined in a Resource Management Plan.

State Implementation Plan: A strategic document, prepared by a state (or other authorized air quality regulatory agency) and approved by the U.S. Environmental Protection Agency, that thoroughly describes how requirements of the Clean Air Act will be implemented (including standards to be achieved, control measures to be applied, enforcement actions in case of violation, etc.).

Stipulations: Requirements that are part of the terms of a mineral lease. Some stipulations are standard on all federal leases. Other stipulations may be applied to the lease at the discretion of the surface management agency to protect valuable surface resources and uses.

Stock Raising Homestead Lands: Lands patented under the Stock Raising Homestead Act of December 29, 1916. These lands were not considered suitable for cultivation but were considered suitable for stock grazing. All minerals on these lands were retained by the United States.

Stocking Rate: The amount of animal units on a specified area at a specific time.

Stope: An area in an underground mine where ore is mined.

Storage Coefficient: The volume of water released from storage in a vertical column of 1 square foot when the water table or other piezometric surface declines 1 foot.

Strategic Minerals: Minerals essential to the national defense for the supply of which during war we are wholly or partly dependent upon sources outside the continental limits of the United States, and for which strict measures are needed to control conservation and distribution.

Strategic Plan: A plan that establishes the overall direction for the BLM. This plan is guided by the requirements of the Government Performance and Results Act of 1993, covers a 5-year period, and is updated every 3 years. It is consistent with FLPMA and other laws affecting the public lands.

Stratification, Lake: In a lake, the presence of two or more horizontal layers of water of differing characteristics, such as density.

**Stratigraphy:** The arrangement of strata, especially as to geographic position and chronologic order of sequence.

**Stream Order:** A stream classification system based on the number of tributaries a stream has. The smallest unbranched tributary in a watershed is designated an Order 1 stream. A stream formed by the confluence of two Order 1 streams is designated an Order 2 stream. A stream formed by the confluence of two Order 2 streams is designated an Order 3 stream, and so on.

**Streambank Erosion:** The removal, transport, deposition, recutting, and bedload movement of material by concentrated flows.

**Strip Mining:** A form of surface mining in which relatively shallow overburden is stripped off the surface and the ore extracted. Usually designed for shallow, tabular deposits that are longer than they are wide, strip mines typically are located in areas of rugged topography where the deposit is interbedded between uneconomic rock units.

**Stripping Ratio:** In open-pit mining, the ratio of the total waste removed to the total ore mined.

**Structural Diversity (Of a Stream Channel):** Within a stream channel the diversity of objects that control water movement.

**Structural Trap:** One in which entrapment results from folding, faulting, or a combination of both.

**Structure (Stream Channel):** Any object, usually large, in a stream channel that controls water movement.

**Sub-Basin Review:** An interagency, collaborative consideration of resources, resource management issues, and management recommendations for one or more sub-basins or watershed drainages of approximately 800,000 to 1,000,000 acres.

**Submergent Vegetation:** Aquatic plants that grow only within water and do not break the water's surface.

**Subpermafrost Aquifers:** Permeable material below the base of permafrost. In the continuous permafrost zone, these aquifers consist mostly of consolidated rock. In the discontinuous permafrost zone, they commonly consist of unconsolidated deposits.

**Subsistence Uses:** As stated in the Alaska National Interest Lands Conservation Act, the customary and traditional uses by rural Alaska residents of wild renewable resources for direct personal or family consumption as food, shelter,

fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of non-edible byproducts of fish and wildlife resources taken for personal or family consumption, for barter, or sharing for personal or family consumption; and for customary trade.

Subsoil: The B horizon of soils with distinct profiles, or the soil below the plowed soil in soils with weak profile development.

Substrate: The mineral or organic material that forms the bed of a stream; the base upon which an organism lives; the surface on which a plant or animal grows or is attached.

Suction Dredge: A dredge that lifts material and pumps it through a suction pipe.

Sulfide Ore: Ore in which sulfide minerals predominate.

Summer Range: Range that is grazed mainly during the summer growing season.

Sundry Notice: Standard form to notify of or propose change of approved well operations subsequent to an Application for Permit to Drill.

Sunstone: A semiprecious gemstone.

