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16 GLOSSARY

100-year floodplain: The area that would be inundated by water during a flood event, having a one-percent chance of being equaled or exceeded in magnitude, in any given year.

AADT: *See* Average Annual Daily Traffic.

Abiotic: Non-living or non-biological; includes chemical and physical environments and processes.

AC: *See* Alternating current.

Acceleration (peak horizontal): A measure of earthquake acceleration (i.e., shaking) on the ground surface expressed in g, the acceleration due to the Earth's gravity.

Access roads: Gravel or dirt roads (rarely paved) that provide overland access to transmission line and pipeline rights-of-way (ROWs) and facilities for construction, inspection, maintenance, and decommissioning. Access roads have an average distance of 5 mi or less, have a nominal width of 15 ft, and exist within the center of a nominal 25-ft-wide ROW.

Acid deposition: A comprehensive term for the various ways acidic compounds precipitate from the atmosphere and deposit onto surfaces. It can include wet deposition by means of acid rain, fog, and snow; and dry deposition of acidic particles (aerosols).

Active Management Areas (AMAs): Active Management Areas were established in Arizona to provide long-term management and conservation of limited groundwater supplies. In order to accomplish this, the AMAs administer state laws, explore ways of augmenting water supplies to meet future needs, and routinely work to develop public policy to promote efficient use and an equitable allocation of available water supplies.

Active volcano: A volcano that is erupting. Also, a volcano that is not presently erupting, but that has erupted within an historical time and is considered likely to erupt in the future.

Acute: Resulting in immediate impacts; short-term.

Adequate Water Supply Program: The Arizona Adequate Water Supply Program requires anyone who offers subdivided land outside of an Active Management Area for sale or lease to obtain a determination from the Arizona Department of Water Resources regarding the availability of water supplies before the land may be marketed to the public as defined in *Arizona Administrative Code* R12-15-715 et seq.

Adverse environmental impacts: Impacts that are determined to be harmful to the environment. *See also* Effects.

1 **AERMOD:** A refined, steady-state plume model that incorporates air dispersion on the basis of
2 a state-of-the-art planetary boundary layer turbulence structure and scaling concepts, and that
3 builds wake effects and plume downwash for point sources. AERMOD is one of the EPA's
4 preferred and recommended models for many regulatory applications.
5

6 **Affected Environment:** For an environmental impact statement, a description of the existing
7 environment covering information necessary to assess or understand the impacts. It must contain
8 enough detail to support the impact analyses and must highlight environmentally sensitive
9 resources (e.g., floodplains, wetlands, threatened and endangered species, and archeological
10 resources).
11

12 **Aftershocks:** Earthquakes that follow the largest shock of an earthquake sequence. They are
13 smaller than the mainshock and within one to two rupture lengths distance from the mainshock.
14 Aftershocks can continue over a period of weeks, months, or years. In general, the larger the
15 mainshock, the larger, and more numerous the aftershocks, and the longer they will continue.
16

17 **Aggregate:** The sum total.
18

19 **Agricultural fires:** Fires ignited to meet specific management objectives on agricultural lands.
20

21 **Air pollutant:** Any substance in the air which could, if in high enough concentration, harm
22 humans, other animals, vegetation, or material. Pollutants may include almost any natural or
23 artificial composition of matter capable of being airborne.
24

25 **Air Quality Control Region (AQCR):** An interstate or intrastate area designated by the
26 U.S. Environmental Protection Agency for the attainment and maintenance of National
27 Ambient Air Quality Standards.
28

29 **Air quality:** Measure of the health-related and visual characteristics of the air to which the
30 general public and the environment are exposed.
31

32 **Air quality standards:** The legally prescribed level of constituents in the outside air that cannot
33 be exceeded during a specific time in a specified area.
34

35 **Albedo (effects):** The fraction of solar radiation reflected by a surface or object, often expressed
36 as a percentage. Snow-covered surfaces have a high albedo; the albedo of soils ranges from high
37 to low; vegetation-covered surfaces and oceans have a low albedo. The Earth's albedo varies
38 mainly through varying cloudiness, snow, ice, leaf area, and land-cover changes.
39

40 **Aliquot (parts):** The standard subdivisions of a section (usually 640 acres [2.6 km²]) of land,
41 such as a half section, quarter section, or quarter-quarter section.
42

43 **Alkali:** A mixture of soluble salts found in arid soils and some bodies of water, and as pure
44 deposits in dry lake beds; detrimental to agriculture.
45

1 **Alkali sink:** A land basin in which water evaporation produces high salt concentrations that
2 may, or may not, support salt marsh vegetation.

3
4 **All-American Canal:** The All-American Canal System, located in the southeastern corner of
5 California, consists of the Imperial Diversion Dam and Desilting Works, the 80-mile-long All-
6 American Canal, the 123-mile-long Coachella Canal, and appurtenant structures. The system has
7 the capacity, through water diversions from the Colorado River at Imperial Dam, to provide
8 irrigation water for nearly 600,000 acres of land in the Imperial and Coachella Valleys. No
9 power is developed on the system by the Federal Government. The Imperial Irrigation District
10 (IID), which operates the All-American Canal, has constructed small hydroelectric power plants
11 at several locations along the canal to provide electricity throughout the IID service area.

12
13 **All-American Roads:** A National Scenic Byway is a road recognized by the U.S. Department
14 of Transportation for its archeological, cultural, historic, natural, recreational, and/or scenic
15 qualities. The most scenic of the roads are called All-American Roads. The designation means
16 they have features that do not exist elsewhere in the United States and are scenic enough to be
17 tourist destinations unto themselves. As of September 2005, there are 99 National Scenic
18 Byways and 27 All-American Roads located in 44 states.

19
20 **Allotment:** An area of land where one or more livestock operators graze their livestock.
21 Allotments generally consist of BLM lands but may also include other federally managed, state
22 owned, and private lands. An allotment may include one or more separate pastures. Livestock
23 numbers and periods of use are specified for each allotment.

24
25 **Alluvial:** Formed by the action of running water; of or related to river and stream deposits.

26
27 **Alluvial fan:** A fan-shaped depositional landform consisting of alluvial deposits that formed
28 where a flowing stream slows and spreads out (depositing its load), typically at the base of a
29 mountain range where there is a marked change in slope. Fan deposits tend to be coarse-grained
30 at their mouths, but grade to finer-grained material toward their edges.

31
32 **Alluvial fan terrace:** A relict landform consisting of thick gravel, sand, and boulder deposits
33 occurring along mountain fronts. Fan terraces are no longer areas of deposition as active alluvial
34 fans are (due either to tectonic uplift or entrenchment of main washes).

35
36 **Alluvial flats:** A small flat area or plain (with slopes of less than 5 or 10 feet per mile) built of
37 fine sediments deposited during flooding events. *See also* Alluvial plains.

38
39 **Alluvial plains:** A small flat area or plain (with slopes of less than 5 or 10 feet per mile) built of
40 fine sediments deposited during flooding events. *See also* Alluvial flats.

41
42 **Alluvial valley:** An alluvium-filled basin, usually occurring between mountain ranges.

43
44 **Alluvium:** Deposits of clay, silt, sand, gravel, or other particulate materials that have been
45 deposited by a stream or other body of running water in a streambed, on a flood plain, on a delta,
46 or at the base of a mountain.

1 **Alpine:** Refers to high mountain areas above the timberline (where trees cease to inhabit
2 extremely cold environments).

3
4 **Alpine tundra:** Vegetation in montane habitats above the tree line. Vegetation consists of
5 perennial forbs, grasses, sedges, and short woody shrubs. Alpine tundra is distinguished from
6 Arctic tundra, because alpine tundra typically does not have permafrost, and alpine soils are
7 generally better drained than arctic soils.

8
9 **Alquist-Priolo Earthquake Fault Zoning Act:** California seismic zoning act passed in 1972,
10 in response to the 1971 San Fernando earthquake, to prevent building across the traces of
11 active faults.

12
13 **Alternating current (AC):** An electric current that reverses its direction at regularly recurring
14 intervals.

15
16 **Alternative:** A mix of management prescriptions applied to specific land areas to achieve a set
17 of goals and objectives. Each alternative represents a different way of achieving a set of similar
18 management objectives. Sometimes the term “action alternative” is used when it is desirable to
19 recognize that there is a “no action” alternative under which the proposed activity would not
20 take place.

21
22 **Ambient air:** The surrounding atmosphere as it exists around people, plants, and structures.

23
24 **Ambient Air Quality Standards:** Regulations prescribing the levels of airborne pollutants that
25 may not be exceeded during a specified time in a defined area.

26
27 **American Indian Religious Freedom Act of 1978 (AIRFA):** Act requiring federal agencies to
28 consult with tribal officials to ensure protection of religious cultural rights and practices.

29
30 **Amphibian:** A cold-blooded, smooth-skinned vertebrate of the class Amphibia, such as a frog,
31 toad, or salamander, that characteristically hatches as an aquatic larva with gills. The larva then
32 transforms into an adult with air-breathing lungs.

33
34 **Andesite:** Volcanic rock (or lava), characteristically medium dark in color and containing 54 to
35 62 percent silica and moderate amounts of iron and magnesium (intermediate composition).

36
37 **Angle of view:** The angle, both vertical and horizontal, between a viewer’s line of sight and the
38 landscape being viewed. *See also:* Horizontal angle of view; Vertical angle of view.

39
40 **Animal Unit:** A unit of measure for rangeland livestock equivalent to one mature cow or five
41 sheep or five goats, all over 6 months of age. An animal unit is based on average daily forage
42 consumption of 26 pounds of dry matter per day.

43
44 **Animal Unit Month (AUM):** A standardized unit of measurement of the amount of forage
45 required by an animal unit for one month. Also, the measurement of the privilege of grazing one
46 animal for one month.

1 **Anthropogenic emissions:** Made by people or resulting from human activities. Usually used in
2 the context of emissions that are produced as a result of human activities.

3
4 **Anthropomorphic:** Described or thought of as having human form or human attributes.

5
6 **Anthropomorphism:** Ascribing human qualities, characteristics, or behavior to inanimate
7 objects, animals, or natural phenomena.

8
9 **Application for Certification (AFC):** Document required for submission to the California
10 Energy Commission by proponents of power-generating facilities in California that have
11 nameplate ratings of 50 MW or greater and that utilize steam.

12
13 **Appropriate Management Level (AML):** The maximum number of animals (wild horses or
14 burros) sustainable on a yearlong basis.

15
16 **Appropriation Doctrine:** The system of water law primarily used in the western United States
17 under which: 1. The right to water is acquired by diverting water and applying it to a beneficial
18 use; and 2. An existing right to water use is superior to a right developed later in time.

19
20 **Appropriations:** Refers to the process of divvying out water right allotments and beneficial uses
21 within a water management district.

22
23 **Aquaculture:** Farming of plants and animals that live in water, such as fish, shellfish,
24 and algae.

25
26 **Aquatic biota:** Collective term describing the organisms living in or depending on the aquatic
27 environment.

28
29 **Aquatic ecosystem:** The distinctive ecosystem dominated by water, aquatic plants, or aquatic
30 animals. Usually the substrate for plant and microorganism growth is water, not soil in the usual
31 sense. This is distinct from the riparian ecosystem, which is a terrestrial ecosystem, and water-
32 dependent, but where the substrate is soil. In the aquatic ecosystem, producers include
33 phytoplanktonic algae, and autotrophic consumers include crustaceans, rotifers, and fish.
34 Heterotrophic consumers include benthic insects, mollusks, and crustaceans.

35
36 **Aquatic habitats:** Areas associated with water that provide food and cover and other elements
37 critical to the completion of an organism's life cycle (e.g., bogs, swamps, riparian areas
38 and streams).

39
40 **Aquatic opportunists:** Species that occupy both temporary and permanent waters.

41
42 **Aquifer:** A water-bearing rock that readily transmits water to a well or spring.

43
44 **Aquifer-basin-fill:** An aquifer located in a basin surrounded by mountains and composed of
45 sediments and debris shed from those mountains. Sediments are typically sand and gravel with
46 some clay.

1 **Aquifer-carbonate rock:** An aquifer found in limestone and dolomite rocks. Carbonate aquifers
2 typically produced hard water, that is, water containing relatively high levels of calcium and
3 magnesium.
4

5 **Aquifer-confined:** Soil or rock below the land surface that is saturated with water. There are
6 layers of impermeable material both above and below it and it is under pressure so that when
7 the aquifer is penetrated by a well, the water will rise above the top of the aquifer.
8

9 **Aquifer-unconfined:** An aquifer whose upper water surface (water table) is at atmospheric
10 pressure, and thus is able to rise and fall.
11

12 **Aquifer-volcanic rock:** An aquifer in which the rock matrix is composed of volcanic rocks,
13 (e.g., tuffs or basalt flows).
14

15 **Arable lands:** Refers to all lands generally under rotation whether it is under temporary crops,
16 temporarily fallowed, or used as temporary meadows.
17

18 **Archaeological site:** Any location where humans have altered the terrain or discarded artifacts
19 during prehistoric or historic times.
20

21 **Arctic tundra:** A treeless area between the icecap and the tree line of Arctic regions that has
22 permanently frozen subsoil and supports low-growing vegetation such as lichens, mosses, and
23 stunted shrubs.
24

25 **Area of Potential Effect (APE):** The geographic area or areas within which an undertaking
26 (project, activity, program, or practice) may cause changes in the character or use of any cultural
27 resources that are present.
28

29 **Area sources (emissions):** Any source of air pollution that is released over a relatively small
30 area but which cannot be classified as a point source. Such sources may include vehicles and
31 other small engines, small businesses and household activities, or biogenic sources such as a
32 forest that releases hydrocarbons.
33

34 **Areas of Critical Environmental Concern (ACECs):** These areas are managed by the Bureau
35 of Land Management and are defined by the Federal Land Policy and Management Act of 1976
36 as having significant historical, cultural, and scenic values, habitat for fish and wildlife, and
37 other public land resources, as identified through the Bureau of Land Management's land-use
38 planning process.
39

40 **Arid:** A region that receives too little water to support agriculture without irrigation. Less than
41 ten inches of rainfall a year is typically considered arid.
42
43

1 **Arizona Water Banking Authority (AWBA):** The AWBA was established in 1996 to increase
2 utilization of the state’s Colorado River entitlement and to develop long-term storage credits for
3 the state. AWBA stores or “banks” unused Colorado River water to be used in times of shortage
4 to firm (or secure) water supplies for Arizona. These water supplies help to benefit municipal
5 and industrial users and communities along the Colorado River, fulfill the water management
6 objectives of the state, store water for use as part of water rights settlement agreements among
7 Indian communities, and assist Nevada and California through interstate water banking.
8

9 **Arrays:** *See* Photovoltaic (PV) array.
10

11 **Arroyo:** A Spanish word for brook that refers to a dry river, creek, or stream bed that
12 temporarily or seasonally fills and flows after sufficient rain. Also referred to as a wash.
13

14 **Artesian water (artesian pressure):** Groundwater that is under pressure when tapped by a well
15 and is able to rise above the level at which it is first encountered. It may or may not flow out at
16 ground level. The pressure in such an aquifer commonly is called artesian pressure, and the
17 formation containing artesian water is an artesian aquifer or confined aquifer.
18

19 **Artifact:** An object produced or shaped by human beings and of archaeological or historical
20 interest.
21

22 **Atlatl:** A wood or bone shaft implement, held in one hand, and used to throw a spear. The tool
23 functions as a lever, giving greater thrust and distance.
24

25 **Atmosphere:** The gaseous envelope surrounding the Earth, which consists almost entirely of
26 nitrogen (78.1% volume mixing ratio) and oxygen (20.9% volume mixing ratio), together with a
27 number of trace gases, such as argon (0.93% volume mixing ratio), radiatively active greenhouse
28 gases such as carbon dioxide (0.035% volume mixing ratio), and air pollutants such as ozone. In
29 addition, the atmosphere contains water vapor, whose amount is highly variable (up to 4%
30 volume mixing ratio), clouds, and aerosols.
31

32 **Atmospheric absorption:** Attenuation of sound during its passage through air, during which its
33 sound energy is gradually converted into heat by a number of molecular processes in the air. The
34 attenuation depends strongly on frequency and relative humidity, less strongly on temperature,
35 and slightly on the ambient pressure.
36

37 **Attainment:** An area considered to have air quality as good as or better than the National
38 Ambient Air Quality Standards for a given pollutant. An area may be in attainment for one
39 pollutant and in nonattainment for others. *See also* In attainment.
40

41 **Attenuation:** The reduction in level of sound.
42

43 **Augmentation Plan:** A court-approved plan that allows a junior water user to divert water out of
44 priority so long as adequate replacement is made to the affected stream system, preventing injury
45 to the water rights of senior users.
46

1 **Augmentation water:** Water used for the replacement of out of priority depletions.

