CHAPTER 7
GLOSSARY

CHAPTER 7

GLOSSARY

A

Absorption: The process by which a chemical or other substance is able to pass through body membranes and enter an organism.

Active ingredient (a.i.): The chemical or biological component that kills or controls the target pest.

Acute adverse effect level: The level at which a substance can cause adverse effects within a short time of dosing or exposure.

Acute effect: An adverse effect on any living organism in which symptoms develop rapidly and often subside after the exposure stops.

Acute toxicity: The quality or potential of a substance to cause injury or illness shortly after exposure to a relatively large dose.

Adaptive management: A system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes, and if not, facilitating management changes that will best ensure that outcomes are met or reevaluated.

Additive: A substance added to another in relatively small amounts to impart or improve desirable properties or suppress undesirable properties.

Additive effect: A situation in which combined effects of exposure to two chemicals simultaneously is equal to the sum of the effect of exposure to each chemical given alone.

Adjuvant: A chemical that is added to the pesticide formulation to enhance the toxicity of the active ingredient or to make the active ingredient easier to handle.

Adsorption: 1) The adhesion of substances to the surface of solids or liquids. 2) The attraction of ions of compounds to the surface of solids or liquids.

Adverse impact: An impact that causes harm or a negative result.

Aerobic biodegradation: The breakdown of organic contaminants by microorganisms when oxygen is present.

Air pollutant: Any substance in the air that could, if in high enough concentration, harm humans, animals, vegetation, or material. Air pollutants may include almost any natural or artificial matter capable of being airborne in the form of solid particles, liquid droplets, gases, or a combination of these.

Air quality: The composition of air with respect to quantities of pollution therein; used most frequently in connection with "standards" of maximum acceptable pollutant concentrations.

Alien Species: Per Executive Order 13112, alien species means, with respect to a particular ecosystem, any species, including its seed, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem.

Allotment (grazing): Area designated for the use of a certain number and kind of livestock for a prescribed period of time.

Alluvium: General term for clay, silt, sand, or gravel deposited in the bed of a stream during relatively recent geologic time as a result of stream action.

Alternative: In an EIS, one of a number of possible options for responding to the purpose and need for action.

Ambient air: Any unconfined portion of the atmosphere; open air and surrounding air. Often used interchangeably with "outdoor air."

Anadromous: A term used to describe fish that mature in the sea and swim up freshwater rivers and streams to spawn. Salmon, steelhead, and sea-run cutthroat trout are examples.

Anaerobic biodegradation: The breakdown of organic contaminants by microorganisms when oxygen is not present.

Animal Unit (AU): A standardized unit of measurement for range livestock that is equivalent to one cow, one horse, five sheep, five goats, or four reindeer, all over 6 months of age.

Animal Unit Month (AUM): The amount of feed or forage required by one animal unit grazing on a pasture for 1 month.

Annual (plant): A plant whose life cycle is completed in 1 year or season.

Antifoamer: A type of adjuvant added to a commercial pesticide that prevents the formation of foam.

Aquatic: Growing, living in, frequenting, or taking place in water; used to indicate habitat, vegetation, or wildlife in freshwater.

Aquifer: Rock or rock formations (often sand, gravel, sandstone, or limestone) that contain or carry groundwater and act as water reservoirs.

Area of Critical Environmental Concern (ACEC): An area within public lands that requires special management attention to protect and prevent irreparable damage to important historic, cultural, or scenic values; fish and wildlife resources; other natural systems or processes; or to protect life or provide safety from natural hazards.

Arid: A term applied to regions or climates where lack of moisture severely limits growth and production of vegetation. The limits of precipitation vary considerably according to temperature conditions.

Attainment area: A geographic area that is in compliance with the National Ambient Air Quality Standards. An area considered to have air quality as good as or better than the National Ambient Air Quality Standards as defined in the Clean Air Act.

B

Binder: A material used to bind together two or more other materials in mixtures.

Bioaccumulation: The process of a plant or animal selectively taking in or storing a persistent substance. Over time, a higher concentration of the substance is found in the organism than in the organism's environment.

Biodegradability: Susceptibility of a substance to decomposition by microorganisms; specifically, the rate at which compounds may be chemically broken down by bacteria and/or natural environmental factors.

Biodiversity: The variety of life and its processes, including all life forms from one-celled organisms to complex organisms such as insects, plants, birds, reptiles, fish, other animals; and the processes, pathways, and cycles that link such organisms into natural communities.

Biological Assessment (BA): A document prepared by or under the direction of a federal agency. A BA addresses federally-listed and species proposed for listing and designated and proposed critical habitat that may be present in the action area, and evaluates the potential effects of the action on such species and habitat.

Biological crust: Thin crust of living organisms on or just below the soil surface; composed of lichens, mosses, algae, fungi, cyanobacteria, and bacteria.

Boom (herbicide spray): A tubular metal device that conducts an herbicide mixture from a tank to a series of spray nozzles. It may be mounted beneath a helicopter or a fixed-wing aircraft, or behind a tractor or all-terrain vehicle.

Brackish: Saline water whose salt concentration is between that of freshwater and seawater (ranging from 0.5 to 30 parts per thousand).

Broadcast application: An application of an herbicide that uniformly covers an entire area.

Broad scale: A large, regional area, such as a river basin; typically a multi-state area.

Buffer: A solution or liquid whose chemical makeup is such that it minimizes changes in pH when acids or bases are added to it.

Buffer strip/zone: A strip of vegetation that is left or managed to reduce the impact that a treatment or action on one area might have on another area.

Bunchgrass: A grass having the characteristic growth habit of forming a bunch; lacking stolons or rhizomes.

C

California Puff (CALPUFF): CALPUFF is an advanced non-steady-state meteorological and air quality modeling system adopted by the U.S. Environmental Protection Agency as the preferred model for assessing long range transport of pollutants and their impacts involving complex meteorological conditions.

