

## 7 Glossary

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### A

**Acid Rain:** A rain or any other form of precipitation that is unusually acidic, meaning that it possesses elevated levels of hydrogen ions (low pH). It can have harmful effects on plants, aquatic animals, humans and infrastructure. Acid rain is caused by emissions of sulfur dioxide and nitrogen oxide, which react with the water molecules in the atmosphere to produce acids.

**Acre-foot:** The volume (as of irrigation water) that would cover 1 acre to a depth of 1 foot (43,560 cubic feet).

**Action:** In the context of the National Environmental Policy Act (NEPA), describes actions proposed to meet a specific purpose and need and that may have effects on the environment, which are potentially subject to Federal control and responsibility. Federal actions generally fall into the categories of adoption of official policy, formal plans, and programs; or approval of specific projects. For this document, the term action applies to a specific project.

**Air quality:** A measure of the health-related and visual characteristics of the air, often derived from quantitative measurements of the concentrations of specific injurious or contaminating substances.

**Alluvium:** A general term for clay, silt, sand, gravel, or similar consolidated material deposited during comparatively recent geologic time by a stream or other body of running water in the bed of the stream, river, or floodplain, or as a cone or fan at the base of a mountain slope.

**Alternative:** Any one of a number of options for a project.

**Ambient:** Of the environment surrounding a body, encompassing on all sides. Most commonly applied to air quality and noise.

**American Indian tribe (or tribe):** Any American Indian group in the conterminous United States that the Secretary of the Interior recognizes as possessing tribal status (listed periodically in the Federal Register).

**Annual Average Daily Traffic:** A measure used primarily in transportation planning and transportation engineering. It is the total volume of vehicle traffic of a highway or road for a year divided by 365 days.

**Approximate Original Contour (AOC):** term used to describe the final topography of a mine site following completion of reclamation activities. This is also referred to as the Final Surface Configuration.

**Aquatic:** Growing or living in or near the water.

**Aquifer:** A water-bearing rock unit (unconsolidated or bedrock) that will yield water in a usable quantity to a well or spring.

**Archaeological site:** A discrete location that provides physical evidence of past human use.

**Archaeology:** the scientific study of the life and culture of past, especially ancient, peoples, as by excavation of ancient cities, relics, artifacts, etc.

**Area of Critical Environmental Concern:** A Bureau of Land Management (BLM) designation pertaining to areas where specific management attention is needed to protect and prevent irreparable damage to important historical, cultural, and scenic values, fish or wildlife resources, or other natural systems or processes, or to protect human life and safety from natural hazards.

**Arroyo:** A dry gully, or a stream in a dry region

**Artifact:** Any object showing human workmanship or modification, especially from a prehistoric or historic culture.

**Ash:** The residue that remains when something is burned. Also, one component of coal; generally, high ash-content coal is considered to be low-grade.

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

**Attainment Area:** As defined by the Clean Air Act of 1970, as amended, areas with concentrations of criteria pollutants that are below the levels established by the National Ambient Air Quality Standards.

## B

**Backfill:** The fill, often mine waste or rock, that replaces the void left from where a rock or ore has been removed. Also, the material used to fill in a trench in the groundbed (i.e., pipeline trench). The composition of the backfill varies based on the soil type being used and the component being covered.

**Background (visual):** That portion of the visual landscape lying from the outer limit of the middleground to infinity. Color and texture are subdued in this area, and visual sensitivity analysis here is primarily concerned with the two-dimensional shape of landforms against the sky.

**Baghouse:** An air pollution control device containing a large fabric bag, usually made of glass fibers, used to eliminate intermediate and large (greater than 20 PM [particulate matter] in diameter) particles. This device operates like the bag of an electric vacuum cleaner, passing the air and smaller particles while entrapping the larger ones.

**Baseline:** The existing conditions against which impacts of the alternatives are compared.

**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).

**Best management practices:** A suite of techniques that guide, or may be applied to, management actions to aid in achieving desired outcomes and help to protect the environmental resources by avoiding or minimizing impacts of an action.