2
3 **Average Annual Daily Traffic (AADT):** A measurement representing the total number
4 of vehicles passing a given location, based upon 24-hour counts taken over an entire year.
5 Mechanical counts are adjusted to an estimate of annual average daily traffic figures, taking
6 into account seasonal variance, weekly changes, and other variables.

7
8 **Background level noise:** Noise in the environment (other than noise emanating from the source
9 of interest).

10
11 **Bajada:** A broad sloping deposit caused by the joining together of alluvial fans. These occur
12 on the lower slopes of mountains and are often characterized by loose sediment and poor soil
13 development.

14
15 **Bald and Golden Eagle Protection Act:** This Act was originally enacted in 1940 as the
16 Bald Eagle Protection Act to protect bald eagles and later amended to include golden eagles.
17 It prohibits the taking or possession of and commerce in bald and golden eagles, parts, feathers,
18 nests, or eggs, with limited exceptions. The definition of take includes pursue, shoot, shoot at,
19 poison, wound, kill, capture, trap, collect, molest, or disturb. Bald eagles may not be taken
20 for any purpose unless a permit is issued prior to the taking. Permits must be obtained from
21 the U.S. Department of the Interior to relocate nests that interfere with resource development
22 or recovery.

23
24 **Base camp:** A site occupied by several families or more on either a year round or a seasonal
25 basis. Identified archaeologically by primary and secondary tools and other artifacts, as well as
26 floral and faunal remains from subsistence activities. Characterized by extensive scatters and
27 quantities of debris such as potsherds, fire-cracked rock, whole and broken flaked stone tools,
28 chipping waste, charred bone, milling tools, house structures, hearths, rock rings, and sometimes
29 rock art or burials.

30
31 **Basalt:** Volcanic rock (or lava), characteristically dark in color and containing 45 to 54% silica
32 and generally rich in iron and magnesium (mafic composition).

33
34 **Basement complex:** The suite of mostly crystalline igneous and/or metamorphic rocks that
35 generally underlies the sedimentary rock sequence.

36
37 **Basement rock:** The oldest rocks in a given area; a complex of metamorphic and igneous rocks
38 that underlies the sedimentary deposits. Usually Precambrian or Paleozoic in age.

39
40 **Basin:** (1) A depression in the Earth's surface that collects sediment. (2) The area of land that
41 drains to a particular river.

42
43 **Basin-fill aquifer:** *See* Aquifer-basin fill.

1 **Battery:** Two or more electrochemical cells enclosed in a container and electrically
2 interconnected in an appropriate series and/or parallel arrangement to provide the required
3 operating voltage and current levels. Under common usage, the term battery also applies to
4 a single cell if it constitutes the entire electrochemical storage system.
5

6 **Battery capacity:** The maximum total electrical charge, expressed in ampere-hours, which a
7 battery can deliver to a load under a specific set of conditions.
8

9 **Bedrock:** General term referring to the solid rock or ledge underlying other unconsolidated
10 material, i.e., soil, loose gravel, etc.
11

12 **Bench:** A relatively level step, excavated into a slope on which fill is to be placed. Its purpose
13 is to provide a firm stable contact between the existing material and the new fill which is to
14 be placed.
15

16 **Beneficial use of water:** A use of water resulting in appreciable gain or benefit to the user,
17 consistent with state law, which varies from one state to another. Most states recognize the
18 following uses as beneficial: domestic, municipal, and industrial uses; irrigation; mining;
19 hydroelectric power; navigation; recreation; stock raising; public parks; and wildlife and
20 game preserves.
21

22 **Benthic:** Living in or occurring at the bottom of a body of water.
23

24 **Best Management Practices (BMP):** A practice or combination of practices that are determined
25 to provide the most effective, environmentally sound, and economically feasible means of
26 managing an activity and mitigating its impacts.
27

28 **Biface:** A stone tool that has been flaked on both sides.
29

30 **Big game:** Those species of large mammals normally managed as a sport-hunting resource.
31

32 **Biogenic source (emissions):** Biological sources such as plants and animals that emit
33 air pollutants such as volatile organic compounds. Examples of biogenic sources include animal
34 management operations, and oak and pine tree forests.
35

36 **Biological soil crusts:** Commonly found in semiarid and arid environments, biological soil
37 crusts are formed by living organisms and their by-products, creating a crust of soil particles
38 bound together by organic materials. Crusts are predominantly composed of cyanobacteria
39 (formerly called blue-green algae), green and brown algae, mosses, lichens, and bryophytes,
40 which live within or on top of the uppermost millimeters of soil. Biological soil crusts are also
41 known as cryptogamic, microbiotic, cryptobiotic, and microphytic crusts.
42

43 **Biomass:** Combustible solid, liquid, or gas that is derived from biological processes.
44

45 **Biota:** Plants and animals.
46

1 **BLM:** The Bureau of Land Management.
2
3 **BLM land:** Land administered by the Bureau of Land Management.
4
5 **Block-faulted (mountains):** Landforms formed by the movement (uplift and tilting) of large
6 crustal blocks during an extensional episode. Such mountains often have a steep front side and
7 a sloping back side.
8
9 **Block Groups (BGs):** A cluster of census blocks having the same first digit of their four-digit
10 identifying numbers within a census tract. For example, block group 3 (BG 3) within a census
11 tract includes all blocks numbered from 3000 to 3999. BGs generally contain between 600 and
12 3,000 people, with an optimum size of 1,500 people. Most BGs were delineated by local
13 participants as part of the U.S. Census Bureau's Participant Statistical Areas Program. The
14 U.S. Census Bureau delineated BGs only where a local, state, or tribal government declined
15 to participate or where the U.S. Census Bureau could not identify a potential local or tribal
16 participant.
17
18 **Blowdown:** Periodic removal of water from an evaporative cooling system (also known as a wet
19 closed-cycle cooling system) to control the buildup of impurities and maintain the concentration
20 of dissolved minerals in the circulating water. Blowdown typically involves the release of less
21 than 10% of the total water volume in the cooling system and typically occurs after completion
22 of as many as five cycles. Blowdown is either discharged to a surface water body under a permit
23 that limits both chemical content and temperature, or directed to an evaporation pond where
24 mineral residues are later collected and removed for disposal.
25
26 **Blowdown Waste:** *See* Blowdown.
27
28 **Blowdown Water:** *See* Blowdown.
29
30 **Blowout:** A wind-eroded section of a sand dune caused by a disturbance or removal of the
31 vegetation.
32
33 **Bolson (floor):** A term applied to an internally drained (closed) intermontane basin in arid
34 regions where drainages from adjacent mountains converge toward a central depression.
35
36 **Boreal:** Living in and adapted for living in the extreme northern areas of the world. This area is
37 located just below tundra conditions.
38
39 **Boron:** The chemical element commonly used as the dopant in a photovoltaic device or
40 cell material.
41
42 **Borrow material:** Material such as soil or sand that is removed from one location and used as
43 fill material in another location.
44
45 **Borrow pit:** A pit or excavation area used for gathering earth materials (borrow) such as sand or
46 gravel.
47

1 **B.P.:** Before present year.
2
3 **Braided streams:** Braided streams have multiple channels that are interlaced in a braided
4 pattern, with very low stream gradient (<0.5% channel slope) and high sediment loading.
5 Braided streams generally have broad, shallow valleys, with well-defined floodplains.
6
7 **Broadband noise:** Noise that has a continuous spectrum, that is, energy is present over a wide
8 range of frequencies.
9
10 **Breccia:** A sedimentary rock formed of coarse-grained material consisting of sharp fragments
11 embedded in clay or sand.
12
13 **Browse:** Twigs, leaves, and young shoots of trees and shrubs that animals eat.
14
15 **Bryozoan:** Aquatic colonial animals with branching, mossy or fan-like growth. They resemble
16 corals but have more complex nervous, muscular, and digestive systems.
17
18 **Build out:** The estimated extent of residential, commercial, and industrial development in a
19 given geographic area; usually related to the upper limit of the population to be served by water
20 resource development.
21
22 **Build-out capacity:** The maximum total percentage of development in a watershed; typically
23 determined assuming current zoning holds indefinitely into the future.
24
25 **Bunchgrass:** A grass having a bunched growth form and lacking rhizomes.
26
27 **Burrow:** A hole made by an animal, usually for shelter or to move through by digging.
28
29 **Bureau of Land Management:** An agency of the U.S. Department of the Interior that is
30 responsible for managing public lands.
31
32 **Cadastral survey system:** A survey that creates, marks, defines, retraces, or re-establishes the
33 boundaries and subdivisions of the public land of the United States.
34
35 **Cadmium (Cd):** A chemical element used in making certain types of solar cells and batteries.
36
37 **Cadmium Telluride (CdTe):** A polycrystalline thin-film photovoltaic material.
38
39 **Cairn:** A mound of stones erected as a memorial or marker.
40
41 **Calcareous:** Of, containing, or like calcite (calcium carbonate).
42
43

1 **Caldera:** A large, usually circular depression at the summit of a volcano, formed when magma
2 is erupted from a shallow underground magma reservoir. The removal of large volumes of
3 magma may result in loss of structural support for the overlying rock, thereby leading to collapse
4 of the ground and formation of a large depression (called a collapsed caldera). Calderas are
5 different from craters, which are smaller circular depressions created primarily by explosive
6 excavation of rock during eruptions.

7
8 **Caliche:** A sedimentary deposit, commonly made of calcium carbonate, and formed from the
9 leaching of minerals from the top layers of soil. Caliche deposits characterize arid and semi-arid
10 environments.

11
12 **California Ambient Air Quality Standard (CAAQS):** A legal limit that specifies the
13 maximum level and time of exposure in the outdoor air for a given air pollutant and which
14 is protective of human health and public welfare (Health and Safety Code section 39606b).
15 CAAQSs are recommended by the California Office of Environmental Hazard Assessment and
16 adopted into regulation by the California Air Resources Board. CAAQSs are the standards
17 which must be met per the requirements of the California Clean Air Act (CCAA).

18
19 **Cancer:** A group of diseases characterized by uncontrolled cellular growth. Increased incidence
20 of cancer can be caused by exposure to radiation and some chemicals.

21
22 **Candidate Species:** Plants and animals for which the U.S Fish and Wildlife Service has
23 sufficient information on their biological status and threats to propose them as endangered or
24 threatened under the Endangered Species Act, but for which development of a listing regulation
25 is precluded by other higher priority listing activities.

26
27 **CAP:** See Central Arizona project (CAP) Aqueduct.

28
29 **Capacity factor:** An empirical dimensionless number that represents the ratio of the amount of
30 power produced by a generating facility over a given period of time, to the amount of power that
31 would have been produced over that time period had the facility operated at its rated capacity.

32
33 **Carbon dioxide (CO₂):** A colorless, odorless, nonpoisonous gas that is a normal part of the
34 Earth's atmosphere. Carbon dioxide is a product of fossil fuel combustion as well as other
35 processes. It is the most prominent greenhouse gas that traps heat radiated into the atmosphere.

36
37 **Carbon monoxide (CO):** A colorless, odorless gas that is toxic if breathed in high
38 concentrations over an extended period of time. Carbon monoxide is listed as a criteria air
39 pollutant under Title I of the Clean Air Act.

40
41 **Carbon sink:** A reservoir that absorbs or takes up released carbon from another part of the
42 carbon cycle. The four sinks, which are regions of the Earth within which carbon behaves in a
43 systematic manner, are the atmosphere, terrestrial biosphere (usually including freshwater
44 systems), oceans, and sediments (including fossil fuels).

1 **Carbonate rock:** Rocks (such as limestone or dolostone) that are composed primarily of
2 minerals (such as calcite and dolomite) containing the carbonate ion (CO₃²⁻).
3

4 **Carbonate-rock aquifer:** See Aquifer-carbonate rock.
5

6 **Carrying capacity:** The maximum density of wildlife that a particular area or habitat can sustain
7 without deterioration of the habitat.
8

9 **Catchment basin:** A topographic region in which all water drains to a common outlet; a
10 watershed.
11

12 **Cavity:** A hole or hollow area, especially inside a tree. Many animals, such as woodpeckers and
13 raccoons, live in them.
14

15 **Cell (solar):** See Photovoltaic (PV) cell.
16

17 **Cenozoic:** An era of geologic time from the beginning of the Tertiary period (65 million years
18 ago) to the present. Its name is from the Greek and it means “new life.”
19

20 **Census block:** Census blocks are defined by the U.S. Bureau of Census and are the smallest
21 geographic unit for which the Census Bureau tabulates data. Blocks contain data from the
22 2000 Census of Population, including total population, population by race and ethnicity,
23 age, marital status, population density, and the number and composition of households, and
24 information on housing unit types. Many blocks correspond to individual city blocks bounded
25 by streets, but blocks – especially in rural areas – may include many square miles and may have
26 some boundaries that are not streets. The Census Bureau established blocks covering the entire
27 nation for the first time in 1990. More than 8 million blocks are identified for Census 2000.
28

29 **Census block groups:** Geographic entities consisting of groups of individual census blocks.
30 Census blocks are grouped together so that they contain between 250 and 550 housing units.
31

32 **Center pivot irrigation:** A form of sprinkler irrigation consisting of several segments of pipe
33 (usually galvanized steel or aluminum) that are joined together and supported by trusses,
34 mounted on wheeled towers with sprinklers positioned along its length. The system moves in a
35 circular pattern and is fed with water from the pivot point at the center of the arc. These systems
36 are found and used in all parts of the nation and allow irrigation of all types of terrain.
37

38 **Central Arizona Project (CAP) Aqueduct:** A 336-mi (541-km) long diversion canal operated
39 by the Central Arizona Water Conservation District that diverts water from the Colorado River
40 into central and southern Arizona. The CAP is the largest and most expensive aqueduct system
41 ever built in the United States.
42

43 **CEQ:** See Council on Environmental Quality.
44

45 **CERCLA:** See Comprehensive Environmental Response, Compensation, and Liability Act
46 of 1980.
47

1 **Change-out:** The routine replacement of chemicals contained in process equipment, in
2 accordance with schedules established by the manufacturer, or as a result of inspections and
3 evaluations of equipment, as a means of preserving or guaranteeing performance.
4

5 **Channel incision:** The process of downcutting into a stream channel leading to a decrease in the
6 channel bed elevation. Incision is often caused by a decrease in sediment supply and/or an
7 increase in sediment transport capacity. A decrease in base level can cause headcutting that
8 migrates upstream and produces incision upstream and initiating aggradation downstream.
9

10 **Chaparral:** A plant community of shrubs and low trees adapted to annual drought and often
11 extreme summer heat and also highly adapted to fires recurring every 5 to 20 years.
12

13 **Chert:** A hard, dense, fine-grained type of sedimentary rock; a microcrystalline aggregate of
14 silica (quartz). It was formed from deposits of silica-based skeletons of microscopic marine
15 organisms (including zooplankton, and other organic matter). Also referred to as flint. Native
16 Americans shaped chert by carefully striking it with stone or bone hammers.
17

18 **Chronic effects:** Effects resulting from exposure to low levels of a stressing factor
19 (e.g., contaminant, disease, electromagnetic field, noise, and radionuclides) over long periods.
20

21 **Cienega:** A perennially wet area supported by a spring or other water source; also called
22 wetland, marsh, or swamp.
23

24 **Cinder cone:** A conical hill formed around a volcanic vent by the accumulation of loose cinders
25 and other pyroclastics ejected during a volcanic eruption, normally basaltic or andesitic in
26 composition. Slopes generally exceed 20 percent.
27

28 **Class I Area:** As defined in the Clean Air Act, the following areas that were in existence as of
29 August 7, 1977: national parks with more than 6,000 acres, national wilderness areas, national
30 memorial parks with more than 5,000 acres, and international parks.
31

32 **Class II Area:** Areas of the country protected under the Clean Air Act, but identified for
33 somewhat less stringent protection from air pollution damage than a Class I area, except in
34 specified cases.
35

36 **Clay:** A very fine-grained rock or mineral fragment of any composition that has a diameter of
37 less than 0.002 mm. Moist clay is sticky and forms a ribbon when pressed between the thumb
38 and forefinger.
39

40 **Clean Air Act (CAA):** The comprehensive federal law which regulates air emissions. The goal
41 of the law was to develop a national ambient air quality standard (NAAQS) that protects public
42 health and the environment. The original CAA was passed in 1963, but the national air pollution
43 control program is actually based on the 1970 version of the law. The 1990 CAA Amendments,
44 in large part, were intended to deal with previously unaddressed or under-addressed problems
45 such as acid rain, ground level ozone, ozone depletion, and air toxics.
46

1 **Clean Water Act (CWA):** Requires National Pollutant Discharge Elimination System (NPDES)
2 permits for discharges of effluents to surface waters, permits for storm water discharges related
3 to industrial activity, and notification of oil discharges to navigable waters of the United States.
4

5 **Clearing and grubbing:** Cleaning a site to prepare it for construction. Involves removing debris,
6 structures, shrubbery, trees, obstructions, and objectionable and unsuitable materials. It may also
7 involve handling and disposing of non-hazardous and hazardous waste.
8

9 **CLFR:** *See* Compact Linear Fresnel Reflector.