Carbon-14 dating: The use of the naturally occurring isotope of carbon-14 in radiometric dating to determine the age of organic materials.

Carcinogen: A chemical capable of inducing cancer.

Carnivore: An animal that feeds on other animals, especially the flesh-eating mammals.

Carrier: A non-pesticidal substance added to a commercial pesticide formulation to make it easier to handle or apply.

Carrying capacity: The maximum population of a particular species that a particular region can support without hindering future generations' ability to maintain the same population.

Chaining: Vegetation removal that is accomplished by hooking a large anchor chain between two bulldozers; as the bulldozers move through the vegetation, the vegetation is knocked to the ground. Chaining kills a large percentage of the vegetation, and is often followed a year or two later by burning and/or seeding.

Chemical degradation: The breakdown of a chemical substance into simpler components through chemical reactions.

Chronic adverse effect level: The level at which a substance can cause adverse effects in which symptoms recur frequently or develop slowly over a long period of time.

Chronic exposure: Exposures that extend over the average lifetime or for a significant fraction of the lifetime of the individual. Chronic exposure studies are used to evaluate the carcinogenic potential of chemicals and other long-term health effects.

Class I area: Under the 1977 Clean Air Act amendments, all international parks, parks larger than 6,000 acres, and national wilderness areas larger than 5,000 acres that existed on August 7, 1977. This class provides the most protection to pristine lands by severely limiting the amount of additional air pollution that can be added to these areas.

Climate: The composite or generally prevailing weather conditions of a region throughout the year, averaged over a series of years.

Coarse woody debris: Pieces of woody material derived from tree limbs, boles, and roots in various stages of decay, generally having a diameter of at least 3 inches and a length greater than 3 feet.

Code of Federal Regulations (CFR): A codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

Consultation: Exchange of information and interactive discussion; when the "C" in consultation is capitalized it refers to consultation mandated by statute or regulation that has prescribed parties, procedures, and timelines (e.g. Consultation under National Environmental Policy Act or Section 7 of the Endangered Species Act).

Council on Environmental Quality (CEQ): 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.

Countervailing: A type of cumulative impact where negative effects are compensated for by beneficial effects.

Cover: 1) Trees, shrubs, rocks, or other landscape features that allow an animal to partly or fully conceal itself. 2) The area of ground covered by plants of one or more species, usually expressed as a percent of the ground surface.

Criteria: Data and information that are used to examine or establish the relative degrees of desirability of alternatives or the degree to which a course of action meets an intended objective.

Criteria pollutants: Air pollutants designated by the U.S. Environmental Protection Agency as potentially harmful and for which ambient air quality standards have been set to protect the public health and welfare. The criteria pollutants are carbon monoxide, sulfur dioxide, particulate matter, nitrogen dioxide, ozone, hydrocarbons, and lead.

Critical habitat: 1) Specific areas within the habitat a species occupies at the time it is listed under the Endangered Species Act that have physical or biological features (a) that are essential to the conservation of the species and (b) that may require special management considerations or protection; and 2) specific areas outside the habitat a species occupies at the time it is listed that the Secretary of the Interior determines are essential for species conservation.

Cultural resources: Nonrenewable evidence of human occupation or activity as seen in any area, site, building, structure, artifact, ruin, object, work of art, architecture, or natural feature, which was important in human history at the national, state, or local level.

Cumulative effects: Impacts on the environment that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time.

D

Degradation: Physical or biological breakdown of a complex compound into simpler compounds.

Density: The number of individuals per a given unit area.

Diluent: An inert diluting agent added to a commercial pesticide formulation that decreases the viscosity of the formula.

Dilution: The act of mixing or thinning, and therefore decreasing a certain strength or concentration.

Direct effects: Impacts on the environment that are caused by the action and occur at the same time and place.

Dispersant: A type of inert ingredient added to an herbicide formulation that reduces the cohesive attraction between like particles.

Dispersion: The act of distributing or separating into lower concentrations or less dense units.

Disturbance: Refers to events that alter the structure, composition, or function of terrestrial or aquatic habitats. Natural disturbances include, among others, drought, floods, wind, fires, wildlife grazing, and insects and pathogens. Human-caused disturbances include actions such as timber harvest, livestock grazing, roads, and the introduction of exotic species.

Dominant: A group of plants that by their collective size, mass, or number exerts a primary influence onto other ecosystem components.

Dose: The amount of chemical administered or received by an organism, generally at a given point in time.

Dose-response: Changes in toxicological responses of an individual (such as alterations in severity of symptoms) or populations (such as alterations in incidence) that are related to changes in the dose of any given substance.

Draft Environmental Impact Statement (DEIS): The draft statement of the environmental effects of a major federal action which is required under Section 102 of the National Environmental Policy Act, and released to the public and other agencies for comment and review.

Drift: That part of a sprayed chemical that is moved by wind off a target site.

E

Ecosystem: Includes all the organisms of an area, their environment, and the linkages or interactions among all of them; all parts of an ecosystem are interrelated. The fundamental unit in ecology, containing both organisms and abiotic environments, each influencing the properties of the other and both necessary for the maintenance of life.

Ecosystem-based management: The use of an ecological approach to achieve multiple-use management of public lands by blending the needs of people and environmental values in such a way that public lands represent diverse, healthy, productive, and sustainable ecosystems.

Ecotone: A boundary or zone of transition between adjacent communities or environments, such as the boundary between a forest and a meadow. Species present in an ecotone are intermixed subsets of the adjacent communities.

Edge effect: The influence of two communities on populations in their adjoining boundary zone or ecotone, affecting the composition and density of the populations in these bordering areas.