**Big game:** Large species of wildlife that are hunted (such as elk, deer, pronghorn antelope).

**Biological assessment:** Information prepared by, or under the direction of, a Federal agency to determine whether a proposed action is likely to (1) adversely affect listed species or designated critical habitat; (2) jeopardize the continued existence of species that are proposed for listing; or (3) adversely modify proposed critical habitat.

**Biological opinion:** A document that is the product of formal consultation, stating the opinion of the U.S. Fish and Wildlife Service (USFWS) on whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

**Boiler:** Any device used to burn coal fuel to heat water for generating steam.

**Butte:** A steep hill standing alone in a plain

## C

**Candidate species:** A plant or animal species not yet officially listed as threatened or endangered, but which is undergoing status review by the USFWS.

**Climate Change:** any measurable alteration of climate lasting for an extended period of time (i.e., several decades or longer), and includes recordable changes in temperature, precipitation, or wind patterns.

**Coal Combustion Residue (CCR):** CCRs are the materials that remain after burning coal for electricity. CCRs consist of fly ash, bottom ash, coal slag, and flue gas desulfurization (FGD) residue. CCRs contain a broad range of metals, for example, arsenic, selenium, cadmium, lead, and mercury, but the concentrations of these are generally low.

**Coal:** A fossil fuel extracted from the ground by deep mining. It is a readily combustible black or brownish-black sedimentary rock composed primarily of carbon and hydrocarbons along with other elements including sulfur. Coal is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time. It is primarily used as a solid fuel to produce heat through combustion and is the most common source of electricity generation worldwide.

**Compaction:** Process by which the volume or thickness of rock is reduced due to pressure from overlying layers of sediment.

**Connected Action:** Actions currently proposed or that will be proposed in the near future that could not happen but for implementation of the proposed action.

**Cooperating agency:** Assists the lead Federal agency in developing an environmental assessment or environmental impact statement. The Council on Environmental Quality regulations implementing NEPA define a cooperating agency as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Any Federal, state, or local government jurisdiction with such qualification may become a cooperating agency by agreement with the lead agency.

**Council on Environmental Quality (CEQ):** An advisory council to the President established by the National Environmental Policy Act of 1969. It reviews Federal programs for their effort on environmental studies, and advises the President on environmental matters.

**Criteria:** Standards on which a judgment or decision can be based.

**Cultural resources:** Remains of human activity, occupation, or endeavor as reflected in districts, sites, buildings, objects, artifacts, ruins, works of art, architecture, and natural features important in human events.

**Cumulative effect (or impact):** The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions. Cumulative impacts are evaluated as part of the environmental impact statement (EIS), and may include consideration of additive or interactive effects regardless of what agency or person undertakes the other actions.

## D

**Decibel:** A unit for expressing the relative intensity of sounds on a logarithmic scale from zero for the average least perceptible sound to about 130 for the average level at which sound causes pain to humans. For traffic and industrial noise measurements, the A-weighted decibel, a frequency-weighted noise unit, is widely used. The A-weighted decibel scale corresponds approximately to the frequency response of the human ear and thus correlates well with loudness.

**Decommission:** to withdraw from service or shut-down.

**Discharge:** Outflow of surface water in a stream or canal (water). Discharge from an industrial facility that may contain pollutants harmful to fish or animals if it is released into nearby water bodies usually requires a permit issued by the USEPA and is monitored.

**Distance zone:** A visibility threshold distance where visual perception changes. They usually are defined as foreground, middleground, and background.

**Diversions:** A channel, embankment, or other manmade structure constructed to divert water from one area to another; the process of using these structures to move water.

**Drawdown:** The decrease in elevation of the water surface in a well, the local water table or the pressure head on an artesian well due to extraction of groundwater or decrease in recharge to the aquifer.

## E

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

**Ecology:** The relationship between living organisms and their environment.

**Effect (or impact):** A modification of the existing environment as it presently exists, caused by an action (such as construction or operation of facilities). An effect may be direct, indirect, or cumulative. The terms effect and impact are synonymous under the NEPA. A direct effect is caused by an action and occurs at the same time and same place (40 CFR 1508.8(a)). An indirect effect is caused by the action later in time or farther removed in distance, but 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.