Surface Erosion: Erosion that removes materials from the surface of the land as distinguished from gully, or channel, erosion.

Suspended Sediment: The very fine soil particles that are maintained in suspension in water for a considerable time by the upward components of turbulent currents, or because they are fine enough to form a colloidal suspension.

Suspended Nonuse: Temporary withholding of a grazing preference from active use.

Sustainability: The ability of an ecosystem to maintain ecological processes and functions, biological diversity, and productivity over time.

Sustainable Annual Harvest: The yield that a forest can produce continuously from a given level of management.

Sustained Yield: Maintenance of an annual or regular periodic output of a renewable resource from public land consistent with the principles of multiple use.

Swell Factor: The percentage of increase in the volume of waste rock from before its excavation to its placement in a waste rock dump.

Syncline: A fold of stratified rock inclining upward in opposite directions from both sides of its axis.

**-T-**

Tailings: The waste matter from ore after the extraction of economically recoverable metals and minerals.

Take: As defined by the Endangered Species Act, “to harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect, or attempt to engage in any such conduct.”

Taxa: A group of organisms sharing common characteristics in varying degrees of distinction and constituting one of the categories in taxonomic classification, such as a phylum, order, family, genus, or species.

Terminal Wetland: A wetland that forms from water flowing into a closed basin that has no outlet. Most such wetlands are small and only seasonally filled with water, but they may support unique aquatic species.

Terrestrial Species: Ground-dwelling plants and animals.

Thermal Cover: Vegetation or topography that prevents radiational heat loss, reduces wind chill during cold weather, and intercepts solar radiation during warm weather.

Thermogenic: Of or pertaining to the rise in temperature in a body from reactions in that body, as by oxidation, or the decay of radioactive elements.

Threatened Species: Any plant or animal species defined under the Endangered Species Act as likely to become endangered within the foreseeable future throughout all or a significant portion of its range; listings are published in the *Federal Register*.

Thriving Natural Ecological Balance: The condition of the public range that: (1) sustains healthy populations of wild horses and burros, wildlife, and livestock on public land, and (2) protects the desired plant community from deterioration.

Thrust Fault: A reverse fault that is characterized by a low angle of inclination with reference to a horizontal plane.

**Timber Base:** Commercial forestland judged to be environmentally and economically suitable and available for the continuous production of timber; the land from which the allowable cut is calculated and harvested.

**Timber Production Capability Classification:** The process of partitioning forestland into major classes indicating relative suitability to produce timber on a sustained yield basis.

**Timing Limitation (Seasonal Restriction):** A fluid minerals leasing constraint that prohibits surface use during specified time periods to protect identified resource values. The constraint does not apply to the operation and maintenance of production facilities unless analysis demonstrates that such constraints are needed and that less stringent, project-specific constraints would be insufficient.

**Toe-slope:** The most distant part of a landslide; the downslope edge of a landslide or slump.

**Total Dissolved Solids:** The dry weight of dissolved material, organic and inorganic, contained in water.

**Total Maximum Daily Load:** An estimate of the total quantity of pollutants (from all sources: point, nonpoint, and natural) that may be allowed into waters without exceeding applicable water quality criteria.

**Total Preference:** The total number of animal units of livestock grazing on public lands, apportioned and attached to base property owned or controlled by a permittee or lessee. The active preference and suspended preference are combined to make up the total grazing preference.

**Total Suspended Particulates:** All particulate matter, typically less than 70 microns in effective diameter.

**Total Suspended Solids:** A term that describes the quantity of solid material in a sample of material.

**Trace Metals:** Metals that are present in small concentrations.

**Traditional Lifeway Values:** Values that are important for maintaining a group's traditional system of religious belief, cultural practice, or social interaction. A group's shared traditional lifeway values are abstract, nonmaterial, ascribed ideas that cannot be discovered except through discussions with members of the group. These values may or may not be closely associated with definite locations.

**Traditional Use:** This category is to be applied to any cultural resource known to be perceived by a specified social and/or cultural group as important in

maintaining the cultural identity, heritage, or well being of the group. Cultural properties assigned to this category are to be managed in ways that recognize the importance ascribed to them and seek to accommodate their continuing traditional use.