Effect: Environmental change resulting from a proposed action. Direct effects are caused by the action and occur at the same time and place, while indirect effects are caused by the action but are later in time or further removed in distance, although still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems. Effect and impact are synonymous as used in this document.

Endangered species: Plant or animal species that are in danger of extinction throughout all or a significant part of their range.

Endemic species: Plants or animals that occur naturally in a certain region and whose distribution is relatively limited to a particular locality.

Environment: 1) The physical conditions that exist within an area (e.g., the area that will be affected by a proposed project), including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. 2) The sum of all external conditions that affect an organism or community to influence its development or existence.

Environmental Assessment (EA): A concise public document, for which a federal agency is responsible, that serves to: 1) briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact; 2) aid an agency's compliance with the National Environmental Policy Act when no environmental impact statement is necessary; and 3) facilitate preparation of an environmental impact statement when one is necessary.

Environmental Impact Statement (EIS): A required report for all federal actions that will lead to significant effects on the quality of the human environment. The report must be systematic and interdisciplinary, integrating the natural and social sciences as well as the design arts in planning and decision-making. The report must identify 1) the environmental impacts of the proposed action, 2) any adverse environmental effects which cannot be avoided should the proposal be implemented, 3) alternatives to the proposed action, 4) the relationship between short-term uses of human environment and the maintenance and enhancement of long-term productivity, and 5) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Epidemiology study: A study of human population or human populations. In toxicology, a study which examines the relationship of exposures to one or more potentially toxic agent to adverse health effects in human populations.

Eradication: Removal of all traces of a population or elimination of a population to the point where individuals are no longer detectable.

Erosion: The wearing away of the land surface by running water, wind, ice, gravity, or other geological activities; can be accelerated or intensified by human activities that reduce the stability of slopes or soils.

Essential Fish Habitat (EFH): As defined by Congress in the interim final rule (62FR 66551): "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." For the purpose of interpreting the definition of EFH habitat, "waters" include aquatic areas and their associated physical, chemical, and biological properties; "substrate" includes sediment underlying the waters; "necessary" refers to the habitat required to support a sustainable fishery and the managed species contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers all habitat types utilized by a species throughout its life cycle.

Exotic species: Includes species introduced into an area that may have adapted to the area and compete with resident native (indigenous) species.

F

°F: Degrees Fahrenheit.

Fate: The course of an applied herbicide in an ecosystem or biological system, including metabolism, microbial degradation, leaching, and photodecomposition.

Fauna: The vertebrate and invertebrate animals of the area or region.

Feasible: Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Final Environmental Impact Statement (Final EIS): A revision of the Draft Environmental Impact Statement based on public and agency comments on the draft.

Fire dependent: An ecosystem evolving under periodic perturbations by fire and that consequently depends on periodic fires for normal ecosystem function.

Fire intolerant: Species of plants that do not grow well with or die from the effects of too much fire.

Fire return interval: The average time between fires in a given area.

Fire tolerant: Species of plants that can withstand a certain frequency and intensity of fire.

Fire use: The combination of prescribed fire and wildland fire use for resource benefit to meet resource objectives.

First order dermal absorption: Absorption of a material (herbicide) that occurs over 24 hours, taking into consideration the potential for some herbicide to not be absorbed.

Fisheries habitat: Streams, lakes, and reservoirs that support fish populations.

Fishery: The act, process, occupation, or season of taking an aquatic species.

Food Quality Protection Act (FQPA) safety factor: The Food Quality Protection Act safety factor is applied to pesticides that exhibit threshold effects to "take into account potential pre- and post-natal toxicity and completeness of the data with respect to exposure and toxicity to infants and children." The Act requires 1) an explicit determination that exposure tolerances are safe for children; 2) an additional safety factor of up to 10-fold, if necessary, be used to account for uncertainty in data relative to children (this is in addition to the current 100-fold safety factor which is already used to account for the use of animals, versus humans, in laboratory testing, and the variability in potential adult response to pesticide exposure); and 3) an analysis of exposure risks to children that takes into account the special sensitivity and exposure of children to pesticides.

Forage: Vegetation eaten by animals, especially grazing and browsing animals.

Forbs: Broad-leafed plants; includes plants that commonly are called weeds or wildflowers.

Forestland: Land where the potential natural plant community contains 10% or more tree canopy cover.

Formulation: The commercial mixture of both active and inactive (inert) ingredients.

Fossilization: The process of fossilizing a plant or animal that existed in some earlier age; the process of being turned to stone.

Fragmentation (habitat): The breaking-up of a habitat or cover type into smaller, disconnected parcels.

Fuel (fire): Dry, dead parts of trees, shrubs, and other vegetation that can burn readily.

G

Gavage: Introduction of material in the stomach by a tube.

Groundwater: Subsurface water that is in the zone of saturation. The top surface of the groundwater is the "water table." Source of water for wells, seeps, and springs.

H

Habitat: The natural environment of a plant or animal, including all biotic, climatic, and soil conditions, or other environmental influences affecting living conditions. The place where an organism lives.

Half life: The amount of time required for half of a compound to degrade.

Hazardous fuels: Includes living and dead and decaying vegetation that form a special threat of ignition and resistance to control.

Hazard quotient (HQ): The ratio of the estimated level of exposure to a substance from a specific substance from a specific pesticide application to the reference dose (RfD) for that substance, or to some other index of acceptable exposure or toxicity. A HQ less than or equal to 1 is presumed to indicate an acceptably low level of risk for that specific application.

Herbaceous: Non-woody plants that include grasses, grass-like plants, and forbs.

Herbicide: A chemical pesticide used to control, suppress, or kill vegetation, or severely interrupt normal growth processes.

Herbicide resistance: Naturally-occurring heritable characteristics that allow individual weeds to survive and reproduce, producing a population, over time, in which the majority of the plants of the weed species have the resistant characteristics.