10

11 **Climate:** The composite or generally prevailing weather conditions of a region throughout the
12 year, averaged over a series of years.
13

14 **Closed basin:** A basin draining to some depression or a pond within its area, from which water
15 is lost only by evaporation or percolation. A basin without a surface outlet for flowing into
16 another body of water.
17

18 **Closed-loop cooling system:** Also known as a wet closed-cycle cooling system, a system that
19 circulates water between a steam condenser and a cooling tower to cool steam condensate at a
20 thermoelectric power plant; the circulating water interacts with a counterflow (or crossflow) of
21 ambient air at the cooling tower and is cooled through the principle of evaporation where a small
22 fraction of the water is evaporated. The evaporated amount is continually replaced to maintain
23 the total volume of water in the system. *See also* Blowdown.
24

25 **Clovis Complex:** Characteristic of Paleoindian finds located near Clovis, NM, such as specific
26 fluted points.
27

28 **CO:** *See* Carbon Monoxide.
29

30 **CO₂:** *See* Carbon Dioxide.
31

32 **Code of Federal Regulations (CFR):** A publication in codified form, of all federal regulations
33 in force.
34

35 **Collection:** The capture or obtaining of plant or animal specimens. This can include obtaining
36 specimens for scientific study, pets, or illegal trade.
37

38 **Collector:** *See* Solar collector.
39

40 **Color:** The property of reflecting light of a particular intensity and wavelength (or mixture of
41 wavelengths) to which the eye is sensitive. It is the major visual property of surfaces.
42

43 **Colluvium:** A general term to include loose rock and soil material that accumulates at the base
44 of a slope as the result of mass wasting processes.
45

1 **Colluvium:** Loose earth material (such as rock fragments, sand, etc.) that accumulates on steep
2 slopes or at the base of talus slopes, through the action of gravity.

3
4 **Community:** An assemblage of plant and animal populations occupying a given area.

5
6 **Compact:** An agreement between states apportioning the water of a river basin to each of the
7 signatory states.

8
9 **Compact Linear Fresnel Reflector (CLFR):** A type of Concentrated Solar Power (CSP)
10 technology similar to a parabolic trough design, where the sun's heat energy is reflected onto a
11 receiver positioned above the mirrors and containing water; the water is converted to steam and
12 delivered to a Rankine cycle steam turbine-generator (STG) for production of electricity.

13
14 **Compensation:** A type of mitigation in which the impacts to a species or habitat are offset by
15 protecting, restoring, or creating suitable habitat elsewhere.

16
17 **Compensatory Mitigation:** (For purposes of the Clean Water Act Section 404 and Rivers and
18 Harbors Act Section 10 regulatory programs), compensatory mitigation is the restoration,
19 creation, enhancement, or, in exceptional circumstances, preservation of wetlands and/or other
20 aquatic resources for the purpose of compensating for unavoidable adverse impacts which
21 remain after all appropriate and practicable avoidance and minimization has been achieved.

22
23 **Composite noise level:** A single noise level summed on an energy basis from many noise
24 sources (e.g., Stirling engine, electric generator, cooling fan, and air compressor for a Stirling
25 dish engine).

26
27 **Comprehensive Environmental Response, Compensation, and Liability Act of 1980**
28 **(CERCLA):** An Act providing the regulatory framework for the remediation of past
29 contamination from hazardous waste. If a site meets the Act's requirements for designation, it
30 is ranked along with other Superfund sites on the National Priorities List. This ranking is the
31 U.S. Environmental Protection Agency's way of determining the priority of sites for cleanup.

32
33 **Concentrating PV (CPV):** *See* PV Module; PV System.

34
35 **Concentrating solar collector:** A solar collector that uses reflective surfaces to concentrate
36 sunlight onto a small area, where it is absorbed and converted to heat or, in the case of solar
37 photovoltaic (PV) devices, into electricity. Concentrators can increase the power flux of sunlight
38 hundreds of times. The principal types of concentrating collectors include: compound parabolic,
39 parabolic trough, fixed reflector moving receiver, fixed receiver moving reflector, Fresnel lens,
40 and central receiver. A PV concentrating module uses optical elements (Fresnel lens) to increase
41 the amount of sunlight incident onto a PV cell. Concentrating PV modules/arrays track the sun
42 and use concentrating devices to reflect direct sunlight onto the solar cell to produce electricity
43 directly. Concentrating solar collectors in Concentrated Solar Power (CSP) facilities concentrate
44 sunlight onto a receiver where it heats a heat transfer fluid that subsequently exchanges its
45 absorbed heat to water to produce steam to power a steam turbine-generator (STG) to produce
46 electricity.

1 **Concentrating Solar Power (CSP):** *See* Concentrating Solar Power (CSP) Technologies.

2
3 **Concentrating Solar Power (CSP) Technologies:** Any of a family of solar energy technologies
4 that reflect and concentrate the sun's energy to produce heat that is subsequently used to produce
5 steam to power a steam turbine-generator (STG), or drive a reciprocating engine, to produce
6 electricity. There are three different types of CSP systems: parabolic trough systems, power
7 tower systems, and solar dish engine systems. Parabolic trough and power tower systems convert
8 sunlight to heat to produce steam, while the solar dish engine system converts sunlight to heat to
9 drive a reciprocating engine.

10
11 **Concentration:** Amount of a chemical in a particular volume or weight of air, water, soil, or
12 other medium.

13
14 **Concentrator:** A photovoltaic module, which includes optical components such as lenses
15 (Fresnel lens) to direct and concentrate sunlight onto a solar cell. Most concentrator arrays
16 must directly face or track the sun. They can increase the power flux of sunlight hundreds of
17 times, allowing greatly increased amounts of power to be generated from relatively small areas
18 of solar cells.

19
20 **Conditional Use Permit (CUP):** In California, this is a permit that is required to be obtained
21 from the county government authority in which a solar energy facility is to be located.

22
23 **Cone of Depression:** A depression in the water table that develops around a pumped well.

24
25 **Confined aquifer:** *See* Aquifer-confined.

26
27 **Conglomerate:** A sedimentary rock made of rounded rock fragments, such as pebbles, cobbles,
28 and boulders, in a finer-grained matrix. To call the rock a conglomerate, some of the constituent
29 pebbles must be at least 2 mm (about 1/13th of an inch) across.

30
31 **Conifer:** A plant commonly having needlelike, persistent leaves and a woody cone for a fruit.

32
33 **Consumptive use:** (1) Any use of water that permanently removes water from the natural
34 stream system. (2) Water that has been evaporated, transpired, incorporated into products, plant
35 tissue, or animal tissue and is not available for immediate reuse. (3) Consumption of water for
36 residential, commercial, institutional, industrial, agricultural, power generation, and recreational
37 purposes. Naturally occurring vegetation and wildlife also consumptively use water. Water
38 consumed is not available for other uses within the system.

39
40 **Contrast:** Opposition or unlikeness of different forms, lines, colors, or textures in a landscape.

1 **Contrast level:** A description of the relative amount of visual contrast resulting from a change in
2 the visible landscape. Contrast levels define the degree to which a management activity affects
3 the visual quality of a landscape and provides a means for determining visual impacts and for
4 identifying measures to mitigate these impacts. Contrast levels are determined as part of the
5 Visual Contrast Rating procedures BLM utilizes to analyze potential visual impacts of proposed
6 projects and activities. In the Visual Contrast Rating process, contrast levels are defined as None,
7 Weak, Moderate, or Strong. In this PEIS, an additional contrast level (minimal) is used.
8

9 **Corona discharge:** Electrical discharge accompanied by ionization of surrounding atmosphere
10 around high-voltage transmission lines, occurring mostly under wet conditions.
11

12 **Corona/Corona noise:** The electrical breakdown of air into charged particles. The phenomenon
13 appears as a bluish-purple glow on the surface of and adjacent to a conductor when the voltage
14 gradient exceeds a certain critical value, thereby producing light, audible noise (described as
15 crackling or hissing), and ozone.
16

17 **Corridor:** A strip of land through which one or more existing or potential facilities may be
18 located.
19

20 **Corridor-transmission:** *See* Transmission corridor.
21

22 **Corridor-wildlife:** *See* Wildlife corridor.
23

24 **Council on Environmental Quality (CEQ):** Established by National Environmental Policy Act
25 (NEPA), CEQ regulations (40 CFR Parts 1500-1508) describe the process for implementing
26 NEPA, including preparation of environmental assessments and environmental impact
27 statements, and the timing and extent of public participation.
28

29 **Cover:** Vegetation, rocks, or other materials used by wildlife for protection from predators
30 or weather.
31

32 **Crater:** A steep-sided, usually circular depression formed by either explosion or collapse at a
33 volcanic vent.
34

35 **Creep (rate):** Relatively slow movement along a fault. It is sometimes called “seismic creep” to
36 distinguish it from the slumping of rock or soil on slopes (which is also known as creep). Creep
37 is only known to occur on strike-slip faults.
38

39 **Crescents:** Quarter-moon-shaped (hence crescent) artifacts that may have been in the form of
40 blades, scrapers, or projectile points.
41

42 **Criteria air pollutants:** Six common air pollutants for which National Ambient Air Quality
43 Standards (NAAQS) have been established by the U.S. Environmental Protection Agency under
44 Title I of the Clean Air Act (CAA). They are sulfur dioxide, nitrogen oxides, carbon monoxide,
45 ozone, particulate matter (PM 2.5 and PM10), and lead. Standards were developed for these
46 pollutants on the basis of scientific knowledge about their health effects.
47

1 **Critical habitat:** The specific area within the geographical area occupied by the species at the
2 time it is listed as endangered or threatened. The area in which physical or biological features
3 essential to the conservation of the species is found. These areas may require special
4 management or protection.
5

6 **Crucial winter range:** The portion of the winter range to which a wildlife species is confined
7 during periods of heaviest snow cover or that portion of the year-long range which is crucial to
8 survival because it is where big game find food and/or cover during the most inclement and
9 difficult winter weather.
10

11 **Crustaceans:** Aquatic animals with hard external skeletons and segmented limbs, belonging to
12 the class Crustacea; includes cladocerans, shrimp, crayfish, fairy shrimp, isopods, amphipods,
13 lobsters, and crabs.
14

15 **Crustal spreading center:** A linear zone in the Earth's crust whose opposite sides are moving
16 away from one another.
17

18 **Cryptogamic soil crusts:** A soil crust dominated by a community of algae, lichens, or mosses.
19 *See also* Biological soil crusts.
20

21 **Cryptobiotic:** *See* Biological soil crusts.
22

23 **CSP:** *See* Concentrating solar power.
24

25 **Cuesta:** An elongated ridge formed by gently tilting sedimentary strata. The landform has a
26 steep slope (escarpment or cliff) where the strata are exposed on their edges and a gentle slope
27 (dip slope) on the other side of the ridge.
28

29 **Cultural disturbance:** *See* Cultural modification.
30

31 **Cultural modification:** Any human-caused change in the land form, water form, vegetation, or
32 the addition of a structure which creates a visual contrast in the basic elements (e.g., form, line,
33 color, or texture) of the naturalistic character of a landscape.
34

35 **Cultural Resources:** Archaeological sites, structures, or features; traditional use areas; and
36 Native American sacred sites or special use areas that provide evidence of the prehistory and
37 history of a community.
38

39 **Cumulative impacts:** The impacts assessed in an environmental impact statement that could
40 potentially result from incremental impacts of the action when added to other past, present, and
41 reasonably foreseeable future actions, regardless of what agency (federal or nonfederal), private
42 industry, or individual undertakes such other actions. Cumulative impacts can result from
43 individually minor but collectively significant actions taking place over a period of time.
44

45 **Cut-and-Fill:** The process of earth grading by excavating part of a higher area and using the
46 excavated material for fill to raise the surface of an adjacent lower area.
47

1 **Cyanobacteria:** Blue-green algae, prokaryotic, photosynthetic organisms that generally have a
2 blue-green tint and lack chloroplasts.

3
4 **Day-night average noise level:** Twenty-four-hour average noise level, obtained after the
5 addition of a 10-dB penalty for environmental noise occurring from 10 p.m. to 7 a.m. to account
6 for the increased annoyance at night. This 10-dB penalty means that one nighttime noise event is
7 equivalent to 10 daytime noise events of the same level.

8
9 **Daytime mean rural background level:** Daytime (7 a.m. to 10 p.m.) average sound level in the
10 rural environment, from all sources other than a particular noise that is of interest.

11
12 **DC:** *See* Direct Current.

13
14 **Debris flow:** A mixture of water-saturated rock debris that flows downslope under the force of
15 gravity (also called lahar or mudflow).

16
17 **Debris flow fans:** Alluvial fans prone to debris flows; a mixture of water and debris, such as
18 mudslides, mudflows, or debris avalanches. Debris flow fans are created by the deposits of
19 repeated debris flows at the mouth of the canyon.

20
21 **Decibel (dB):** A standard unit for measuring the loudness or intensity of sound. In general, a
22 sound doubles in loudness with every increase of 10 decibels.

23
24 **Decibel, A-weighted (dBA):** A measurement of sound approximating the sensitivity of the
25 human ear and used to characterize the intensity or loudness of a sound.

26
27 **Deciduous:** Plants that shed their leaves annually. Not evergreen.

28
29 **Decommissioning:** All activities necessary to take out of service and dispose of a facility after
30 its useful life.

31
32 **Deep-cycle battery:** A battery with large plates that can withstand many discharges to a low
33 state of charge.

34
35 **Delta:** An alluvial deposit at the mouth of a river, usually triangular in shape. An area formed
36 from the deposition of sediments at the mouth of a river.

37
38 **Demand side management:** Specific actions taken by utility companies, their regulators, and
39 other entities to induce, influence, or compel consumers to reduce their energy consumption,
40 particularly during periods of peak demand.

41
42 **Demographic:** Related to the vital statistics of human populations (size, density, growth,
43 distribution, etc.) and the effect of these on social and economic conditions.