**Emission:** Effluent discharged into the atmosphere, usually specified by mass per unit time, and considered when analyzing air quality.

**Endangered species:** A plant or animal that is in danger of extinction throughout all or a significant portion of its range. Endangered species are rarely identified by the Secretary of the Interior in accordance with the Endangered Species Act (ESA) of 1973.

**Environmental impact statement (EIS):** A document prepared to analyze the impacts on the environment of a proposed action and released to the public for review and comment. An EIS must meet the requirements of NEPA, CEQ, and the directives of the agency responsible for the proposed action.

**Environmental justice:** The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies (see Executive Order 12898).

**Ephemeral wash or stream:** A stream that flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice and has a channel bottom that is always above the local water table.

**Erosion:** The wearing away of the land surface by running water, wind, ice, or other geologic agents and by such processes as “gravitation creep.”

## F

**Federal Register:** Published by the Office of the Federal Register, National Archives and Records Administration, the Federal Register is the official daily publication for rules, proposed rules, and notices of Federal agencies and organizations, as well as executive orders and other presidential documents.

**Fines:** Coal with a maximum particle size usually less than one-sixteenth inch and rarely above one-eighth inch.

**Floodplain:** That portion of a river or stream valley, adjacent to a river channel, that is built of sediments and is inundated with water when the stream overflows its banks.

**Fly ash:** A product of burning finely ground coal in a boiler to produce electricity. It is removed from the plant exhaust gases by baghouses and scrubber systems. Physically, fly ash is a very fine, powdery material, composed mostly of silica nearly all particles are spherical in shape. Fly ash is generally light tan in color and consists mostly of silt-sized and clay-sized glassy spheres.

**Foreground:** The visible area from a viewpoint or use area out to a distance of 0.5 mile. The ability to perceive detail in a landscape is greatest in this zone.

**Fossil:** Any remains, trace, or imprint of a plant or animal that has been preserved by natural process in the earth’s crust since some past geologic time.

## G

**Geology:** The science that relates to the earth, the rocks of which it is composed, and the changes that the earth has undergone or is undergoing.

**Groundwater:** Subsurface water that fills available openings in rock or soil materials to the extent that they are considered water saturated.

**Gypsum:** A soft white mineral, the most common sulfate mineral.

## H

**Habitat:** A specific set of physical conditions in a geographic area(s) that surrounds a single species, group of species, or large community. In wildlife management, the major components of habitat are food, water, cover, and living space.

**Hazardous Air Pollutant:**

**Haze:** An form of air pollution caused when sunlight encounters tiny pollution particles in the air, which reduce the clarity and color of what we see, and particularly during humid conditions.

**Highwall:** The unexcavated face of exposed overburden and coal in a surface mine.

**Hydrology:** The study of the movement, distribution, and quality of water throughout the earth, addresses both the hydrologic cycle and water resources.

## I

**Impact (or effect):** A modification of the existing environment as it presently exists, caused by an action (such as construction or operation of facilities). An impact may be direct, indirect, or cumulative. The terms effect and impact are synonymous under NEPA.

**Indirect effect (or impact):** Secondary effects that occur in locations other than the initial action or later in time, but that are caused by the proposed action.

**Infrastructure:** The facilities, services, and equipment needed for a community or facility to function, such as and including roads, sewers, water lines, and electric lines.

**Interburden:** Material of any nature that lies between two or more bedded ore zones or coal seams.

**Intermittent:** A river or stream that flows for a period of time, usually seasonally during rainy periods, and stops during dry periods. In arid regions, dry periods may be interrupted by occasional flash floods from brief but intense rain storms.

**Issue:** Describes the relationship between actions (proposed, connected, cumulative, similar) and environmental (natural, cultural, and socioeconomic) resources. Issues may be questions, concerns, problems, or other relationships, including beneficial ones. Issues do not predict the degree or intensity of harm the action might cause, but simply alert the reader as to what the environmental problems might be. The NEPA document should address issues identified through interaction with agencies and/or the public, and/or through resource studies.

## L

**Labor force:** All persons 16 years of age or over who are either employed or unemployed and actively looking for a job.