Herbivore: An animal that feeds on plants.

Herd Management Areas (HMAs): Areas established for wild and free-roaming horses and burros through the land use planning process. The Wild Free-roaming Horse and Burro Act of 1971 requires that wild free-roaming horses and burros be considered for management where they were found at the time Congress passed the Act. The BLM initially identified 264 areas of use as herd management areas.

Home range: The area around an animal's established home that is visited during the animal's normal activities.

Hydrologic cycle (water cycle): The ecological cycle that moves water from the air by precipitation to the earth and returns it to the atmosphere; includes evaporation, run-off, infiltration, percolation, storage, and transpiration.

Hydrologic unit code (HUC): A hierarchical coding system developed by the U.S. Geological Survey to identify geographic boundaries of watersheds of various sizes.

Hydrolysis: Decomposition or alteration of a chemical substance by water.

I

Impermeable: Cannot be penetrated.

Indigenous: Living or occurring naturally in an area; native, endemic people, flora, or fauna.

Indirect effects: Impacts that are caused by an action, but are later in time or farther removed in distance, although still reasonably foreseeable.

Inert ingredient(s): Those ingredients that are added to the commercial product (formulation) and are not herbicidally active.

Infiltration: The movement of water through soil pores and spaces.

Insectivore: An organism that feeds mainly on insects.

Integrated pest management (IPM): A long-standing, science-based, decision-making process that identifies and reduces risks from pests and pest management related strategies. It coordinates the use of pest biology, environmental information, and available technology to prevent unacceptable levels of pest damage by the most economical means, while posing the least possible risk to people, property, resources, and the environment. IPM provides an effective strategy for managing pests in all arenas from developed agricultural, residential, and public areas to wild lands. IPM serves as an umbrella to provide an effective, all encompassing, low-risk approach to protect resources and people from pests. BLM Departmental Manual 517 (Pesticides) defines integrated pest management as "a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks."

Intermittent stream: A stream that flows only a certain times of the year when it receives water from other streams or from surface sources such as melting snow.

Invasive plants: Plants that 1) are not part of (if exotic), or are a minor component of (if native), the original plant community or communities; 2) have the potential to become a dominant or co-dominant species on the site if their future establishment and growth is not actively controlled by management interventions; or 3) are classified as exotic or noxious plants under state or federal law. Species that become dominant for only one to several years (e.g. short-term response to drought or wildfire) are not invasive plants.

Invasive species: Per Executive Order 13112, an invasive species means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Invertebrate: Small animals that lack a backbone or spinal column. Spiders, insects, and worms are examples of invertebrates.

Irretrievable commitment: A term that applies to losses of production or commitment of renewable natural resources. For example, while an area is used as a ski area, some or all of the timber production there is "irretrievably" lost. If the ski area closes, timber production could resume; therefore, the loss of timber production during the time the area is devoted to skiing is irretrievable, but not irreversible, because it is possible for timber production to resume if the area is no longer used as a ski area.

Irreversible commitment: A term that applies to non-renewable resources, such as minerals and archaeological sites. Losses of these resources cannot be reversed. Irreversible effects can also refer to the effects of actions on resources that can be renewed only after a very long period of time, such as the loss of soil productivity.

Issue: A matter of controversy, dispute, or general concern over resource management activities or land uses.

J

K

K_{oc}: Organic carbon-water partition coefficient.

L

Land management: The intentional process of planning, organizing, programming, coordinating, directing, and controlling land use actions.

Landscape: All the natural features such as grasslands, hills, forest, and water, which distinguish one part of the earth's surface from another part; usually that portion of land that the eye can comprehend in a single view, including all of its natural characteristics.

Land use allocation: The assignment of a management emphasis to particular land areas with the purpose of achieving the goals and objectives of some specified use(s) (e.g., campgrounds, wilderness, logging, and mining).

Large woody debris: Pieces of wood that are of a large enough size to affect stream channel morphology.

LC_{50} (median lethal concentration): A calculated concentration of a chemical in air or water to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

LD_{50} (median lethal dose): The dose of a chemical calculated to cause death in 50% of a defined experimental animal population over a specified observation period. The observation period is typically 14 days.

Leaching: Usually refers to the movement of chemicals through the soil by water; may also refer to the movement of herbicides out of leaves, stems, or roots into the air or soil.

Level of concern (LOC): The concentration in media or some other estimate of exposure above which there may be effects.

Lichens: Organisms made up of specific algae and fungi, forming identifiable crusts on soil, rocks, tree, bark, and other surfaces. Lichens are primary producers in ecosystems. They contribute living material and nutrients, enrich the soil and increase soil moisture-holding capacity, and serve as food sources for certain animals. Lichens are slow growing and sensitive to chemical and physical disturbances.

Lifeways: The manner and means by which a group of people lives; their way of life. Components include language(s), subsistence strategies, religion, economic structure, physical mannerisms, and shared attitudes.

Litter: The uppermost layer of organic debris on the soil surface, which is essentially the freshly fallen or slightly decomposed vegetation material such as stems, leaves, twigs, and fruits.

Long term: Generally refers to a period longer than 10 years.

Lowest observed adverse effect level (LOAEL): The lowest dose of a chemical in a study, or group of studies, that produces statistically or biologically significant increases in frequency or severity of adverse effects between the exposed and control populations.

Lymph: A clear water fluid containing white blood cells. Lymph circulates throughout the lymphatic system, removing bacteria and certain proteins from body tissue. It also is responsible for transporting fat from the small intestine and supplying mature lymphocytes to the blood.

Lymphatic: Pertaining to lymph, a lymph vessel, or a lymph node.

M

Macrophytes: Terrestrial or aquatic plants that are large enough to be seen without the aid of a microscope.