- 1 **Depletion:** Net loss of water through consumption, export, and other uses to a given area, river
2 system, or basin. The terms *consumptive use* and *depletion*, often used interchangeably, are not
3 the same.
4
- 5 **Deposit:** Earth material that has accumulated by some natural process. For example, a flowing
6 mixture of water and rock debris is called a debris flow, but when the flow ceases to move, a
7 layer of fine and coarse rock is left, which is called a debris-flow deposit.
8
- 9 **Desert:** Arid region receiving less than 10 inches of precipitation annually.
10
- 11 **Desert bench:** A relatively flat terrace elevated above the surface of a desert alluvial feature,
12 such as an ephemeral stream or wash.
13
- 14 **Desert dune:** A wind-created ridge or mound of sand that is found in deserts or near oceans
15 and lakes.
16
- 17 **Desert floor:** The land surface in a desert valley.
18
- 19 **Desert Focal Bird Species:** Bird species whose requirements define spatial attributes, habitat
20 characteristics, and management regimes representative of a healthy desert system.
21
- 22 **Desert pavement:** A surface layer of closely packed, loosely cemented pebbles. *See also*
23 *Pediment*.
24
- 25 **Desert riparian habitat:** Habitats characterized as dense groves of low shrublike trees, or tall
26 shrubs to woodlands of small to medium-sized trees. These habitats are found adjacent to
27 permanent surface water, such as streams and springs.
28
- 29 **Desert scrub:** The desert scrub community is characterized by plants adapted to seasonally
30 dry climate.
31
- 32 **Desert varnish:** The thin red to black coating found on exposed rock surfaces in arid regions.
33 Varnish is composed of clay minerals, oxides, and hydroxides of manganese and/or iron, as
34 well as other particles, such as sand grains and trace elements. The distinctive elements are
35 manganese (Mn) and iron (Fe).
36
- 37 **Desert wash:** A usually dry desert streambed that flows only after periods of heavy rain.
38
- 39 **Desiccation:** Dryness resulting from the removal of water. Vegetation lost through erosion
40 or desiccation.
41
- 42 **Design basis:** The set of conditions, dimensions, needs, and requirements used to design a solar
43 energy facility.
44

1 **Design features:** Measures or procedures incorporated into the proposed action or alternatives
2 which could avoid or reduce adverse impacts. Potential mitigation measures selected as required
3 are then considered to be design features.
4

5 **Designated Roads and Trails:** Specific roads and trails identified by the agencies where some
6 type of motorized vehicle use is appropriate and allowed, either seasonally or yearlong.
7

8 **Detritus:** Loose natural materials, such as rock fragments or organic particles, that result directly
9 from disintegration of rocks or organisms.
10

11 **Dewatering:** The removal or separation of a portion of the water in a sludge or slurry to dry
12 the sludge so that it can be handled and disposed of; removal or draining the water from a tank
13 or a trench.
14

15 **Diagnostic:** An item that is indicative of a particular time and/or cultural group.
16

17 **Differential compaction:** May occur over a large area when the compaction of soil or deeper
18 sediments occurs at different rates and degrees. Differential compaction may result in different
19 rates and degrees of land subsidence, causing damage to structures on the ground surface.
20

21 **Diorite:** A coarse-grained intrusive (or plutonic) igneous rock, less mafic than gabbro, but more
22 mafic than granite and granodiorite; the plutonic equivalent of andesite.
23

24 **Dip:** The angle that a planar geologic surface, for example, a fault, is inclined from the
25 horizontal.
26

27 **Direct Current (DC):** A steady current that flows in one direction only. The current from
28 batteries is an example of direct current.
29

30 **Direct effects:** Effects on the environment which occur at the same time and place as the initial
31 cause or action.
32

33 **Direct impact:** Impacts occurring at the place of origin and at the time of the proposed activity.
34 An effect that results solely from the construction or operation of a proposed action without
35 intermediate steps or processes. Examples include habitat destruction, soil disturbance, and water
36 use. *See also* Impact.
37

38 **Direct Normal Insolation (DNI):** Sunlight that directly strikes a surface. DNI does not include
39 refracted sunlight that strikes clouds, dust, or the ground first.
40

41 **Directional drilling:** The practice of drilling non-vertical wells. Also called slant drilling.
42

43 **Discharge:** The volume of water that passes a given location within a given period of time.
44 Usually expressed in cubic feet per second.
45

1 **Dish engine:** The dish engine is a concentrating solar power (CSP) technology that produces
2 electricity, typically in the range of 3 to 25 kilowatts, by using a parabolic array of mirrors to
3 reflect sunlight to heat a working gas (typically hydrogen) in a closed container, causing it to
4 expand and drive a reciprocating engine connected to an electric generator. The dish engine is
5 unique among CSP systems because it uses mechanical energy rather than steam to produce
6 electricity.

7
8 **Dish engine system:** *See* Dish engine.

9
10 **Dish engine technologies:** *See* Dish engine.

11
12 **Dispatchable power (dispatchability):** The ability of a power-producing facility to provide
13 required amounts of power (at or below the facility's nameplate rating) on demand of the grid
14 operator and consistent with the terms of the existing Power Purchase Agreement (PPA),
15 regardless of the time of day or weather conditions.

16
17 **Disposal:** The act of placing unwanted materials in an area with the intent of not recovering
18 them in the future.

19
20 **Distance zones:** A subdivision of the landscape as viewed from an observer position. The BLM
21 defined zones include foreground, middleground, background, and seldom seen.

22
23 **Distributed generation:** The installation of small-scale solar energy facilities at individual
24 locations that are at or near the point of consumption (e.g., use of solar PV panels on a business
25 or home to generate electricity for on-site consumption). Distributed generation systems typically
26 generate less than 10,000 kW. Other terms for distributed generation include on-site generation,
27 dispersed generation, and distributed energy.

28
29 **Disturbance (land):** *See* Land disturbance.

30
31 **Diversion:** Water diverted from supply sources such as streams, lakes, reservoirs, springs,
32 or wells for a variety of uses including cropland irrigation as well as residential, commercial,
33 institutional, and industrial purposes. The terms diversion and *withdrawal* are often used
34 interchangeably.

35
36 **DNI:** *See* Direct Normal Insolation.

37
38 **Dolomite:** A magnesium-rich carbonate sedimentary rock. Also, a magnesium-rich carbonate
39 mineral (CaMgCO₃).

40
41 **Dome, volcanic:** Rounded, steep-sided mounds built by very viscous magma, usually either
42 dacite or rhyolite. Such magmas are typically too viscous (resistant to flow) to move far from the
43 vent before cooling and crystallizing. Domes may consist of one or more individual lava flows.
44 Volcanic domes are also referred to as lava domes. *See also* Rhyolite.

45
46 **Domestic solid waste:** Solid wastes of the type routinely generated by households.

47

1 **Domestic water use:** Water used for household purposes such as drinking, food preparation,
2 bathing; washing clothes, dishes, and dogs; flushing toilets; and watering lawns and gardens.
3 About 85% of domestic water is delivered to homes by public-supply facilities, such as county
4 water departments. About 15% of the Nation's population supplies their own water, mainly
5 from wells.

6
7 **Down-dropped basin:** *See* Graben.

8
9 **Drawdown:** Lowering of a reservoir's water level; process of depleting reservoir or groundwater
10 storage.

11
12 **Drill:** An oblong tool made of flaked stone used in drilling holes in wood, leather or hides.
13 Oftentimes, drills were made from well-used projectile points which were near the end of life
14 and thus, many drills maintain the stem and hafting area of the original point type.

15
16 **Drop structure:** An in-stream structure of various materials designed to reduce the energy and
17 force of stream flow.

18
19 **Dry closed-loop cooling:** *See* Dry cooling system.

20
21 **Dry cooling:** *See* Dry cooling system.

22
23 **Dry cooling system:** Also known as dry closed-loop cooling; a technology for rejecting heat
24 from the steam condensate of a thermoelectric plant. Cooling water circulates in a closed loop
25 between a steam condenser where it accepts heat from steam condensate and a dry condenser
26 located in an outdoor location. Fans are used to establish a flow of ambient air across the surface
27 of the dry condenser, allowing the heated cooling water inside the dry condenser to transfer heat
28 to the ambient air before cycling back to the steam condenser.

29
30 **Dry lake:** An ephemeral lake of an arid or semiarid region, typically found at low elevation
31 points in desert valleys. They are topographically flat areas, support sparse vegetation, and
32 contain fine-grained, consolidated sediments that are deposited during precipitation runoff events
33 where the water temporally ponds and then infiltrates to groundwater aquifers or evaporates. The
34 surface sediments of dry lakes can often have high concentrations of dissolved minerals.

35
36 **Dry wash:** A natural drainage channel that is typically dry, but conveys water following
37 significant rainfall events and is subject to rapid flow during flash flooding.

38
39 **Dune:** Mounds of unconsolidated sand grains shaped by wind. Often temporary
40 and non-stationary.

41
42 **Dunnage:** Package waste. Loose packing material.

43
44 **Duripan:** A subsurface soil horizon cemented by silica (usually derived from a volcanic source
45 such as ash). Duripans occur in arid and semi-arid environments and make cultivation of the land
46 difficult.

47

1 **Early Archaic:** The period 7,500 to 5,000 years B.P.
2
3 **Earthern cattle tank:** A watering area or basin for cattle that is usually created in a natural
4 drainage area by obstructing natural water flows with berms of soil.
5
6 **Earthquake:** Ground shaking caused by the sudden release of energy stored in rock beneath the
7 Earth's surface.
8
9 **Ecological Resources:** Biota (fish, wildlife, and plants) and their habitats, which may be land,
10 air, or water.
11
12 **Ecological segmentation:** Development that fragments animal habitat and does not provide
13 corridors for movement.
14
15 **Ecoregion:** A geographically distinct area of land that is characterized by a distinctive climate,
16 ecological features, and plant and animal communities.
17
18 **Ecosystem:** A group of organisms and their physical environments, interacting as an
19 ecological unit.
20
21 **Ecotones:** The borders between two different types of ecosystems or communities (e.g., a forest
22 and a grassland) containing characteristic species of each.
23
24 **Edge habitat:** The transitional zone where one cover type ends and another begins.
25
26 **Edge-on:** A descriptor for the appearance of solar facility collector/reflector arrays when viewed
27 at very low vertical angles, such that the viewing angle is at or very close to horizontal.
28
29 **Effects:** Environmental consequences (the scientific and analytical basis for comparison of
30 alternatives) as a result of a proposed action. Effects may be either direct, which are caused by
31 the action and occur at the same time and place, or indirect, which are caused by the action and
32 are later in time or farther removed in distance, but are still reasonably foreseeable, or
33 cumulative.
34
35 **Efficiency:** Ratio of "power out" divided by "power in." The definitions of power out and power
36 in are specific to a given technology and depend on whether the efficiency value describes a total
37 system efficiency or an individual component's efficiency.
38
39 **Effigy:** An object bearing the likeness of an animal or human.
40
41 **Effluent:** Wastewater discharges.
42
43 **Electric and Magnetic Fields (EMFs):** Electric and magnetic fields are generated when charged
44 particles (e.g., electrons) are accelerated. Charged particles in motion produce magnetic fields.
45 Electric and magnetic fields are typically generated by alternating current in electrical
46 conductors. Also referred to as electromagnetic fields.
47

1 **Electrolytes (battery):** A nonmetallic (liquid or solid) conductor that carries current by the
2 movement of ions (instead of electrons) with the liberation of matter at the electrodes of an
3 electrochemical cell.
4

5 **Electron:** A subatomic particle with a negative electric charge. Electrons form part of an atom
6 and move around its nucleus.
7

8 **Eligible properties:** *See* Historic properties.
9

10 **Embryotoxicity:** Adverse effects on the embryo due to a substance that enters the maternal
11 system and crosses the placental barrier. The effects of the substance may be expressed as
12 embryonic death or an abnormal development of one or more body systems, and can be
13 deleterious to maternal health.
14

15 **Emergent:** Aquatic plants having some or most of the leaf area extending out of the water.
16

17 **Emergent wetlands:** The Emergent wetland class is characterized by erect, rooted, herbaceous
18 hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing
19 season, in most years. These wetlands are usually dominated by perennial plants.
20

21 **Emission factor:** The relationship between the amount of pollution produced and the amount of
22 raw material processed.
23

24 **Emissions:** Substances that are discharged into the air from industrial processes, vehicles, and
25 living organisms. A release into the outdoor atmosphere of air contaminants.
26

27 **Endangered Species:** Any species (plant or animal) that is in danger of extinction throughout all
28 or a significant part of its range. Requirements for declaring a species endangered are found in
29 the Endangered Species Act of 1973 (ESA). *See also* Special Status Species.
30

31 **Endangered Species Act of 1973 (ESA):** Requires consultation with the U.S. Fish and Wildlife
32 Service and/or the National Marine Fisheries Service to determine whether endangered or
33 threatened species or their habitats will be impacted by a proposed activity and what, if any,
34 mitigation measures are needed to address the impacts.
35

36 **Endemic:** Native to and restricted to a particular geographic region.
37

38 **Entrainment:** The incorporation of fish, eggs, larvae, and other plankton with intake water flow
39 entering and passing through a cooling water intake structure and into a cooling water system.
40

41 **Entry:** An application to acquire title to public lands.
42
43

1 **Environmental Assessment (EA):** A concise public document that a federal agency prepares
2 under the National Environmental Policy Act to provide sufficient evidence and analysis to
3 determine whether a proposed action requires preparation of an Environmental Impact Statement
4 (EIS) or whether a Finding of No Significant Impact can be issued. An EA must include brief
5 discussions on the need for the proposal, the alternatives, the environmental impacts of the
6 proposed action and alternatives, and a list of agencies and persons consulted.

7
8 **Environmental Impact Statement (EIS):** A document required of federal agencies by the
9 National Environmental Policy Act for major proposals or legislation that will or could
10 significantly affect the environment.

11
12 **Environmental Justice:** The fair treatment of people of all races, cultures, incomes, and
13 educational levels with respect to the development, implementation, and enforcement of
14 environmental laws, regulations, and policies.

15
16 **Environmental media:** Soil, water, air, biota, or any other parts of the environment that can
17 contain contaminants.

18
19 **Eolian:** Refers to the processes of wind erosion, transport, and deposition. For example, sand
20 dunes are landforms produced by eolian processes in arid environments.

21
22 **EPA:** *See* U.S. Environmental Protection Agency.

23
24 **Ephemeral allotment:** A BLM grazing allotment in areas of the Hot Desert Biome (Region) that
25 do not consistently produce enough forage to sustain a livestock operation, but from time to time
26 produce sufficient forage to accommodate livestock grazing.

27
28 **Ephemeral stream:** A stream that flows only after a storm or during snowmelt, and whose
29 channel is, at all times, above the water table; groundwater is not a source of water for the
30 stream. Many desert streams are ephemeral.

31
32 **Erosion:** The wearing away of land surface by wind or water, intensified by land-clearing
33 practices related to farming, residential or industrial development, road building, or logging.

34
35 **Eruption:** The process by which solid, liquid, and gaseous materials are ejected into the Earth's
36 atmosphere and onto the Earth's surface by volcanic activity. Eruptions range from the quiet
37 overflow of liquid rock to the tremendously violent expulsion of pyroclastics.

38
39 **ESA:** *See* Endangered Species Act of 1973.

40
41 **Escarpment:** A cliff or the steep slopes of a plateau edge.

42
43 **Ethnobotany (ethnobotanical):** The plant lore and agricultural customs of a people; the study
44 of such lore and customs.

1 **Eutectic:** Of, relating to, or formed at the lowest possible temperature of solidification for any
2 mixture of specified constituents.
3

4 **Evaporation ponds:** Shallow man-made ponds designed to contain liquid effluents and
5 concentrate the residual waste through evaporation.
6

7 **Evaporation ponds:** Artificial ponds designed to efficiently evaporate water by sunlight and
8 exposure to ambient temperatures.
9

10 **Evaporation rate:** In hydrologic terms, the quantity of water, expressed in terms of depth of
11 liquid water, which is evaporated from a given surface per unit of time. It is usually expressed
12 in inches depth, per day, month, or year. *See also* Pan evaporation.
13

14 **Evapotranspiration:** Plants absorb water through their roots and emit it through their leaves.
15 This movement of water is called “transpiration.” Evaporation, the conversion of water from a
16 liquid to a gas, also occurs from the soil around vegetation and from trees and vegetation as they
17 intercept rainfall on leaves and other surfaces. Together, these processes are referred to as
18 *evapotranspiration*, which lowers temperatures by using heat from the air to evaporate water.
19

20 **Exceedance:** A measured level of an air pollutant that is higher than the national or state ambient
21 air quality standards. *See also* NAAQS and CAAQS.
22

23 **Excessive grades:** Ground surface inclines relative to the horizon beyond which the ground may
24 become unstable. The excessiveness of a slope is determined by its instability, which is
25 influenced by the type of material on the slope.
26

27 **Excessive slopes:** *See* Excessive grades.
28

29 **Executive Order:** A president’s or governor’s declaration which has the force of law, usually
30 based on existing statutory powers, and requiring no action by the Congress or state legislature.
31

32 **Extensional (structural features or faults):** Refers to tectonic forces that extend or stretch the
33 Earth’s crust.
34

35 **Exposure:** Contact of an organism with a chemical, radiological, or physical agent.
36

37 **Extirpation:** The elimination of a species or subspecies from a particular area, but not from its
38 entire range.
39

40 **Extremely Low Frequency (ELF):** Refers to a band of frequencies from 30 to 300 Hz.
41

42 **Facultative wetland vegetation species:** A species that can occur both in wetlands and uplands.
43