**Transmissivity:** The rate at which water is transmitted through a unit width of aquifer under a hydraulic gradient.

**Transpiration:** The photosynthetic and physiological process by which water in plants is transported as water vapor to the atmosphere.

**Trap:** A body of reservoir rock completely surrounded by impervious rock; a closed reservoir.

**Trophic Level:** The level in a nutritive series of an ecosystem in which a group of organisms in a certain stage in the food chain secures food in the same general manner. The first or lower trophic level consists of producers (green plants), the second level consists of herbivores, the third level consists of secondary carnivores, and the fourth level consists of reducers (decomposers).

**Troy Ounce:** A unit of measure based on troy weight (12 ounces to a pound) and equal to 1.09714 avoirdupois ounces.

**Tuff:** A compacted pyroclastic deposit of volcanic ash and dust that may contain up to 50 percent sediments such as sand or clay.

**Tundra:** Treeless arctic and alpine areas where cover may consist of bare ground, grasses, sedges, forbs, dwarf shrubs, mosses, or lichens.

**Tunnel:** A nearly horizontal underground passage open to the surface at both ends.

**Tunnel Site Claim:** A mining claim located to secure an area for a tunnel. A tunnel site claim may be located on land where a tunnel is run to develop a vein or lode, or for intersecting unknown veins or lodes.

**Turbidity:** An interference to the passage of light through water due to insoluble particles of soil, organics, microorganisms, and other materials.

**Turbolator:** A type of centralizer that induces turbulent flow for better drilling mud displacement and cement sheath placement.

## **-U-**

**Unallotted Lands:** Public lands open to grazing which currently have no livestock grazing authorized.

**Uncommon Variety Minerals:** On public lands, stone, gravel, pumice, pumicite, and cinder deposits that have distinct and special properties making them commercially valuable for use in a manufacturing, industrial, or processing operation. Such minerals are locatable under the Mining Law of 1872, as amended. In determining a deposit's commercial value, the following factors may be considered: quality and quantity of the deposit, geographic location, accessibility to transportation, and proximity to market or point of use.

**Unconsolidated Aquifer:** An aquifer that occurs in sediment that is loosely arranged or unstratified, or whose particles are not cemented together.

**Ungulates:** Hoofed animals, including ruminants but also horses, tapirs, elephants, rhinoceroses, and swine.

**Unionized Ammonia:** A species of nitrogen that is toxic to aquatic life.

**Uplands:** Lands at higher elevations than alluvial plains or low stream terraces; all lands outside the riparian-wetland and aquatic zones.

**User Day:** Any calendar day, or portion thereof, for each individual accompanied or serviced by an operator or permittee on the public lands or related waters; synonymous with passenger day or participant day.

**Utilization (rangeland):** The proportion of the current year's forage production that is consumed or destroyed by grazing animals. Utilization is usually expressed as a percentage.

**-V-**

**Valid Existing Rights:** Locatable mineral development rights that existed when the Federal Land Policy and Management Act was enacted on October 21, 1976. Some areas are segregated from entry and location under the Mining Law to protect certain values or allow certain uses. Mining claims that existed as of the effective date of the segregation may still be valid if they can meet the test of discovery of a valuable mineral required under the Mining Law. Determining the validity of mining claims located in segregated lands requires BLM to conduct a validity examination and is called a "valid existing rights" determination.

**Vadose Zone:** Zone of aeration.

**Vascular:** Having vessels for circulating or transmitting plant or animals fluids.

**Vegetation Community:** An assemblage of plant populations in a common spatial arrangement.

**Vegetation Manipulation:** Alteration of vegetation by using fire, plowing, or other means.

**Vegetation Type:** A plant community with distinguishable characteristics described by the dominant vegetation present.

**Vein:** A well-defined, typically tabular zone or belt of mineral-bearing rock confined between nonmineralized rock.

**Vent:** An opening in a vessel, fine, or pump to permit the escape of air or gas.

**Vesicle:** A cavity or variable space in lava formed by the entrapment of a gas bubble while the lava was solidifying.

**Viable:** Capable of sustaining a healthy and reproducing population over a long period of time.

**Visitor Day:** 12 visitor hours, which may be aggregated continuously, intermittently, or simultaneously by one or more people.