**Land use plan:** A plan or document developed by a government entity, which outlines specific functions, uses, or management-related activities of an area, and may be identified in combination when joint or seasonal uses occur and may include land used for support facilities that are an integral part of the use.

**Landform:** A term used to describe the many land surfaces that exist as a result of geologic activity and weathering (e.g., plateaus, mountains, plains, and valleys)

**Landscape:** An area composed of interacting ecosystems that are repeated because of geology, landform, soils, climate, biota, and human influences throughout the area. Landscapes are generally of a size, shape, and pattern, which are determined by interacting ecosystems.

**Lead Agency:** The federal agency with primary responsibility for complying with NEPA on a given proposed action.

**Lease:** An authorization or contract by which one party (lessor) conveys the use of property to another (lessee) in return for rental payments. In cases of resource production, lessees pay royalties to the lessor in addition to rental payments.

## M

**Megawatt:** A unit for measuring power equal to one million watts. The productive capacity of electrical generators is measured in megawatts.

**Mesa:** An isolated, nearly level land mass, formed on nearly horizontal rocks, standing above the surrounding country and bounded with steep sides.

**Mineral Resources:** Any inorganic or organic substance occurring naturally in the earth that has a consistent and distinctive set of physical properties. Examples of mineral resources include coal, nickel, gold, silver, and copper.

**Mitigation:** The abatement or reduction of an impact on the environment by (1) avoiding a certain action or parts of an action, (2) employing certain construction measures to limit the degree of impact, (3) restoring an area to preconstruction conditions, (4) preserving or maintaining an area throughout the life of a project, (5) replacing or providing substitute resources to the environment, or (6) gathering data (e.g., archaeological or paleontological) prior to disturbance.

## N

**Noise:** Loud, unpleasant, unexpected, or undesired sound that disrupts or interferes with normal human activities

**Noxious weed:** Nonnative plant species that negatively impact crops, native plant communities, and/or management of natural or agricultural systems. Noxious weeds are officially designated by a number of states (including Arizona and Nevada) and Federal agencies.

## O

**Overburden:** The material that lies above the coal seam.

## P

**Perennial stream:** A stream or that part of a stream that flows continuously during all of the calendar year as a result of groundwater discharge or surface runoff.

**Prime farmland:** A special category of highly productive cropland that is recognized and described by the U.S. Department of Agriculture's Soil Conservation Service and receives special protection under the *Surface Mining Law of 1977*.

**Public land:** Land or interest in land owned by the United States and administered through the Secretary of the Interior through the BLM without regard to how the United States acquired ownership, except lands on the Outer Continental Shelf, and land held in trust for the benefit of American Indians, Aleuts, and Eskimos.

## R

**Range:** A large, open area of land over which livestock can wander and graze.

**Raptor:** A bird of prey.

**Rare:** A plant or animal restricted in distribution. May be locally abundant in a limited area or few in number over a wide area.

**Recharge:** Replenishment of a groundwater reservoir (aquifer) by the addition of water, through either natural or artificial means.

**Reclamation:** Restoration of land disturbed by natural or human activity (e.g., mining) to original contour, use, or condition. Also describes the return of land to alternative uses that may, under certain circumstances, be different from those prior to disturbance.

**Recontouring:** Return a surface to or near to its original form through some type of action such as grading.

**Record of Decision:** A document separate from, but associated with, an EIS that publicly and officially discloses the responsible official's decision on a proposed action.

**Resource Area (Navajo Mine):** Administrative areas defined by BNCC within the Navajo Mine Lease Area for the purposes for planning.

**Revegetation:** The re-establishment and development of self-sustaining plant cover. On disturbed sites, this normally requires human assistance such as reseeding

**Right-of-way:** Land authorized to be used or occupied for the construction, operation, maintenance, and termination of a project, such as a road or utility.

**Riparian:** Referring or relating to areas adjacent to water or influenced by free water associated with streams or rivers on geologic surfaces occupying the lowest position of a watershed. Pertaining to, living or situated on banks of rivers, streams, or other body or water. Normally used to refer to the plants of all types that grow along, around, or in wet areas.