44 **Fall-line:** Direction that water flows down a hill.
45

46 **Fan:** *See* Alluvial fan.
47

- 1 **Fan apron:** A sloping alluvial fan surface made of sediment deposited by streams at the mouth
2 of a canyon between a mountain and the adjacent alluvial valley floor. *See also* Alluvial fan.
3
- 4 **Fan piedmonts:** A sloping alluvial fan surface made of sediment deposited by streams at the
5 mouth of a canyon between a mountain and the adjacent alluvial valley floor.
6
- 7 **Fan remnants:** An erosional remnant (or fossil) of a once active and more extensive alluvial fan.
8
- 9 **Fan terrace:** *See* Alluvial fan terrace.
10
- 11 **Fast-track:** Projects on public land for which the environmental review and public participation
12 process is underway and the application could be approved by December 2010.
13
- 14 **Fault:** A fracture along which blocks of the Earth’s crust on either side have moved relative to
15 one another. *See also* strike-slip fault; potentially active fault; zoned fault.
16
- 17 **Fault block:** A rock mass that is bounded by normal faults. Fault blocks on either side of the
18 fault are elevated or depressed, relative to each other.
19
- 20 **Fault plane:** The plane that best approximates the fracture surface of a fault.
21
- 22 **Fault, left-lateral:** A strike-slip fault on which displacement of the block opposite the observer
23 is to the left. *See also* Strike-slip fault.
24
- 25 **Fault, normal:** A fault occurring usually as a result of extensional forces, such as when a
26 hanging wall drops down relative to the footwall forming a graben or half graben.
27
- 28 **Fault, Potentially Active:** Generally denotes that a fault has shown evidence of surface
29 displacement during Quaternary time.
30
- 31 **Fault, right-lateral:** A strike-slip fault on which displacement of the block opposite the observer
32 is to the right. *See also* Strike-slip fault.
33
- 34 **Fault trace:** The expression of a fault on the ground surface.
35
- 36 **Fault, transform:** A strike-slip fault forming the boundary between tectonic plates (e.g., the
37 San Andreas Fault system is a transform fault zone that marks the boundary between the Pacific
38 and North American Plates). *See also* Strike-slip fault.
39
- 40 **Fault, zoned:** Under the Alquist-Priolo Act, zoned faults include those that are “sufficiently
41 active,” showing evidence of surface displacement within the past 11,000 years along one or
42 more of its segments or branches, and “well-defined,” having a clearly detectable trace at or just
43 below the ground surface.
44
- 45 **Fauna:** The community of animals in a specific region or habitat.
46

1 **Feature:** A large, complex artifact, or part of a site, such as a hearth, cairn, housepit, rock
2 alignment, or activity area.
3

4 **Federal land:** Land owned by the United States, without reference to how the land was acquired
5 or which Federal agency administers the land, including mineral and coal estates underlying
6 private surface.
7

8 **Federal Land Policy and Management Act of 1976 (FLPMA):** Act requiring the Secretary of
9 the Interior to issue regulations to manage public lands and the property located on those lands
10 for the long term.
11

12 **Federal Register:** The official daily publication for rules, proposed rules, and notices of Federal
13 agencies and organizations, as well as executive orders and other presidential documents.
14

15 **Fill:** Man-made deposits of soil and rock and/or waste material.
16

17 **Fire emissions:** Emissions caused by wildfires, prescribed fires, agricultural fires, and structural
18 fires.
19

20 **Fire-cracked rock:** Burned rocks, typically fractured during intense heating in a fire hearth or
21 remnants of rocks associated with cooking. Fairly common at prehistoric archaeological sites.
22

23 **Fire-tolerant species:** Species of plants that can withstand certain frequency and intensity
24 of fire.
25

26 **First in time, first in right:** *See* Prior Appropriation Doctrine.
27

28 **Fissure, Earth or ground:** Surface fractures resulting from subsidence, often due to the
29 withdrawal of groundwater and compaction of an aquifer.
30

31 **Flake:** A thin, flattened piece or chip of stone, intentionally removed from the core rock by
32 chipping with either a stone or bone hammer.
33

34 **Flash flood:** A sudden flood event through a valley, canyon, or wash, following a short duration,
35 high-intensity rainfall.
36

37 **Flat-plate PV:** A type of photovoltaic solar energy technology that uses a flat plate onto which
38 are installed solar cells. Sunlight strikes the solar cells directly without being reflected or
39 concentrated. Flat plate systems can be either fixed (stationary) or designed to track the sun's
40 movement over the course of the day.
41

42 **Flat-plate reflector (heliostat):** One of many components of a CSP Power Tower facility
43 consisting of a large nearly-flat mirror, mounted on a support structure that tracks the sun's
44 movement and reflects sunlight onto a receiver located at the top of a centrally located tower.
45 CSP Power Tower systems typically consist of hundreds of heliostats arrayed around the central
46 tower.
47

1 **Flats:** Level or nearly level areas of land marked by little or no relief.
2

3 **Flats wetland:** A level landform composed of unconsolidated sediments, usually mud or sand.
4 Flats are unvegetated or support sparse plant communities, often composed of annual species.
5

6 **Flood irrigation:** Water is pumped or brought to the fields and is allowed to flow along the
7 ground among the crops.
8

9 **Floodplain:** A generally flat, low-lying area adjacent to a water body that is subjected to
10 inundation during high flow or rainfall events. The relative elevation of floodplain areas
11 determines their frequency of flooding, which ranges from rare, severe, storm events to flows
12 experienced several times a year.
13

14 **Flora:** Plants, especially those of a specific region, considered as a group.
15

16 **FLPMA:** Federal Land Policy and Management Act of 1976.
17

18 **Fluvial:** Pertaining to a river. Fluvial sediments are deposited by rivers.
19

20 **Flyway:** A seasonal route followed by birds migrating to and from their breeding areas.
21

22 **Footprint:** The land or water area covered by a project. This includes direct physical coverage
23 (i.e., the area on which the project physically stands) and direct effects (i.e., the disturbances that
24 may directly emanate from the project, such as noise).
25

26 **Forage:** Forms of vegetation available for animal consumption. Food for animals, especially
27 when taken by browsing or grazing. Vegetation used for food by wildlife, particularly big-game
28 wildlife and domestic livestock.
29

30 **Forbs:** Herbaceous (non-woody), broad-leaved flowering plants; non-graminoid (grasses,
31 sedges, and rushes) herbaceous plants. *See also* Graminoid herbaceous.
32

33 **Form:** The mass or shape of an object or objects that appears unified, such as a vegetative
34 opening in a forest, a cliff formation, or a water tank.
35

36 **Fossil:** Remains of ancient life forms, their imprints or behavioral traces (e.g., tracks, burrows, or
37 residues) and the rocks in which they are preserved.
38

39 **Fossil fuels:** Natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived
40 from such materials for the purpose of creating useful heat.
41

42 **Fragmentation:** Process by which habitats are increasingly subdivided into smaller units,
43 resulting in their increased insularity as well as losses of total habitat area.
44

45 **Fragmentation of habitat:** The breaking up of a single habitat area into two or more smaller
46 habitat patches that are separated from each other.
47

1 **Fresnel: Compact Linear Fresnel Reflector (CLFR):** *See* Compact Linear Fresnel Reflector
2 (CLFR).

3
4 **Fresnel lens:** As used in a solar energy facility, an optical device that focuses sunlight. The
5 mirrors are arranged in concentric rings and are faced at slightly different angles so that light
6 falling on any mirror is focused on the same point, resulting in a substantial concentration of the
7 sunlight.

8
9 **Friable:** Said of a rock or mineral that crumbles naturally or is easily broken, pulverized, or
10 reduced to powder, such as a soft and poorly cemented sandstone.

11
12 **Fugitive dust:** The dust released from any source other than a definable point source such as
13 stack, chimney, or vent. Sources include construction activities, storage piles, roadways, etc.

14
15 **Fujita scale:** The official classification system for tornado damage. The scale ranges from F0
16 (gale tornado, minor damage, winds up to 72 mph) to F5 (devastating tornado, winds 261 to
17 318 mph). In the United States and in some other countries, on February 1, 2007, the Fujita scale
18 was decommissioned in favor of what scientists believe is a more accurate Enhanced Fujita
19 Scale, which replaces it.

20
21 **Full-time equivalent (FTE):** Equivalent to a full-time worker/employee. For example,
22 two people, each working half time, constitute one FTE.

23
24 **Furbearer:** An animal that is hunted or farmed for its fur.

25
26 **Gallium (Ga):** A chemical element, metallic in nature, used in making certain kinds of solar
27 cells and semiconductor devices.

28
29 **Gap:** In a visual impact analysis context, a break or interruption (as in a row of mountains) or
30 similar topographic void through which the landscape may be viewed.

31
32 **GDAs:** *See* Renewable Resource Generation Development Areas.

33
34 **Generalist (species):** An organism that can survive under a wide variety of conditions, and does
35 not specialize to live under any particular set of circumstances.

36
37 **Geoglyphs:** Ground markings of a figure or shape produced by the clearing or alignment of
38 stones.

39
40 **Geographic air basins:** A land area with generally similar meteorological and geographic
41 conditions throughout. To the extent possible, air basin boundaries are defined along political
42 boundary lines and include both the source and receptor areas.

1 **Geographic Information System (GIS):** A computer system for performing geographical
2 analysis. GIS has four interactive components: an input subsystem for converting into digital
3 form (digitizing) maps and other spatial data; a storage and retrieval subsystem; an analysis
4 subsystem; and an output subsystem for producing maps, tables, and answers to geographic
5 queries.
6

7 **Geology:** The science that deals with the study of the materials, processes, environments, and
8 history of the Earth, including the rocks and their formation and structure.
9

10 **Geometric spreading:** As the sound moves away from the source, the area that the sound energy
11 covers becomes larger and thus sound intensity decreases. This is referred to as “geometric
12 spreading,” which is independent of frequency and plays a major role in sound propagation
13 situations. Due to geometric spreading, the sound level is reduced by 6 dB and 3 dB for each
14 doubling of distance from the point (e.g., fixed equipment) and line (e.g., road traffic) sources,
15 respectively.
16

17 **Geotechnical:** Refers to the use of scientific methods and engineering principles to acquire,
18 interpret, and apply knowledge of earth materials for solving engineering problems.
19

20 **Geotextile mats:** Permeable fabrics that interact with soils in manners used to reinforce soil
21 surfaces for erosion, as well as act as filters for water, solutes, and fine sediments.
22

23 **Geothermal energy:** Natural heat from within the Earth, captured for production of electric
24 power.
25

26 **Geothermal generating plant:** A plant in which the prime mover is a steam turbine. The turbine
27 is driven either by steam produced from hot water or by natural steam that derives its energy
28 from heat found in rocks or fluids at various depths beneath the surface of the Earth.
29

30 **Geothermal resources:** Typically underground reservoirs of hot water or steam created by heat
31 from the Earth, but also include subsurface areas of dry hot rock.
32

33 **GHGs:** *See* Greenhouse gases.
34

35 **GIS:** *See* Geographic Information System.
36

37 **Glacial till:** An unsorted, unstratified mixture of fine and coarse rock debris deposited by a
38 glacier.
39

40 **Glare:** The sensation produced by luminances within the visual field that are sufficiently greater
41 than the luminance to which the eyes are adapted, which causes annoyance, discomfort, or loss in
42 visual performance and visibility. *See also* Glint
43

44 **Glint:** A momentary flash of light resulting from a spatially localized reflection of sunlight. *See*
45 *also* Glare.
46

1 **Global warming:** An increase in the near-surface temperature of the Earth. Global warming has
2 occurred in the distant past as the result of natural influences, but the term is today most often
3 used to refer to the warming that many scientists predict will occur as a result of increased
4 anthropogenic emissions of greenhouse gases.
5

6 **Graben (fault-bounded basins):** An elongated crustal block that is relatively depressed (down
7 dropped) between two parallel normal faults or horsts. *See also* Half-graben.
8

9 **Graminoid herbaceous:** A grass or plant of similar growth form, such as sedges, rushes, and
10 others.
11

12 **Grandfathered rights:** In Arizona, grandfathered water rights are based on historic use of
13 groundwater for five years prior to the designation of an Active Management Area. Most
14 grandfathered rights are appurtenant to the land, but some are not and may be purchased or
15 leased from the owner.
16

17 **Granite:** A coarse-grained felsic intrusive (or plutonic) igneous rock with at least 65% silica.
18 Quartz, plagioclase feldspar, and potassium feldspar make up most of the rock and give it a fairly
19 light color; the plutonic equivalent of rhyolite.
20

21 **Granodiorites:** A plutonic igneous rock, formed by an intrusion of silica-rich magma, which
22 cools in batholiths or stocks below the Earth's surface. It is usually only exposed at the surface
23 after uplift and erosion have occurred. The volcanic equivalent of granodiorite is dacite.
24

25 **Grasslands:** Grasslands are characterized as lands dominated by grasses rather than large shrubs
26 or trees.
27

28 **Graver:** A small tool with a sharp tip that was used to engrave bone, stone, wood, or other
29 materials.
30

31 **Grazing:** Consumption of native forage from rangelands or pastures by livestock or wildlife.
32

33 **Grazing allotment:** An area where one or more livestock operators graze their livestock. An
34 allotment generally consists of federal land but may include parcels of private or state-owned
35 land.
36

37 **Grazing lease:** An authorization that permits the grazing of livestock on public lands outside the
38 grazing districts during a specified period of time (Section 15 of the Taylor Grazing Act).
39

40 **Great Basin:** An area covering most of Nevada and much of western Utah, as well as portions of
41 southern Oregon and southeastern California, consisting primarily of arid, high elevation, desert
42 valleys, sinks (playas), dry lake beds, and salt flats. The Great Basin is characterized by the fact
43 that all surface waters drain *inward* to terminal lakes or sinks. The Great Basin cultural area
44 extends beyond the physiographic Great Basin to include traditional areas of tribes who speak
45 languages related to those spoken in the Great Basin and who traditionally pursued a similar
46 lifestyle. These include the Utes of the Colorado Plateau in eastern Utah and western Colorado.
47

1 **Greenhouse gases (GHGs):** Heat-trapping gases that cause global warming. Natural and
2 human-made greenhouse gases include water vapor, carbon dioxide, methane, nitrogen oxides,
3 ozone, and chlorofluorocarbons.
4

5 **Grid:** A term used to describe an electrical utility distribution network.
6

7 **Ground:** An edge or surface that was smoothed by abrasion.
8

9 **Ground failure:** Permanent ground displacement capable of damaging structures that may occur
10 as a result of differential settlement, liquefaction, lateral spreading, or landslides.
11

12 **Ground fault mats:** Mats made of insulating materials that do not conduct electricity.
13

14 **Ground motion (shaking):** The movement of the Earth's surface from earthquakes. Ground
15 motion is produced by seismic waves that are generated by a sudden slip on a fault and travel
16 through the Earth and along its surface.
17

18 **Groundwater:** The supply of water found beneath the Earth's surface, usually in porous rock
19 formations (aquifers), which may supply wells and springs. Generally, it refers to all water
20 contained in the ground.
21

22 **Groundwater basin:** (1) A general term used to define a groundwater flow system that has
23 defined boundaries and may include permeable materials that are capable of storing or furnishing
24 a significant water supply. The basin includes both the surface area and the permeable materials
25 beneath it. (2) The underground area from which groundwater drains. The basins could be
26 separated by geologic or hydrologic boundaries.
27

28 **Groundwater overdraft:** The condition in which water extractions from an aquifer exceed
29 recharge processes in such excess as to cause substantial and sustained decreases in groundwater
30 flows and groundwater elevations.
31

32 **Groundwater recharge:** Inflow of water to a ground-water reservoir from the surface.
33 Infiltration of precipitation and its movement to the water table is one form of natural recharge.
34 Also, the volume of water added by this process.
35

36 **Grubbing:** *See* Clearing and grubbing.
37

38 **Gypsum:** A soft mineral composed of hydrated calcium sulfate ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$); occurs as an
39 evaporite residue from ancient lakes in arid basins (e.g., Tularosa Basin in New Mexico).
40

41 **Gypsum badlands:** Badlands dominated by soils derived from the mineral gypsum (hydrated
42 calcium sulfate).
43

44 **Habitat:** The place, including physical and biotic conditions, where a plant or animal lives.
45 *See also* Aquatic habitat.
46

1 **Habitat alteration:** A change in the particular environment or place where an organism or
2 species lives. Usually implies changes made to the environment that adversely affect the function
3 of the ecosystem, although not completely or permanently.
4

5 **Habitat degradation:** Decline in habitat quality that accompanies non-natural forms of
6 disturbance.
7

8 **Habitat generalist (species):** *See* Generalist.
9

10 **Habitat type:** An aggregation of all land areas potentially capable of producing similar plant
11 communities at climax.
12

13 **Half-graben:** A geological term that describes a sedimentary basin where one side is bounded
14 by a normal (extensional) fault.
15

16 **Harassment:** The intentional or unintentional disturbance of individual animals causing them to
17 flee a site or avoid use of an area.
18