Material safety data sheet (MSDS): A compilation of information required under the Occupational Safety and Health Administration Communication Standard on the identity of hazardous chemicals, health and physical hazards, exposure limits, and precautions.

Memorandum of Understanding (MOU): Documents an agreement reached among agencies.

Microbial degradation: The breakdown of a chemical substance into simpler components by bacteria or other microorganisms.

Microbiotic crust: See biological crust.

Minimize: Apply best available technology, management practices, and scientific knowledge to reduce the magnitude, extent, and/or duration of impacts.

Minimum tool rule: Apply only the minimum-impact policy, device, force, regulation, instrument, or practice to bring about a desired result.

Mitigation: Steps taken to: 1) avoid an impact altogether by not taking a certain action or parts of an action; 2) minimize an impact by limiting the degree or magnitude of the action and its implementation; 3) rectify an impact by repairing, rehabilitating, or restoring the affected environment; 4) reduce or eliminate an impact over time by preserving and maintaining operations during the life of the action; and, 5) compensate for an impact by replacing or providing substitute resources or environments (40 CFR Part 1508.20).

Mitigation measures: Means taken to avoid, compensate for, rectify, or reduce the potential adverse impact of an action.

Monitoring: The orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting management objectives.

Multiple uses: A combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources. These may include recreation, range, timber, minerals, watershed, wildlife, and fish, along with natural scenic, scientific, and historical values.

N

National Ambient Air Quality Standards (NAAQS): Standards set by the U.S. Environmental Protection Agency for the maximum levels of pollutants that can exist in the outdoor air without unacceptable effects on human health or the public welfare.

National Back Country Byways: A program developed by the BLM to complement the National Scenic Byway program. The BLM's Byways show enthusiasts the best the West has to offer—from waterfalls to geology sculpted by volcanoes, glaciers, and rivers. Back Country Byways vary from narrow, graded roads, passable only during a few months of the year, to two-lane paved highways providing year-round access.

National Conservation Areas: Areas designated by Congress so that present and future generations of Americans can benefit from the conservation, protection, enhancement, use, and management of these areas by enjoying their natural, recreational, cultural, wildlife, aquatic, archeological, paleontological, historical, educational, and/or scientific resources and values.

National Environmental Policy Act (NEPA): An act of Congress passed in 1969, declaring a national policy to encourage productive and enjoyable harmony between people and the environment, to promote efforts that will prevent or eliminate damage to the environment and the biosphere and stimulate the health and welfare of people, and to enrich the understanding of the ecological systems and natural resources important to the nation, among other purposes.

National Historic Trails: Trails established to identify and protect historic routes; they follow as closely as possible the original trails or routes of travel of national historic significance.

National Landscape Conservation System (NLCS): A single system that encompasses some of the BLM's premier land designations. By putting these lands into an organized system, the BLM hopes to increase public awareness of these areas' scientific, cultural, educational, ecological, and other values.

National Monument: An area designated to protect objects of scientific and historic interest by public proclamation of the President under the Antiquities Act of 1906, or by the Congress for historic landmarks, historic and prehistoric structures, or other objects of historic or scientific interest situated upon the public lands; designation also provides for the management of these features and values.

National Recreation Area: An area designated by Congress to assure the conservation and protection of natural, scenic, historic, pastoral, and fish and wildlife values and to provide for the enhancement of recreational values.

National Recreation Trails: Trails established administratively by the Secretary of the Interior to provide for a variety of outdoor recreation uses in or reasonably close to urban areas. They often serve as connecting links between the National Historic Trails and National Scenic Trails.

National Scenic Areas: Refers to the one national scenic area managed by the BLM: The Santa Rosa Mountains National Scenic Area in California, which encompasses approximately 101,000 acres. This area was designated by the Secretary of the Interior in 1990 to provide for the conservation, protection, and enhancement of scenic, recreation, and pastoral values.

National Scenic Trails: Trails established by an Act of Congress that are intended to provide for maximum outdoor recreation potential and for the conservation and enjoyment of nationally significant scenic, historical, natural, and cultural qualities of the areas through which these trails pass. National Scenic Trails may be located to represent desert, marsh, grassland, mountain, canyon, river, forest, and other areas, as well as land forms that exhibit significant characteristics of the physiographic regions of the nation.

National Wild and Scenic Rivers: Rivers designated in the National Wild and Scenic Rivers System that are classified in one of three categories, depending on the extent of development and accessibility along each section. In addition to being free flowing, these rivers and their immediate environments must possess at least one outstandingly remarkable value: scenic, recreational, geologic, fish and wildlife, historical, cultural, or other similar values.

Native species: Species that historically occurred or currently occur in a particular ecosystem and were not introduced.

Natural community: An assemblage of organisms indigenous to an area that is characterized by distinct combinations of species occupying a common ecological zone and interacting with one another.

Natural resources: Water, soil, plants and animals, nutrients, and other resources produced by the earth's natural processes.

Neurotoxicity: Materials that affect nerve cells and may produce muscular, emotional, or behavioral abnormalities, impaired or abnormal motion, and other physiologic changes.

Neutralizer: A type of inert ingredient added to an herbicide that modifies the effect of, or counteracts the properties of, something within the herbicide or spray solution.

No action alternative: The most likely condition to exist in the future if current management direction were to continue unchanged.

No observed adverse effect level (NOAEL): The exposure level at which there are no statistically or biological significant differences in the frequency or severity of any adverse effect in the exposed or control populations.

No observed effect level (NOEL): Exposure level at which there are no statistically or biological significant differences in the frequency or severity of any effect in the exposed or control populations.

Non-selective herbicide: An herbicide that is generally toxic to plants without regard to species.

Non-target: Any plant, animal, or organism that a method of application is not aimed at, but may accidentally be injured by the application.