**Visual Resources:** The visible physical features of a landscape (topography, water, vegetation, animals, structures, and other features) that constitute the scenery of an area.

**Vugo:** A small cavity in a vein or in rock, usually lined with crystals of a different mineral composition from the enclosing rock. A term used in petroleum geology for an opening in a rock, from the size of a small pea upwards.

## **-W-**

**Waiver:** Permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

**Warm-Season Plants:** Plants whose major growth occurs during the spring, summer, or fall and are usually dormant in winter.

**Waste Rock:** Barren rock at a mine or material that is too low in grade to be of economic value.

**Water Quality:** The chemical, physical, and biological characteristics of water with respect to its suitability for a particular use.

**Water Table:** The surface in a groundwater body where the water pressure is atmospheric. It is the level at which water stands in a well that penetrates the water body just far enough to hold standing water.

**Watershed:** All lands that are enclosed by a continuous hydrologic drainage divide and lie upslope from a specified point on a stream.

**Watershed Cover:** The material (vegetation, litter, and rock) covering the soil and providing protection from, or resistance to, the impact of raindrops and the energy of overland flow, and expressed in percent of the area covered.

**Weathering:** The disintegration and decomposition of rocks and other earth materials through exposure to the atmosphere. Weathering is one of the major factors in soil formation.

**Wetlands:** Areas that are inundated or saturated by surface or groundwater often and long enough to support and, under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions.

**Wetted Perimeter:** The length of the wetted contact between a stream of flowing water and the stream bottom in a vertical plane at right angles to the direction of flow.

**Wild Horses and Burros:** All unbranded and unclaimed horses and burros using public lands as all or part of their habitat.

**Wild, Scenic or Recreational River:** The three classes of what is traditionally referred to as a "Wild and Scenic River." Designated river segments are classified as wild, scenic and/or recreational, but the segments cannot overlap.

**Wild and Scenic Study River:** Rivers identified in Section 5 of the Wild and Scenic Rivers Act for study as potential additions to the National Wild and Scenic Rivers System. The rivers shall be studied under the provisions of Section 4 of the Wild and Scenic Rivers Act.

**Wilderness Characteristics:** Key characteristics of a wilderness listed in section 2(c) of the Wilderness Act of 1964 and used by BLM in its wilderness inventory. These characteristics include size, naturalness, outstanding opportunities for solitude, outstanding opportunities for primitive and unconfined type of recreation, and special features.

**Wilderness Study Area:** A designation made through the land use planning process of a roadless area found to have wilderness characteristics as described in Section 2 (c) of the Wilderness Act of 1964.

**Wilderness:** A congressionally designated area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, that is protected and managed to preserve its natural conditions and that (1) generally appears to have been affected mainly by the forces of nature, with human imprints substantially unnoticeable; (2) has

outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres or is large enough to make practical its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value.

Wildfire: Any unwanted wildland fire.

Wildland Fire Situation Analysis: A decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economical, political, and resource management objectives as selection criteria.

Wild River: Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Wildland Fire: Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

Winter Range: Range that is grazed during winter.

Withdrawal: An action that restricts the use of public lands by removing them from the operation of some or all of the public land or mining laws.

Woodland: A forest community occupied primarily by noncommercial species such as juniper, mountain mahogany, or quaking aspen groves; all western juniper forest lands are classified as woodlands, since juniper is classified as a noncommercial species.

**-X-**

Xanthate: A salt or ester of a xanthic acid.

Xenolith: A fragment of a rock included in another rock.

Xerophyte: A plant structure adapted for life and growth with a limited water supply, especially by means of mechanisms that limit transpiration or that provide for the storage of water.

Xylem: A complex tissue in the vascular system of higher plants that functions chiefly in conduction but also in support and storage; and typically constitutes the woody element.

**-Y-**

**Yucca:** Plant of the lily family having long, often rigid, fibrous leaves on a woody base and bearing a large panicle of white blossoms.

**-Z-**

**Zone of Saturation:** A subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere.

**Zymurgy:** A branch of applied chemistry that deals with the fermentation process.