19 **Hardpan:** A dense, often impermeable soil horizon cemented with silica, iron oxides, calcium
20 carbonate, or organic matter.
21

22 **Hazardous Air Pollutants (HAPs):** Substances that have adverse impacts on human health
23 when present in ambient air.
24

25 **Hazardous material:** Any material that poses a threat to human health and/or the environment.
26 Hazardous materials are typically toxic, corrosive, ignitable, explosive, or chemically reactive.
27

28 **Hazardous waste:** By-products of society that can pose a substantial or potential hazard
29 to human health or the environment when improperly managed. Possesses at least one of
30 four characteristics (ignitability, corrosivity, reactivity, or toxicity) or appears on special
31 U.S. Environmental Protection Agency lists.
32

33 **Headwater:** (1) The source and upper reaches of a stream; also the upper reaches of a reservoir;
34 (2) the water upstream from a structure or point on a stream; (3) the small streams that come
35 together to form a river. Also may be thought of as any and all parts of a river basin other than
36 the mainstream river and main tributaries.
37

38 **Heat exchanger:** Any device that transfers heat from one fluid (liquid or gas) to another or to
39 the environment.
40

41 **Heat Transfer Fluid (HTF):** Fluids that transfer heat generated at the solar collectors to a heat
42 exchanger where steam is produced to run a steam generator.
43

44 **Heavy metals:** Metallic elements with high atomic weights (e.g., mercury, chromium, cadmium,
45 arsenic, and lead); can damage living things at low concentrations and tend to accumulate in the
46 food chain.
47

1 **Hedonic – (modeling approach):** The hedonic method is a regression technique used to
2 estimate the prices of qualities or models that are not available on the market in particular
3 periods, but whose prices in those periods are needed in order to be able to construct price
4 relatives.
5

6 **Hedonic statistical framework:** A method of assessing the impact of various structural (number
7 of bedrooms, bathrooms, square footage, age, etc.) and locational attributes (local amenities,
8 fiscal conditions, distance to workplace, etc.) on residential housing prices.
9

10 **Heliostat:** One of many components of a CSP Power Tower facility; a large, nearly flat mirror,
11 usually on a tracker, pedestal, or other support structure, that allows it to continuously reflect the
12 sun’s rays onto a central receiver at the top of a centrally positioned tower over the course of the
13 day. *See also* Flat-plate reflector.
14

15 **Herbaceous:** The plant strata that contain soft, not woody, stemmed plants that die to the ground
16 in winter.
17

18 **Herbicide:** Chemicals used to kill undesirable vegetation.
19

20 **Herd Area (HA):** Following passage of the Wild Free-Roaming Horses and Burros Act
21 (WFRHBA) in 1971, the Bureau of Land Management was directed to identify areas where wild
22 horses and burros were located. These areas were designated as *Herd Areas* (areas where horses
23 and burros were in 1971). Herd areas are not managed for wild horses and burros.
24

25 **Herd Management Area (HMA):** An area that has been designated for management of wild
26 horses and/or burros.
27

28 **Herpetofauna:** Amphibian and reptile species including frogs, toads, salamanders, turtles,
29 lizards, and snakes.
30

31 **Hertz (Hz):** The unit of measurement of frequency, equivalent to one cycle per second.
32

33 **High liquefaction potential:** Refers to the susceptibility of soils to liquefy when subjected
34 to sudden loading, such as intense ground shaking from an earthquake. Liquefaction hazards
35 are associated with saturated, sandy, and silty soils with low plasticity, such as those in the
36 San Francisco Bay Area and along various inland water bodies in earthquake-prone areas.
37 *See also* Liquefaction.
38

39 **Highly discordant land use:** Refers to development that is at variance with the existing
40 condition of the land. It might also be described as incongruous.
41

42 **Historic:** The time period after the appearance of written records. In the New World, this
43 generally refers to the time period after the beginning of European settlement at approximately
44 1600 A.D.
45

1 **Historic properties:** Any prehistoric or historic districts, sites, buildings, structures, or objects
2 included in, or eligible for inclusion in, the National Register of Historic Places maintained by
3 the Secretary of the Interior. They include artifacts, records, and remains that are related to and
4 located within such properties.
5

6 **Historic resources:** Material remains and the landscape alterations that have occurred since the
7 arrival of Euro-Americans.
8

9 **Historic trails:** A general term used to define a groundwater flow system that has defined
10 boundaries and may include permeable materials that are capable National Historic Trails.
11

12 **Hogbacks:** An eroded steep ridge of resistant rocks produced by erosion of the broken edges of
13 highly tilted strata.
14

15 **Holocene:** The past 10,000 years of geologic time. The most recent epoch of the Quaternary
16 period. Together the Holocene and Pleistocene make up the Quaternary Period.
17

18 **Horizontal angle of view:** The angle of landscape viewed in sharp focus, measured along the
19 horizon, without turning the head. *See also* Vertical angle of view; Angle of view.
20

21 **Horizontal field of view:** *See* Horizontal angle of view.
22

23 **Horizon line:** The apparent line in the landscape formed by the meeting of the visible land
24 surface and the sky.
25

26 **Horst:** An elongated crustal block that is relatively raised between two parallel normal faults or
27 grabens. *See also* Half-graben.
28

29 **Hunter gatherers:** A term applied to people whose diet is based on hunting, fishing, and
30 gathering, as opposed to domesticating animals or plants.
31

32 **Hunting:** Includes big- and small-game hunting, waterfowl hunting, and trapping.
33

34 **Hybrid (wet-dry cooling) systems:** A variation on a dry cooling system. In this hybrid system,
35 small amounts of water are sprayed as a fine mist into the flow of ambient air being directed over
36 the surface of a dry condenser. The water evaporates, cooling the air as it does so. Alternatively,
37 water is deluged over the surface of the dry condenser where it evaporates after interacting with
38 the overflowing ambient air stream, cooling that air. Wet/dry hybrid systems consume only
39 minor amounts of water (compared to wet closed-loop cooling) but offer significantly better
40 performance than dry cooling systems, especially in hot climates with low relative humidity.
41

42 **Hydraulic gradient:** In an aquifer, the rate of change of total head per unit of distance of flow at
43 a given point and in a given direction. In a stream, the slope of the hydraulic grade line.
44

1 **Hydro-compactable, collapsible soil (settlement):** Low-density soils that undergo appreciable
2 loss of volume when wetted or subjected to increased load (or both). Settlement of these types of
3 soils can be rapid and have devastating effects on structures and facilities.
4

5 **Hydrofluorocarbons (HFCs):** Man-made chemicals, many of which have been developed as
6 alternatives to ozone-depleting substances (ODS) for industrial, commercial, and consumer
7 products.
8

9 **Hydrology:** The study of water that covers the occurrence, properties, distribution, circulation,
10 and transport of water, including groundwater, surface water, and rainfall.
11

12 **Hydrostratigraphic:** Grouping of rock and sedimentary units based on the capacity of the rock,
13 sediment, or soil to transmit water.
14

15 **H_z:** A general term used to define a groundwater flow system that has defined boundaries and
16 may include permeable materials that are capable Hertz.
17

18 **Igneous rock:** A crystalline rock formed by the cooling and solidification of molten or partly
19 molten material (magma). Igneous rock includes volcanic rock (rock solidified above the Earth's
20 surface) and plutonic rock (rock solidified at considerable depth).
21

22 **Impact:** The effect, influence, alteration, or imprint caused by an action.
23

24 **Impermeable:** Refers to a rock matrix that water cannot infiltrate.
25

26 **Impingement:** The entrapment of aquatic organisms on the outer part of an intake structure or
27 against a screening device during periods of intake water withdrawal.
28

29 **IMPLAN:** Input-output economic model based on economic accounts showing the flow of
30 commodities to industries from producers and institutional consumers. The accounts also show
31 consumption activities by workers, owners of capital, and imports from outside the region.
32

33 **Impoundment (surface):** A body of water or sludge confined by a dam, dike, floodgate, or other
34 barrier.
35

36 **Impulsive noise:** Noise from impacts or explosions (e.g., from a pile driver, forging hammer,
37 punch press, or gunshot), which is brief and abrupt, and its startling effects cause great
38 annoyance.
39

40 **In attainment:** In compliance with air-quality standards. Areas that are in attainment have air
41 quality that is as good as or better than specified in the National Ambient Air Quality Standards
42 for a given pollutant. An area may be in attainment for one pollutant and nonattaining for others.
43
44

1 **Incidental take permit:** A permit issued under Section 10 of the Federal Endangered Species
2 Act to private parties undertaking otherwise lawful projects that might result in the take of an
3 endangered or threatened species. Application for an incidental take permit is subject to certain
4 requirements, including preparation by the permit applicant of a conservation plan, generally
5 known as a Habitat Conservation Plan or HCP.
6

7 **Indian trust assets:** Lands, natural resources, or other assets held in trust or restricted against
8 alienation by the United States for Native American Tribes or individual Native Americans.
9

10 **Indian trust resources:** Those natural resources, either on or off Indian lands, retained by or
11 reserved by or for Indian Tribes through treaties, statutes, judicial decisions, and E.O.s, which
12 are protected by a fiduciary obligation on the part of the United States.
13

14 **Indirect effects:** Secondary effects which occur in locations other than the initial action or
15 significantly later in time.
16

17 **Indirect impact:** Impacts that occur away from the place of origin (see Chapter 8 of the text).
18 An effect that is related to, but removed from, a proposed action by an intermediate step or
19 process. An example would be changes in surface-water quality resulting from soil erosion at
20 construction sites.
21

22 **Induration:** The hardening of a rock, usually sedimentary, by drying, pressure, or cementation.
23

24 **Industrial waste:** Materials discarded from industrial operations or derived from manufacturing
25 processes.
26

27 **Infiltration:** The movement of water (usually precipitation) from the ground surface into the
28 subsurface.
29

30 **Infiltration pond:** A shallow impoundment designed to infiltrate stormwater into the soil. Also
31 referred to as an infiltration basin.
32

33 **Inflow:** Water that flows into a surface water or groundwater body. The amount of water
34 entering a reservoir expressed as a volume per time.
35

36 **In-migration:** People moving into an area.
37

38 **In-situ:** In its natural position or place; unmoved, unexcavated, remaining at the site or
39 subsurface.
40

41 **Inset fans:** An alluvial fan that occurs on top of an older alluvial fan.
42

43 **Insolation:** The solar power density incident on a surface of stated area and orientation, usually
44 expressed as watts per square meter or btu per square foot per hour.
45

- 1 **Intaglios:** An impression, design, or figure created on the ground by man through the placement
2 of rocks or mounding of earth.
3
- 4 **Interbasin flow:** Surface water or groundwater flow between two hydrologic basins.
5
- 6 **Interbasin transfers:** The transfer of water to another water management basin.
7
- 8 **Interbasin transfer of water:** A transfer of water rights and/or a diversion of water (either
9 groundwater or surface water) from one drainage or hydrographic basin to another.
10
- 11 **Interdune flats:** The area between dunes, generally flat and often erosion-resistant.
12
- 13 **Intermittent streams:** A stream that flows for a portion of the year but occasionally is dry or
14 reduced to a pool stage when losses from evaporation or seepage exceed the available
15 streamflow.
16
- 17 **Intermontane basin:** An alluvium-filled valley between mountain ranges, often formed over
18 a graben.
19
- 20 **Interpretive site:** Information communicated via plaques, markers, and other methods, about
21 the natural and/or cultural resources, their history and values, that are found at a specific site
22 or along a trail. Tours, signs, brochures, informational kiosks, and other means can be used to
23 interpret a particular resource.
24
- 25 **Intrusives:** An igneous rock that forms under the Earth's surface. Examples include granite,
26 diorite, and gabbro.
27
- 28 **Invasive species:** Any species, including noxious and exotic species, that is an aggressive
29 colonizer and can out-compete indigenous species.
30
- 31 **Invertebrate:** An animal, such as an insect or mollusk, that lacks a backbone or spinal column.
32
- 33 **Inverter:** An electrical device that converts direct current (DC) into alternating current (AC).
34
- 35 **Irradiance:** *See* Insolation.
36
- 37 **Irrigation:** The controlled application of water for agricultural purposes through manmade
38 systems to supply water requirements that are not satisfied by rainfall.
39
- 40 **Irrigation Non-Expansion Area (INA):** A geographic area in Arizona that has been designated
41 as having insufficient groundwater to provide a reasonably safe supply for the irrigation of the
42 cultivated lands at the current rate of withdrawal.
43
- 44 **Junior water rights:** Water rights that are more recent than older or more senior rights. *See also*
45 Senior water rights.
46

1 **Just-in-Time ordering:** A strategy for managing materials used at a project that ensures
2 materials become available as needed to support activities, but are not stockpiled at the project
3 location in excess of what is needed at any point in time. The just-in-time approach controls
4 costs by avoiding the accumulation of inflated inventories, reducing the potential for stockpiled
5 materials to go out-of-date or otherwise become obsolete, and minimizing product storage and
6 management requirements. When applied to hazardous chemicals, this approach reduces waste
7 generation, the potential for mismanagement of materials and the overall risk of adverse impacts
8 resulting from emergency or off-normal events involving those materials.

9
10 **Key observation point(s) (KOPs):** One or a series of points on a travel route or at a use area or
11 a potential use area, where the view of a management activity would be most revealing. KOPs
12 are typically used as viewpoints for assessing potential visual impacts resulting from a proposed
13 management activity.

14
15 **Kilowatt:** A unit of electrical power equal to 1,000 watts (W).

16
17 **Kiva:** An underground (or partially underground) ceremonial room or chamber used in ancient
18 and modern Pueblo villages.

19
20 **Knob:** A small hilltop that is round in shape.

21
22 **Known Geothermal Area (KGA):** A region identified by the U.S. Geological Survey as
23 containing geothermal resources.

24
25 **Laccolith:** An igneous intrusion that has been forced between two layered rock units. The top of
26 the intrusion is arched upwards and the bottom of the intrusion is nearly flat.

27
28 **Lacustrine wetland:** Wetlands that are generally larger than 20 acres and having less than 30%
29 cover of vegetation such as trees, shrubs, or persistent emergent plants. Lacustrine sediments are
30 generally made up of fine-grained particles deposited in lakes.

31
32 **Lag gravel:** Residual deposit of coarse material that has had the finer fraction removed by a
33 transporting agent, usually wind or water.

34
35 **Lahar:** A mudflow composed of water and volcanic ash. Lahars can be triggered by the flash
36 melting of the snow cap of a volcanic mountain or from heavy rain. Lahars are very dangerous
37 because they can occur suddenly and they can travel at great speeds.

38
39 **Land area:** Includes dry land and land temporarily or partially covered by water, such as
40 marshlands, swamps, and river flood plains; streams, sloughs, estuaries, and canals less than
41 1/8 of a statute mile in width; and lakes, reservoirs, and ponds having less than 40 acres of water-
42 surface area.

43
44 **Land cover:** The physical coverage of land, usually expressed in terms of vegetation cover or
45 lack of it.