Noxious weed: 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 non-native, new, or not common to the United States.

Nutrient cycle: Ecological processes in which nutrients and elements such as carbon, phosphorous, nitrogen, and others, circulate among animals, plants, soils, and air.

O

Objective: A concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used to achieve identified goals.

Omnivore: An animal that eats a combination of meat and vegetation.

Oregon and California lands: Public lands in Western Oregon that were granted to the Oregon Central Railroad companies (later the Oregon and California Railroad Company) to aid in the construction of railroads, but that were later forfeited and returned to the federal government by revestment of title.

Overgrazing: Continued heavy grazing which exceeds the recovery capacity of the plant community and creates a deteriorated rangeland.

Overstory: The upper canopy layer.

P

Paleontological resources: A work of nature consisting of or containing evidence of extinct multicellular beings and includes those works or classes of works of nature designated by the regulations as paleontological resources.

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

Particulate matter (PM): A complex mixture consisting of varying combinations of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These tiny particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust.

Particulates: Solid particles or liquid droplets suspended or carried in the air.

Pathogen: An agent such as a fungus, virus, or bacterium that causes disease.

Payments in lieu of taxes: Payments made to counties by the BLM to mitigate for losses to counties because public lands cannot be taxed.

Per capita income: Total income divided by the total population.

Perennial: A plant that lives for 2 or more years.

Permit: A revocable authorization to use public land for a specified purpose to for up to 3 years.

Persistence: Refers to the length of time a compound, once introduced into the environment, stays there.

Pest Infestation: 1) The occurrence of one or more pest species in an area or location where their numbers and impact are currently or potentially at intolerable levels. 2) A sudden increase in destructiveness or population numbers of a pest species in a given area.

Petroglyph: An image recorded on stone, usually by prehistoric peoples, by means of carving, pecking, or otherwise incised on natural rock surfaces.

Pictograph: A symbol that represents an object or a concept by illustration.

pH: A measure of how acidic or alkaline (basic) a solution is on a scale of 0 to 14 with 0 being very acidic, 14 being very alkaline, and 7 being neutral. The abbreviation stands for the potential of hydrogen.

Photodegradation: The photochemical transformation of a molecule into lower molecular weight fragments, usually in an oxidation process. This term is widely used in the destruction (oxidation) of pollutants by ultraviolet-based processes.

Photolysis: Chemical decomposition induced by light or other radiant energy.

Phytotoxicity: The ability of a material such as a pesticide or fertilizer to cause injury to plants.

Piscivore: Animal that feeds on fish.

Plant community: A vegetation complex, unique in its combination of plants, which occurs in particular locations under particular influences. A plant community is a reflection of integrated environmental influences on the site, such as soils, temperature, elevation, solar radiation, slope aspect, and precipitation.

Playas: Flat land surfaces underlain by fine sediment or evaporate minerals deposited from a shallow lake on the floor of a topographic depression.

$PM_{2.5}$: Fine particulates that measure 2.5 microns in diameter or less.

PM_{10}: Particulate matter that measures 10 microns in diameter or less.

Population adjusted dose: The acute or chronic reference dose (RfD) divided by the Food Quality Protection Act safety factor.

Porosity: The ratio of the volume of void space in a material (e.g., sedimentary rock or sediments) to the volume of its mass.

Predator: An organism that captures and feeds on parts or all of a living organism of another species.

Preferred alternative: The alternative identified in an EIS that has been selected by the agency as the most acceptable resolution to the problems identified in the purpose and need.

Prescribed fire: A management ignited wildland fire that burns under specified conditions and in predetermined area, and that produces the fire behavior and fire characteristics required to attain fire treatment and resource management objectives.

Prescribed fire projects: Includes the BLM's efforts to utilize fire as a critical natural process to maintain and restore ecosystems, rangeland, and forestlands, and to reduce the hazardous buildup of fuels that may threaten healthy lands and public safety.

Prescribed grazing: The careful application of grazing or browsing prescriptions (i.e., specified grazing intensities, seasons, frequencies, livestock species, and degrees of selectivity) to achieve natural resource objectives. Livestock production is a secondary objective when using prescribed grazing as a natural resource management tool.

Prevention of Significant Deterioration (PSD): A U.S. Environmental Protection Agency program in which state and/or federal permits are required in order to restrict emissions from new or modified sources in places where air quality already meets or exceeds primary and secondary ambient air quality standards.

Productivity: The innate capacity of an environment to support plant and animal life over time. Plant productivity is the rate of plant production within a given period of time. Soil productivity is the capacity of a soil to produce plant growth, due to the soil's chemical, physical, and biological properties.

Programmatic EIS: An area-wide EIS that provides an overview when a large-scale plan is being prepared for the management of federally-administered lands on a regional or multi-regional basis.

Proper functioning condition: Riparian and wetland areas achieve proper functioning condition when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows. This reduces erosion and improves water quality; filters sediment, captures bedload, and aids in floodplain development; improves floodwater retention and groundwater recharge; develops root masses that stabilize streambacks against cutting; develops diverse ponding and channel characteristics to provide habitat and water depth, duration, and temperature necessary for fish production, avian breeding habitat, and other uses; and supports greater biodiversity.

Proposed action: A proposal by a federal agency to authorize, recommend, or implement an action.

Public domain lands: One category of public lands that have never left federal ownership; also, lands in federal ownership that were obtained by the government in exchange for public domain lands or for timber on public domain lands.

Public lands: Any land and interest in land owned by the United States that are administered by the Secretary of the Interior through the BLM, without regard to how the United States acquired ownership, except for 1) lands located on the Outer Continental Shelf, and 2) lands held for the benefit of Indians, Aleuts, and Eskimos. Includes public domain and acquired lands.