**Rural:** Sparsely settled places away from the influence of large cities and towns. Such areas are distinct from more intensively settled urban and suburban areas, and also from unsettled lands such as outback or wilderness. People tend to live in villages, on farms, and in other isolated houses on large plots of land.

## S

**Scoping:** The process open to the public early in the preparation of an EIS for determining the scope of issues related to a proposed action and identifying significant issues to be addressed in an EIS.

**Screen:** An initial assessment performed with few data and many assumptions to identify alternatives that should be evaluated more carefully.

**Sediment:** Solid fragmental material, either mineral or organic, that is transported or deposited by air, water, gravity, or ice.

**Sedimentation:** The result when soil or mineral is transported by moving water, wind, gravity, or glaciers and deposited in streams or other bodies of water, or on land. Also, letting solids settle out of wastewater by gravity during treatment.

**Sensitive receptor:** People that may hear a noise or be sensitive to increased noise levels within their range of hearing, or may be more sensitive to the health effects of air emissions (e.g, day care facilities, schools, nursing homes or retirement centers).

**Sensitivity:** The state of being readily affected by the actions of external influence.

**Special status species:** Wildlife and plant species either federally listed or proposed for listing as endangered or threatened; state-listed; or priority species of concern to Federal agencies or tribes.

**Spoil:** Waste material brought up during the course of a mining operation.

**Surface water:** All bodies of water on the surface of the earth and open to the atmosphere such as rivers, lakes, reservoirs, ponds, seas, and estuaries.

## T

**Terrain:** Used to describe the geophysiographic characteristics of land in terms of elevation, slope, and orientation.

**Threatened or Endangered Species:** Animal or plant species that are listed under the Federal Endangered Species Act of 1973, as amended (federally listed), or under similar state laws (state-listed).

**Topdressing:** topsoil substitute material, identified and determined according to criteria set forth in the Surface Mining Control and Reclamation Act.

**Total dissolved solids:** A term that describes the quantity of dissolved material in a sample of water.

**Traditional cultural lifeway/resources:** Resources that are significant for retention and transmission of traditional cultures. Biological resources that could have traditional cultural significance include plants collected for food, medicine, ceremonies, and other traditional uses, as well as raptors (e.g., eagles and hawks) collected for ceremonial uses. Other natural resources that could have traditional cultural significance include minerals or clay deposits and sources of surface water or shallow groundwater pumped for traditional purposes

**Traditional cultural places:** These named places (landscape features) comprise the cultural landscape that provides the context for evaluating specific traditional cultural properties.

**Transition zone:** The area between two discrete environmental areas, and thus containing elements of each. For example, the transition zone between an upland piñon forest and a lowland desert scrub environment.

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

**Tribal Trust Lands:** Lands held in trust by the United States government for use by a tribe, wherein the United States holds the legal title and the tribe has the beneficial interest.

**Tribe:** Any Indian tribe, band, group, or community having a governing body recognized by the Secretary of Interior.

## U

**Undertaking:** A project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license, or approval; and those subject to State or local regulation administered pursuant to a delegation or approval of a Federal agency.

**Urban:** An area where there is an increased density of human-created structures in comparison to the areas surrounding it. Urban areas are frequently referred to as cities or towns. The U.S. Census Bureau defines an urbanized area as: “Core census block groups or blocks that have a population density of at least 1,000 people per square mile and (386 per square kilometer) and surrounding census blocks that have an overall density of at least 500 people per square mile (193 per square kilometer).”

## V

**Vegetation communities:** Species of plants that commonly live together in the same region or ecotone.

**Vibration:** A series of small, fast movements back and forth or from side to side.

**Visibility:** The distance to which an observer can distinguish objects from their background. The determinants of visibility include the characteristics of the target object (shape, size, color, pattern), the angle and intensity of sunlight, the observer’s eyesight, and any screening present between the viewer and the object (i.e., vegetation, landform, even pollution such as regional haze).

## W

**Waters of the United States:** All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including adjacent wetlands and tributaries to water of the United States; and all waters by which the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce.

**Watershed:** All land and water within the confines of a drainage divide.

**Wetlands:** Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Examples of wetlands include marshes, shallow swamps, lakeshores, bogs, muskegs, wet meadows, estuaries, and riparian areas.