1 **Land disturbance:** Discrete event or process which alters soil, and/or kills or damages
2 vegetation. From an ecological and hierarchical perspective, disturbance is a change in the
3 minimal structure of an ecosystem caused by a factor external to the reference structure.
4 Examples of disturbance are habitat reduction, habitat fragmentation, and habitat alteration.
5

6 **Land disturbance in natural drainage systems:** Any movement (e.g., grading or excavation)
7 of soil or sediment in a natural drainageway.
8

9 **Landform:** Any feature of the Earth’s surface having a distinct shape and origin. Landforms
10 include major features (such as continents, ocean basins, plains, plateaus, and mountain ranges)
11 and minor features (such as hills, valleys, slopes, drumlins, and dunes).
12

13 **Land subsidence:** The sinking or settling of land to a lower level in response to various natural
14 and man-caused factors. With respect to groundwater, subsidence most frequently results from
15 overdrafts of the underlying water table or aquifer and its inability to fully recharge, a process
16 called aquifer compaction. *See also* Subsidence.
17

18 **Land Use:** A characterization of land surface in terms of its potential utility for various
19 activities.
20

21 **Land Use Plan:** A set of decisions that establish management direction for land within an
22 administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of
23 land-use-plan-level decisions developed through the planning process outlined in 43 CFR 1600,
24 regardless of the scale at which the decisions were developed. *See also* Resource Management
25 Plan.
26

27 **Land withdrawal:** Withdrawals are governed by regulations issued under FLPMA, contained
28 in 43 CFR Part 2300. A withdrawal is defined as: “Withholding an area of Federal land from
29 settlement, sale, location, or entry under some or all of the general land laws, for the purpose
30 of limiting activities under those laws in order to maintain other public values in the area or
31 reserving the area for a particular public purpose or program; or transferring jurisdiction over an
32 area of Federal land, other than property governed by the Federal Property and Administrative
33 Services Act (40 U.S.C. 472), from one department, bureau or agency to another department,
34 bureau or agency.” (See 43 CFR 2300.0-5(h).)
35

36 **Landforms:** Any recognizable physical form of the Earth’s surface, having a characteristic
37 shape, and produced by natural causes. Landforms include major forms such as plains, plateaus,
38 and mountains, and minor forms such as hills, valleys, slopes, and moraines. Taken together, the
39 landforms make up the surface configuration of the Earth.
40

41 **Landmark:** Type of reference point external to the observer. Usually a simply defined physical
42 object. Some are distant, seen from many angles and distances over the tops of smaller elements
43 and used as a radial reference.
44

45 **Landscape:** The traits, patterns, and structure of a specific geographic area including its
46 biological composition, its physical environment, and its anthropogenic or social patterns.
47

1 **Landscape character:** The arrangement of a particular landscape as formed by the variety and
2 intensity of the landscape features and the four basic elements of form, line, color, and texture.
3 These factors give the area a distinctive quality which distinguishes it from its immediate
4 surroundings.
5

6 **Late Archaic:** The period 3,000 to 1,500 years B.P.
7

8 **Latite:** An igneous, volcanic (extrusive) rock.
9

10 **Lava:** Magma that reaches the Earth's surface and issues from volcanoes.
11

12 **Lava tubes:** Natural conduits through which lava moves beneath the surface of a lava flow
13 during a volcanic eruption. In solidified lava flows, lava tubes may be seen as collapsed features
14 or open trenches at the surface.
15

16 **Lava flow:** An outpouring of lava onto the land surface from a vent or fissure. Also, a solidified
17 tongue-like or sheetlike body formed by outpouring lava.
18

19 **Law of the River:** A complex body of laws, court decrees, contracts, agreements, regulations
20 and an international treaty used to govern allocation and management of Colorado River water.
21

22 **Laydown area:** An area that has been cleared for the temporary storage of equipment and
23 supplies. To ensure accessibility and safe maneuverability for transport and off-loading of
24 vehicles, laydown areas are usually covered with rock and/or gravel.
25

26 **L_{dn}:** The day-night average sound level. It is the average A-weighted sound level over a 24-hour
27 period that gives additional weight to noise that occurs during the night (10:00 p.m. to 7:00 a.m.)
28 to account for the greater sensitivity of most people to nighttime noise.
29

30 **Lead:** A gray-white metal that is listed as a criteria air pollutant. Health effects from exposure to
31 lead include brain and kidney damage and learning disabilities. Sources include leaded gasoline
32 and metal refineries.
33

34 **Leasable minerals:** Federal minerals such as coal, oil shale, oil, gas, phosphate, potash, sodium,
35 tar sands, geothermal resources, potassium, asphaltic materials, and all other minerals that are
36 subject to lease under the Mineral Leasing Act of 1920, as amended and supplemented.
37

38 **Lease:** A contract in legal form that provides for the right to develop and produce resources
39 within a specific area for a specific period of time under certain agreed-upon terms and
40 conditions.
41

42 **Left-lateral fault:** *See* Fault, left-lateral.
43

44 **Lentic environment:** An aquatic ecosystem in which the water is still and not rapidly moving,
45 such as is found in ponds and swamps.
46

1 **Lek:** A communal mating area within which males of certain species hold small territories,
2 which they use solely for courtship and copulation.
3

4 **Leq:** Equivalent/continuous sound level. L_{eq} is the steady sound level that would contain the
5 same total sound energy as the time-varying sound over a given time.
6

7 **License:** An authority granted by the United States to do a particular act or series of acts upon
8 public lands without the licensee possessing any estate or interest in the land itself.
9

10 **Light fixture:** An electrical device used to create artificial light and/or illumination.
11

12 **Light pollution:** Any adverse effect of human-made lighting, such as excessive illumination of
13 night-skies by artificial light. Light pollution is an undesirable consequence of outdoor lighting
14 that includes such effects as sky glow, light trespass, and glare.
15

16 **Light spillage:** An undesirable condition in which light is cast where it is not wanted. (Also
17 referred to as light trespass.)
18

19 **Light trespass:** *See* Light spillage.
20

21 **Limestone:** A sedimentary rock made mostly of the mineral calcite (calcium carbonate).
22 Limestone is usually formed from shells of once-living organisms or other organic processes
23 in a marine environment, but may also form by inorganic precipitation.
24

25 **Line:** The path, real or imagined, that the eye follows when perceiving abrupt differences in
26 form, color, or texture. Within landscapes, lines may be found as ridges, skylines, structures,
27 changes in vegetative types, or individual trees and branches.
28

29 **Lineaments:** A straight topographic feature of regional extent which is thought to represent
30 crustal structure. Other examples include faults, a linear series of depressions or sinkholes, a
31 straight length of a river or stream, or a line of volcanoes.
32

33 **Liner:** A relatively impermeable barrier designed to keep leachate inside a landfill. Liner
34 materials include plastic and dense clay.
35

36 **Liquefaction:** Refers to a sudden loss of strength and stiffness in loose, saturated soils. It causes
37 a loss of soil stability and can result in large, permanent displacements of the ground.
38

39 **Lithic:** Relating to stone or rock.
40

41 **Lithic debitage:** Debris produced during stone (lithic) tool manufacture.
42

43 **Lithic scatter:** A distribution of cultural items that consists primarily of lithic (stone) material.
44 The scatter may include formed tools such as points or knives, or it may contain only chipping
45 debris from tool-making activities.
46

1 **Livestock guzzlers:** A watering system for cattle and other livestock that maintains a set water
2 level as water is used.

3
4 **Livestock watering area:** Water used for livestock watering, feed lots, dairy operations, fish
5 farming, and other on-farm needs.

6
7 **Loam:** A soil consisting of an easily crumbled mixture of clay, silt, and sand.

8
9 **Locatable Minerals:** Minerals or materials subject to disposal and development through the
10 Mining Law of 1872 (as amended). Generally includes metallic minerals such as gold, copper,
11 lead, and silver and other materials that are not subject to lease or sale (i.e., oil and natural gas).

12
13 **Lode:** A mineralized ledge, vein or mineral deposit in place.

14
15 **Lode mining claim:** A claim based on the presumption that the valuable mineral is a part
16 of a bed-rock lode, vein, stockwork, stratum, or intrusion and is not dominantly a physical
17 redistribution of values by surficial processes; the latter constitutes a placer deposit.

18
19 **Loess:** A group of windblown soils, largely comprising silt, weakly cemented by calcite.

20
21 **Low-income population:** Persons whose average family income is below the poverty line. The
22 poverty line takes into account family size and age of individuals in the family. For any family
23 below the poverty line, all family members are considered to be below the poverty line.

24
25 **Low-level magnetic fields:** Fields of force that are generated whenever electric current flows.
26 The sun's average large-scale magnetic field, and the Earth's, exhibit a north and a south pole,
27 linked by lines of magnetic force.

28
29 **Luminaire:** A complete lighting unit consisting of a lamp (or lamps) and the parts designed to
30 distribute the light, to position and protect the lamp(s), and to connect the lamp(s) to the power
31 supply. Also referred to as a light fixture.

32
33 **Maar:** A volcanic crater that is produced by an explosion in an area of low relief, is generally
34 more or less circular, and often contains a lake, pond, or marsh.

35
36 **Macrophyte (aquatic):** An aquatic plant that is large enough to be observed with the naked eye.
37 It grows in or near water.

38
39 **Mafic (or mafic):** A term used to describe an igneous rock that has a large percentage of dark-
40 colored minerals such as amphibole, pyroxene, and olivine. Also used in reference to the
41 magmas from which these rocks crystallize. Mafic rocks are generally rich in iron and
42 magnesium. Basalt and gabbro are examples of mafic rocks.

43
44 **Magma:** Molten rock containing liquids, crystals, and dissolved gases that forms within
45 the upper part of the Earth's mantle and crust. When erupted onto the Earth's surface, it is
46 called lava.

1 **Maintenance area:** Any geographic region of the United States previously designated
2 nonattainment pursuant to the CAA Amendments of 1990 and subsequently redesignated to
3 attainment subject to the requirement to develop a maintenance plan under section 175A of the
4 CAA, as amended.

5
6 **Mammals:** A group of air-breathing animals whose skin is more or less covered with hair or fur
7 and who have mammary glands. Young are born alive (except for the platypus and echidna) and
8 are nourished with milk. Mammals include man, dogs, cats, deer, mice, squirrels, raccoons, bats,
9 opossums, whales, seals, and others.

10
11 **Mano:** A stone with a flat side that was primarily held in one's hand or hands and used to grind
12 edible substances, typically corn, grains, and nut meats. *See also* Metate.

13
14 **Mantle:** The main bulk of the Earth, between the crust and core, ranging from depths of about
15 40 to 3,480 kilometers. It is composed of dense mafic silicates and divided into concentric layers
16 by phase changes that are caused by the increase in pressure with depth.

17
18 **Mantle hot spot:** A region of continental or oceanic crust below which a mantle plume causes
19 melting of the overlying crust, resulting in a broad regional topographic swell (e.g., Yellowstone
20 plume) or hot spot volcanism (e.g., the Hawaiian chain of volcanoes which represent movement
21 of ocean crust over a stationary hot spot).

22
23 **Marsh:** An area of low-lying wetlands dominated by grasslike plants.

24
25 **Maximum Containment Level (MCL):** The highest level of a contaminant that is allowed in
26 drinking water. MCLs ensure that drinking water does not pose either a short-term or long-term
27 health risk.

28
29 **Maximum output:** *See* Nameplate capacity.

30
31 **MCL:** *See* Maximum Containment Level.

32
33 **Mean:** Average.

34
35 **Mean Sea Level (MSL):** The arithmetic mean of hourly water elevations observed over a
36 specific 19-year tidal epoch.

37
38 **Median household income:** Divides households into two equal segments, with one-half of
39 households earning less than the median household income and the other half earning more.
40 Median income is a better indicator of typical income levels in an area than average household
41 income as median income is not dramatically affected by unusually high or low values.

42
43 **Median housing value:** Divides housing units into two equal segments, one-half of housing
44 units less than median housing value and the other half valued more. Median housing value is
45 a better indicator of typical housing values in an area than average housing values as median
46 housing value is less likely to be affected by a small number of very highly priced homes.

1 **Megafauna:** A number of species of presently extinct mammals including mammoths and
2 mastodons.
3

4 **Megawatt:** A unit of power equal to one million watts (equivalent to one joule per second).
5 One megawatt serves about 300 homes in the western United States based on national data.
6

7 **Megawatt electrical (MWe):** One million watts of electrical energy; a measure of electrical
8 power capacity, use in PEIS is synonymous with MW.
9

10 **Mesa:** A broad, flat-topped elevation with one or more steeply-sloping to vertical sides.
11

12 **Mesic habitat:** A habitat type characterized by the presence of a moderate amount of moisture
13 or water. *Compare:* hydric; *opposite:* xeric.
14

15 **Mesozoic:** An era of geologic time between the Paleozoic and the Cenozoic, spanning the time
16 between 251 and 65 million years ago. The word Mesozoic is from Greek and means “middle
17 life.”
18

19 **Metamorphic rock:** A sedimentary or igneous rock that has been changed by pressure, heat, or
20 chemical action. For example, marble is the metamorphosed version of limestone, a sedimentary
21 rock.
22

23 **Metate:** A portable stone slab upon which seeds and other grains are milled with a mano using a
24 push-pull, back-and-forth motion. *See also* Mano.
25

26 **Microbiotic soil crust:** *See* Biological soil crusts.
27

28 **Microphytic soil crust:** *See* Biological soil crusts.
29

30 **Microsite:** A small area within an environment with unique features, conditions, or
31 characteristics relative to the surrounding area. Differentiating features may be temperature,
32 humidity, sunlight, nutrient availability, vegetation cover, or physical characteristics.
33

34 **Migration corridor:** A route followed by animals such as big game, birds, or fish when
35 traveling between winter and summer habitats.
36

37 **Migratory Bird Treaty Act (MBTA):** The MBTA implements various treaties and conventions
38 between the United States, and Canada, Japan, Mexico, and the former Soviet Union for the
39 protection of migratory birds. The MBTA made it illegal for people to “take” migratory birds,
40 their eggs, feathers, or nests. *See also* Take.
41

42 **Military Training Routes (MTRs):** A designated corridor of airspace with defined vertical and
43 lateral dimensions established for conducting military flight training at airspeeds in excess of
44 250 nautical miles per hour.
45

46 **Milligauss (mG):** A unit of measure for magnetic fields.

1 **Millsite mining claim:** Claim on non-mineral land for processing ore from a mining claim.
2

3 **Mineral:** A naturally occurring inorganic element or compound having an orderly internal
4 structure and characteristic chemical composition, crystal morphology, and physical properties
5 such as density and hardness. Minerals are the fundamental units from which most rocks are
6 made.
7

8 **Mineral Leasing Act of 1920 (MLA):** Authorizes the agency to issue rights-of-way grants for
9 oil and gas gathering and distribution pipelines and related facilities not already authorized
10 through a lease, and oil and natural gas transmission pipelines and related facilities.
11

12 **Mineral materials:** Widespread deposits of common clay, sand, gravel, or stone which are not
13 subject to disposal under the 1872 Mining Law, as amended.
14

15 **Mining claim:** That portion of the public mineral lands which a miner, for mining purposes,
16 takes and holds in accordance with the mining laws. A mining claim may be validly located and
17 held only after the discovery of a valuable mineral deposit.
18

19 **Mining water use:** Water use during quarrying rocks and extracting minerals from the land.
20

21 **Minority population:** Includes Hispanic, American Indian, or Alaskan Native; Asian; Native
22 Hawaiian or Other Pacific Islander; Black (not of Hispanic origin) or African American. “Other”
23 races and multi-racial individuals may be considered as separate minorities.
24

25 **Miocene:** An epoch of the upper Tertiary period, 23 to 5.3 million years ago.
26

27 **Mirror:** A reflecting surface of various physical shapes (parabolic, nearly flat, or flat) used to
28 reflect and/or concentrate the sun’s energy to specific locations within solar energy facilities.
29

30 **Mitigation:** A method or process by which impacts from actions can be made less injurious to
31 the environment through appropriate protective measures.
32

33 **Mitigation measures:** Methods or actions that will reduce adverse impacts from solar facility
34 development. Mitigation measures can include best management practices, stipulations in BLM
35 ROW agreements, siting criteria, and technology controls.
36

37 **Module:** *See* Photovoltaic (PV) module.
38

39 **Molten salts:** Mixtures of sodium nitrate and potassium nitrate in various proportions that are
40 used as a heat transfer or heat storage medium in CSP Solar Energy facilities. Mixtures are
41 chosen because of their long-term thermal stability at temperatures as high as 1200°F (649°C).
42

43 **Montane:** The highland area located below the subalpine zone. Montane regions generally have
44 cooler temperatures, and often have higher rainfall than the adjacent lowland regions, and they
45 are frequently home to distinct communities of plants and animals.
46

1 **Mosses:** Low-growing, non-vascular plants that are common to moist habitats.

2
3 **Mortar:** A stone bowl or bowl-shaped depression (such as in a rock) in which seeds, berries,
4 nuts, meats, and other items are ground or pulverized with a pestle, or other handstone or milling
5 stone, using an up-and-down motion. Mortars occur in bedrock outcrops and as portable items.
6 *See also* Pestle.

7
8 **Multijunction solar cell:** A photovoltaic device comprised of two or more semiconductor
9 materials or cell junctions, each capable of producing electricity with the photovoltaic effect by
10 absorbing solar energy from different wavelengths of the solar spectrum. Multijunction solar
11 cells can convert sunlight to electricity at greater overall efficiencies than single-junction cells.

12
13 **Multiple Use:** A combination of balanced and diverse resource uses that takes into account the
14 long-term needs of future generations for renewable and nonrenewable resources, including, but
15 not limited to, recreation, range, timber, minerals, watershed, wildlife, and fish, along with
16 natural scenic, scientific, and historical values.