Public scoping: A process whereby the public is given the opportunity to provide oral or written comments about the influence of a project on an individual, the community, and/or the environment.

Q

Qualitative: Traits or characteristics that relate to quality and cannot be readily measured with numbers.

Quantitative: Traits or characteristics that can be measured with numbers.

R

Rangeland: Land on which the native vegetation is predominantly grasses, grass-like plants, forbs, or shrubs; not forests.

Raptor: Bird of prey; includes eagles, hawks, falcons, and owls.

Receptor: An ecological entity exposed to a stressor.

Record of Decision (ROD): A document separate from, but associated with, an EIS, which states the decision, identifies alternatives (specifying which were environmentally preferable), and states whether all practicable means to avoid environmental harm from the alternative have been adopted, and if not, why not.

Recovery plan: Identifies, justifies, and schedules the research and management actions necessary to reverse the decline of a species and ensure its long-term survival.

Reference dose (RfD): An estimate (with uncertainty spanning perhaps an order of magnitude) of a daily oral exposure to the human population (including sensitive subgroups) that is likely to not result in an appreciable risk of deleterious effects during a lifetime. It is derived from the no-observed-adverse-effect-level, the lowest-observed-adverse-effect-level, or a benchmark dose. Uncertainty factors are generally applied when developing the reference dose to reflect the limitations of the data used.

Registered herbicide: All herbicides sold or distributed in the United States must be registered by the U.S. Environmental Protection Agency, based on scientific studies, showing that they can be used without posing unreasonable risks to people or the environment.

Research Natural Areas: Special management areas designated either by Congress or by a public or private agency to preserve and protect typical or unusual ecological communities, associations, phenomena, characteristics, or natural features or processes for scientific and educational purposes. They are established and managed to protect ecological processes, conserve biological diversity, and provide opportunities for observation for research and education.

Resident fish: Fish that spend their entire life in freshwater (e.g., bull trout).

Residue: The quantity of an herbicide or its metabolites remaining in or on soil, water, plants, animals, or surfaces.

Resilience: 1) The ability of a system to respond to disturbances. Resiliency is one of the properties that enable the system to persist in many different states or successional stages. 2) In human communities, refers to the ability of a community to respond to externally induced changes such as larger economic forces.

Resource Management Plan (RMP): Comprehensive land management planning document prepared by and for the BLM's administered properties under requirements of the Federal Land Policy and Management Act. Bureau of Land Management lands in Alaska were exempted from this requirement.

Restoration: Actions taken to modify an ecosystem to achieve desired, healthy, and functioning conditions and processes.

Revegetation: Establishing or re-establishing desirable plants on areas where desirable plants are absent or of inadequate density, by management alone (natural revegetation) or by seeding or transplanting (artificial revegetation).

Rights-of-way (ROW): A permit or an easement that authorizes the use of lands for certain specified purposes, such as the construction of forest access roads or a gas pipeline.

Riparian: Occurring adjacent to streams and rivers and directly influenced by water. A riparian community is characterized by certain types of vegetation, soils, hydrology, and fauna and requires free or unbound water or conditions more moist than that normally found in the area.

Risk: The likelihood that a given exposure to an item or substance that presents a certain hazard will produce illness or injury.

Risk assessment: The process of gathering data and making assumptions to estimate short- and long-term harmful effects on human health or the environment from particular products or activities.

Runoff: That part of precipitation, as well as any other flow contributions, that appears in surface streams, either perennial or intermittent.

S

Salmonids: Fishes of the family Salmonidae, including salmon, trout, chars, whitefish, ciscoes, and grayling.

Scoping: The process by which significant issues relating to a proposal are identified for environmental analysis. Scoping includes eliciting public comment on the proposal, evaluating concerns, and developing alternatives for consideration.

Section 3: Lands administered under Section 3 of the Taylor Grazing Act. This section of the law provided for the lease of grazing district lands to landowners and homesteaders in or adjacent to the reserves first and issuance of 1 to 10 year leases.

Section 15: Lands administered under Section 15 of the Taylor Grazing Act. Under Section 15, public lands outside of grazing districts could be leased to ranchers with contiguous property.

Sediments: Unweathered geologic materials generally laid down by or within waterbodies; the rocks, sand, mud, silt, and clay at the bottom and along the edge of lakes, streams, and oceans.

Sedimentation: The process of forming or depositing sediment; letting solids settle out of wastewater by gravity during treatment.

Selective herbicide: A chemical designed to affect only certain types of plants, leaving other plants unharmed.

Semi-arid: Moderately dry; region or climate where moisture is normally greater than under arid conditions, but still limits the production of vegetation.

Sensitive species: 1) Plant or animal species susceptible or vulnerable to activity impacts or habitat alterations. 2) Species that have appeared in the Federal Register as proposed for classification or are under consideration for official listing as endangered or threatened species.

Short-term impacts: Impacts occurring during project construction and operation, and normally ceasing upon project closure and reclamation. For each resource the definition of short-term may vary.

Significant: The description of an impact that exceeds a certain threshold level. Requires consideration of both context and intensity. The significance of an action must be analyzed in several contexts, such as society as a whole, and the affected region, interests, and locality. Intensity refers to the severity of impacts, which should weighted along with the likelihood of its occurrence.

Snag: A standing dead tree, usually larger than 5 feet tall and 6 inches in diameter at breast height.

Sociocultural: Of, relating to, or involving a combination of social and cultural factors.

Socioeconomic: Pertaining to, or signifying the combination or interaction of social and economic factors.

Soil compaction: The compression of the soil profile from surface pressure, resulting in reduced air space, lower water holding capacity, and decreased plant root penetrability.

Soil horizon: A layer of soil material approximately parallel to the land surface that differs from adjacent genetically related layers in physical, chemical, and biological properties.

Southern Nevada Public Land Management Act: Act that provides for the disposal of public land within a specific area in the Las Vegas Valley and creates a special account into which 85% of the revenue generated by land sales or exchanges in the Las Vegas Valley is deposited. The remaining 15% goes to state and local governments.

Special status species: Refers to federally-listed threatened, endangered, proposed, or candidate species, and species managed as sensitive species by the BLM.

Spot treatment: An application of an herbicide to a small selected area as opposed to broadcast application.

Stabilizer: A type of inert ingredient added to a commercial pesticide that makes the mixture more stable.

Stand: A group of trees in a specific area that is sufficiently alike in composition, age, arrangement, and condition so as to be distinguishable from the forest in adjoining areas.

Standard Operating Procedures (SOPs): Procedures that would be followed by the BLM to ensure those risks to human health and the environment from treatment actions were kept to a minimum.

Step-down: Refers to the process of applying broad-scale science findings and land use decisions to site-specific areas using a hierarchical approach of understanding current resource conditions, risks, and opportunities.

Stressor: Any event or situation that precipitates a change.

Subalpine: A terrestrial community that generally is found in harsher environments than the montane terrestrial community. Subalpine communities are generally colder than montane and support a unique clustering of wildlife species.

Subchronic: The effects observed from doses that are of intermediate duration, usually 90 days.

Subsistence: Customary and traditional uses of wild renewable resources (plants and animals) for food, shelter, fuel, clothing, tools, etc.

Succession: A change in structure and composition of plant and animal communities over time. This change does not always occur in a predictable and orderly manner. Change can be a response to random or chaotically occurring disturbances.

Surfactant: A material that improves the emulsifying, dispersing, spreading, wetting, or other surface-modifying properties of liquids.

Surrogate: A substitute or stand-in.

Synergistic: A type of cumulative impact where total effect is greater than the sum of the effects taken independently.

T

Tank mixture: The mixture of two or more compatible herbicides in a spray tank in order to apply them simultaneously.

Target species: Plant species of competing vegetation that is controlled in favor of desired species.

Teratogenic: Causing structural defects that affect the development of an organism; causing birth defects.

Terrestrial: Of or relating to the earth, soil, or land; inhabiting the earth or land.

Threatened species: A plant or animal species likely to become an endangered species throughout all or a significant portion of its range within the foreseeable future.

Threshold: A dose or exposure below which there is no apparent or measurable adverse effect.

Tier: In an EIS, refers to incorporating by reference the analyses in an EIS or similar document of a broader scope. For example, BLM field offices could prepare environmental assessments for local projects that tier to this PEIS.

Total suspended particles (TSP): A method of monitoring airborne particulate matter by total weight.

Toxicity: A characteristic of a substance that makes it poisonous.

Toxicokinetics: The process of the uptake of potentially toxic substances by the body, the biotransformation they undergo, the distribution of the substances and their metabolites in the tissues, and the elimination of the substances and their metabolites from the body.

Transpiration: Water loss from plants during photosynthesis.

Tribe: Term used to designate any Indian tribe, band, nation, or other organized group or community (including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act) which is recognized as eligible for the special programs and services provided by the U.S. to Indians because of their status as Indians.

U

Understory: Plants that grow beneath the canopy of other plants. Usually refers to grasses, forbs, and low shrubs under a tree or shrub canopy.

Undesirable plants: Species classified as undesirable, noxious, harmful, exotic, injurious, or poisonous under state or federal law, but not including species listed as endangered by the Endangered Species Act, or species indigenous to the planning area.

Upland: The portion of the landscape above the valley floor or stream.

V

Vascular plants: Plants that have specialized tissues which conduct nutrients, water, and sugars along with other specialized parts such as roots, stems, and reproductive structures. Vascular plants include flowering plants, ferns, shrubs, grasses, and trees.

Vertebrate: An animal with a backbone. Fishes, amphibians, reptiles, birds, and mammals are vertebrates.

Visual resources: The visible physical features of a landscape.

Volatilization: The conversion of a solid or liquid into a gas or vapor.

W

Water quality: The interaction between various parameters that determines the usability or non-usability of water for on-site and downstream uses. Major parameters that affect water quality include: temperature, turbidity, suspended sediment, conductivity, dissolved oxygen, pH, specific ions, discharge, and fecal coliform.

Watershed: The region draining into a river, river system, or body of water.

Weed: A plant considered undesirable and that interferes with management objectives for a given area at a given point in time.

Wetlands: Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstance do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include habitats such as swamps, marshes, and bogs.

Wilderness: Land designated by Congress as a component of the National Wilderness Preservation System. For an area to be considered for Wilderness designation it must be roadless and possess the characteristics required by Section 2(c) of the Wilderness Act of 1964. These characteristics are: 1) naturalness - lands that are natural and primarily affected by the forces of nature; 2) roadless and having at least 5,000 acres of contiguous public lands; and 3) outstanding opportunities for solitude or primitive and unconfined types of recreation. In addition, areas may contain "supplemental values," consisting of ecological, geological, or other features of scientific, educational, scenic, or historical importance.

Wildfire: Unplanned human or naturally caused fires in wildlands.

Wildland fires: Occur on wildlands, regardless of ignition source, damages, or benefits, and include wildfire and prescribed fire.

Wildland fire use for resource benefit: A fire ignited by lightening but allowed to burn within specified conditions of fuels, weather, and topography, to achieve specific objectives.

Wildland Urban Interface (WUI): An area where structures and other human development intermingle with undeveloped wildlands or vegetative fuels.

Woodland: A forest in which the trees are often small, characteristically short-bolded relative to their crown depth, and forming only an open canopy with the intervening area being occupied by lower vegetation, commonly grass.

X

Xeric: Very dry region or climate; tolerating or adapted to dry conditions.

YZ