17
18 **Multiple Use Classes:** 7.2.3.1 **Class C** is for lands designated either as wilderness or for
19 wilderness study areas. These lands are managed to protect their wilderness values. **Class L**
20 (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public
21 lands designated as Class L are managed to provide for generally lower intensity, carefully
22 controlled multiple use of resources, while ensuring that sensitive values are not significantly
23 diminished. **Class M** (Moderate Use) is based upon a controlled balance between higher
24 intensity use and protection of public lands. This class provides for a wide variety of present
25 and future uses such as mining, livestock grazing, recreation, energy, and utility development.
26 Class M management is also designed to conserve desert resources and to mitigate damage to
27 those resources which permitted uses may cause. **Class I** (Intensive Use) is to provide for the
28 concentrated use of lands and resources to meet human needs. Reasonable protection will be
29 provided for sensitive natural and cultural values. Mitigation of impacts on resources and
30 rehabilitation of affected areas will occur insofar as possible.

31
32 **Multiple Use Management:** Coordinated management of the various surface and subsurface
33 resources, without permanent impairment of the productivity of the land, that will best meet the
34 present and future needs of the people.

35
36 **NAAQS:** *See* National Ambient Air Quality Standards.

37
38 **Nameplate rating:** The maximum power-generating capacity of a generator or power-generating
39 facility.

40
41 **National Ambient Air Quality Standards (NAAQS):** Air quality standards established by the
42 Clean Air Act, as amended. The primary NAAQS are intended to protect the public health with
43 an adequate margin of safety; and the secondary NAAQS are intended to protect the public
44 welfare from any known or anticipated adverse effects of a pollutant.

1 **National Environmental Policy Act of 1969 (NEPA):** Requires federal agencies to prepare a
2 detailed statement on the environmental impacts of their proposed major actions that are
3 significantly affecting the quality of the human environment.
4

5 **National Historic Preservation Act (NHPA):** A federal law providing that property resources
6 with significant national historic value be placed on the *National Register of Historic Places*. It
7 does not require permits; rather, it mandates consultation with the proper agencies whenever it is
8 determined that a proposed action might impact an historic property.
9

10 **National Historic Trails:** These trails are designated by Congress under the National Trails
11 System Act of 1968 and follow, as closely as possible, on federal land, the original trails or
12 routes of travel that have national historical significance.
13

14 **National Landscape Conservation System (NLCS):** Created by the BLM in June 2000 to
15 increase public awareness of BLM lands with scientific, cultural, educational, ecological, and
16 other values. It consists of National Conservation Areas, National Monuments, Wilderness
17 Areas, Wilderness Study Areas, Wild and Scenic Rivers, and National Historic and Scenic
18 Trails.
19

20 **National Pollutant Discharge Elimination System (NPDES):** A federal permitting system
21 controlling the discharge of effluents to surface water and regulated through the Clean Water
22 Act, as Amended.
23

24 **National Recreation Area:** An area designated by Congress to assure the conservation and
25 protection of natural, scenic, historic, pastoral, fish, and wildlife values, and to provide for the
26 enhancement of recreational values.
27

28 **National Register of Historic Places (NRHP):** A comprehensive list of districts, sites,
29 buildings, structures, and objects that are significant in American history, architecture,
30 archaeology, engineering, and culture. The NRHP is administered by the National Park
31 Service, which is part of the Department of the Interior.
32

33 **National Scenic Byway:** *See* All American Roads.
34

35 **Native American:** Of, or relating to, a tribe, people, or culture that is indigenous to the
36 United States. (*See* Native American Graves Protection and Repatriation Act).
37

38 **Native American Graves Protection and Repatriation Act (NAGPRA):** This act established
39 the priority for ownership or control of Native American cultural items excavated or discovered
40 on federal or tribal land after 1990 and the procedures for repatriation of items in federal
41 possession. The act allows for the intentional removal or excavation of Native American
42 cultural items from federal or tribal lands only with a permit or upon consultation with the
43 appropriate tribe.
44

45 **Natural drainages:** Natural systems that convey water (such as a stream channel) that may be
46 perennial, intermittent, or ephemeral.
47

1 **NatureServe:** A non-profit organization that provides the scientific information and tools
2 needed to guide effective conservation action. NatureServe and its network of natural
3 heritage programs are a leading source of information about the species and ecosystems of the
4 United States, Canada, and Latin America.
5

6 **NatureServe Explorer:** A website from NatureServe that provides authoritative conservation
7 information in a searchable database for more than 70,000 plants, animals, and ecological
8 communities in the United States, Canada, and Latin America.
9

10 **Neotropical migrants:** Birds (especially songbirds) that summer in North America but migrate
11 to the tropics for the winter.
12

13 **NEPA:** *See* National Environmental Policy Act of 1969.
14

15 **Net emissions:** Applied to greenhouse gas emissions inventory in this report. “Net emissions”
16 means gross emissions (including all industrial activities, mostly fossil fuel combustion) minus
17 carbon sinks from forestry activities and agricultural soils.
18

19 **Night-sky impact:** An interference with enjoyment of dark night skies resulting from light
20 pollution.
21

22 **Nighttime mean rural background level:** Nighttime (10 p.m. to 7 a.m.) average sound level in
23 the rural environment, from all sources, rather than a particular noise that is of interest.
24

25 **Nitrogen dioxide (NO₂):** A toxic, reddish-brown gas that is a strong oxidizing agent, produced
26 by combustion (as of fossil fuels). It is the most abundant of the oxides of nitrogen in the
27 atmosphere and plays a major role in the formation of ozone. NO₂ is one of the six criteria air
28 pollutants specified under Title I of the Clean Air Act.
29

30 **Nitrogen oxides (NO_x):** Nitrogen oxides include various nitrogen compounds, primarily
31 nitrogen dioxide and nitric oxide. They form when fossil fuels are burned at high temperatures
32 and react with volatile organic compounds to form ozone, the main component of urban smog.
33 They are also a precursor pollutant that contributes to the formation of acid rain.
34

35 **NO₂:** *See* Nitrogen dioxide.
36

37 **Noise:** Any unwanted sound that interferes with speech and hearing, causes damage to hearing,
38 or annoys a person.
39

40 **Noise criteria:** Quantitative noise limits, below which it is acceptable for people to hear.
41 Typically, noise criteria are specified in ordinances, regulations, or guidances.
42

43 **Nonattainment area:** The EPA’s designation for an air quality control region (or portion
44 thereof) in which ambient air concentrations of one or more criteria pollutants exceed National
45 Ambient Air Quality Standards.
46

1 **Nongame species:** Those species not commonly harvested either for sport or profit.
2

3 **Non-market value:** Most environmental goods and services, such as clean air and water, and
4 healthy fish and wildlife populations, are not traded in markets, meaning that their economic
5 value, or how much people would be willing to pay for them, is not revealed in market prices.
6 To incorporate them into economic analyses, monetary values are assigned to them using
7 non-market valuation methods.
8

9 **Nonpoint light source:** A light source that is sufficiently large in size and close enough to the
10 viewer to appear as an illuminated surface rather than a star-like point of light.
11

12 **Nonpoint sources:** Diffuse pollution sources (i.e., without a single point of origin or not
13 introduced into a receiving stream from a specific outlet). The pollutants are generally carried
14 off the land by storm water. Common non-point sources are agriculture, forestry, urban, mining,
15 construction, dams, channels, land disposal, saltwater intrusion, and city streets.
16

17 **Non-point source pollution:** Pollution whose source is not specific in location; the sources of
18 the pollutant discharge are dispersed, not well defined or constant. Examples include sediments
19 from logging activities and runoff from agricultural chemicals.
20

21 **Nonroad mobile sources (emissions):** Sources such as farm and construction equipment,
22 gasoline-powered lawn and garden equipment, and power boats and outdoor motors that
23 emit pollutants.
24

25 **NO_x:** *See* Nitrogen oxides.
26

27 **Noxious weeds:** Those plants regulated by law or those that are so difficult to control that early
28 detection is important.
29

30 **Nurse plants:** Mature plants that create favorable conditions for seeds to germinate and for
31 seedlings to survive and grow.
32

33 **Oasis:** An isolated, fertile tract or green locality in a desert region, made so by the presence of
34 water. *See also* Palm oasis.
35

36 **Obligate species:** Restricted to a particular condition of life; for example, dependent on a
37 particular habitat to be able to breed. *See also* riparian obligate; sand-dune obligate.
38

39 **O₃:** *See* ozone.
40

41 **Obsidian:** A black or dark-colored volcanic glass.
42

43 **Occupational Safety and Health Administration (OSHA):** Congress created the OSHA under
44 the Occupational Safety and Health Act on December 29, 1970. Its mission is to prevent work-
45 related injuries, illnesses, and deaths.
46
47

1 **Off-Highway Vehicles (OHV) or Off-Road Vehicles.** Any motorized vehicle designed for or
2 capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh,
3 swampland, or other natural terrain; except that such term excludes (A) any registered
4 motorboat, (B) any military, fire, emergency, or law enforcement vehicle when used for
5 emergency purposes, and (C) any vehicle whose use is expressly authorized by the respective
6 agency head under a permit, lease, license, or contract. *See also* Off-Road Vehicle Designations.

7
8 **Off-Road Vehicle:** *See also* Off-Highway Vehicle.

9
10 **Off-Road Vehicle (OHV) Designations: OPEN:** Vehicles are allowed without restrictions.
11 **LIMITED:** Vehicle travel off existing roads and trails would be allowed only for authorized or
12 permitted uses. **CLOSED:** Vehicle travel is closed in the area including existing roads and trails,
13 except for authorized uses.

14
15 **Off-site facility:** A hazardous waste treatment, storage, or disposal area that is located away
16 from the generating site.

17
18 **Oil and gas leasing (on BLM land):** The BLM leases oil and gas rights to explore for and
19 produce oil and gas resources from federal lands or mineral rights owned by the federal
20 government. Federal oil and gas leases may be obtained and held by any adult citizen of the
21 United States.

22
23 **Onroad mobile source (emissions):** Any mobile source of air pollution such as cars, trucks,
24 motorcycles, and buses that travels on roads and highways.

25
26 **OSHA:** *See* Occupational Safety and Health Administration.

27
28 **Ostracods:** Group of small crustaceans with a bivalved carapace which can be closed to
29 completely cover the body; important planktonic fish food.

30
31 **Outflow:** The amount of surface water or groundwater passing a given point downstream,
32 expressed as a volume per time. Water flowing out of a body of water.

33
34 **Overbank deposits:** Fine-grained sediment (silt and clay) deposited from suspension on a
35 floodplain by floodwaters from a stream channel.

36
37 **Overdraft:** The pumping of water from a groundwater basin or aquifer in excess of the supply
38 flowing into the basin; resulting in a depletion or mining of the groundwater in the basin.

39
40 **Ozone O₃:** A strong-smelling, reactive, toxic, chemical gas consisting of three oxygen atoms
41 chemically attached to each other. Ozone is formed in the atmosphere by chemical reactions
42 involving NO_x and volatile organic compounds in the presence of sunlight. Ozone is a criteria
43 air pollutant under the Clean Air Act and is a major constituent of smog.

44
45 **Paleontological Resources:** Fossilized remains, imprints, and traces of plants and animals
46 preserved in rocks and sediments since some past geologic time.

1 **Paleozoic:** An era of geologic time, from the end of the Precambrian to the beginning of the
2 Mesozoic, spanning the time between 542 and 251 million years ago. The word Paleozoic is
3 from Greek and means “old life.”
4

5 **Palm oasis:** (1) A desert habitat with permanent water or a water table near the surface that
6 supports a canopy of palm trees. Oasis habitats generally occupy sites with moist alkaline soils
7 near seeps, springs, and streams. (2) An isolated palm-dominated area of vegetation in a desert,
8 typically surrounding a spring or a similar water source. Palm oasis habitats are found adjacent to
9 a number of other desert habitats including desert riparian, desert cactus shrub, and desert wash.
10 In many cases, characteristic plant species from these habitats comprise the understory of palm
11 oases.
12

13 **Palustrine wetland:** Shallow freshwater wetlands that often support plant communities of trees,
14 shrubs, emergent plants, mosses, or lichens. Palustrine wetlands without such plant communities
15 are small (less than 20 acres [0.08 km²]) and lack an active wave-formed or bedrock shoreline.
16

17 **Pan evaporation:** A measurement that combines or integrates the effects of several climate
18 elements: temperature, humidity, solar radiation, and wind. Evaporation is greatest on hot,
19 windy, dry days; and is greatly reduced when air is cool, calm, and humid. *See also* Evaporation
20 rate.
21

22 **Parabolic solar collector trough:** *See* Parabolic trough.
23

24 **Parabolic trough:** A type of CSP Solar Energy technology that uses parabolic-shaped mirrors to
25 concentrate sunlight on a receiver filled with a heat transfer fluid that subsequently transfers the
26 heat it absorbs to water to produce steam to drive a steam turbine-generator (STG) to produce
27 electricity. Parabolic Trough systems typically mount the mirrors on a support that can track the
28 sun’s movement across the sky over the course of the day, ensuring maximum solar energy
29 capture.
30

31 **Parabolic trough system:** *See* Parabolic trough.
32

33 **Particulate matter:** Fine solid or liquid particles such as dust, smoke, mist, fumes, or smog,
34 found in air or emissions. The size of the particulates is measured in micrometers (µm).
35 One micrometer is 1 millionth of a meter or 0.000039 inch. Particle size is important because
36 the EPA has set standards for PM_{2.5} and PM₁₀ particulates.
37

38 **Passerine:** Birds of the order Passeriformes, which includes perching birds and songbirds such
39 as the jays, blackbirds, finches, warblers, and sparrows.
40

41 **Patterned-body anthropomorphs:** Object or drawing having a human shape with a pattern or
42 design. *See also:* Anthropomorphic; Anthropomorphism.
43

44 **Peak horizontal acceleration:** *See* Acceleration.
45

1 **Peanut-body anthropomorphs:** Object or drawing having a human-like shape resembling that
2 of a peanut. *See also:* Anthropomorphic; Anthropomorphism.
3

4 **Pediment:** A broad, gently-sloping erosion surface developed at the base of a mountain range in
5 a dry region. It is usually covered with a thin layer of gravel.
6

7 **Per capita income:** The average income per person in a given group.
8

9 **Perennial allotment:** A BLM grazing allotment that consistently produces enough perennial
10 forage to support a year round livestock operation.
11

12 **Perennial streams:** Streams that flow continuously, because they lie at or below the
13 groundwater table which constantly replenishes them.
14

15 **Perennial surface water features:** Surface water features that contain water at all times
16 throughout the year.
17

18 **Perennial yield (groundwater):** The amount of groundwater that can be withdrawn from a
19 groundwater basin over a period of time, without exceeding the long-term recharge of the basin
20 or unreasonably affecting the basin's physical and chemical integrity.
21

22 **Perennial/Safe/Sustainable yield:** A specified rate of groundwater pumping that can be
23 sustained for an indefinite period of time without impairing hydrogeologic and ecologic
24 processes, characteristics, or functions existing within a groundwater basin. Examples of
25 impacts to hydrogeologic and ecologic processes, characteristics, and functions include
26 (but are not limited to) alterations to basin-scale flow paths (direction and magnitude);
27 significant drawdown of groundwater surface elevations; decreases in hydrostatic pressures;
28 and decreased connectivity with surface features such as springs, wetlands, and phreatic
29 vegetation. Quantifying perennial/safe/sustainable yields is a non-trivial task that is often
30 done by examining basin-scale information on groundwater recharge, discharge, and storage
31 processes that is obtained through the combination of extensive field-data collection and
32 numerical modeling.
33

34 **Perfluorocarbons (PFCs):** Compounds consisting of carbon and fluorine. They do not deplete
35 the stratospheric ozone but are very strong greenhouse gases with long lifetimes in the
36 atmosphere.
37

38 **Permeability:** The rate at which liquids pass through soil or other materials in a specified
39 direction.
40

41 **Permissible Exposure Limit (PPL):** The maximum amount or concentration of a chemical that
42 a worker may be exposed to under OSHA regulations.
43
44

1 **Permit:** An authorization, license, or equivalent control document issued by the EPA or an
2 approved state agency to implement the requirements of an environmental regulation. Permit
3 includes information on which pollutants are being released, how much the source is allowed to
4 release, and the program that will be used to meet pollutant release requirements. Permits are
5 required both for the operation of plants (operating permits) and for the construction of new
6 plants. The 1990 Clean Air Act introduced a nationwide permit system for air pollution control.
7

8 **Permittee:** An individual who holds either a BLM grazing permit or grazing lease that
9 authorizes grazing use of the public lands issued under authority of Section 3 or 15 of the Taylor
10 Grazing Act of June 28, 1934, as amended (TGA). While technically, an individual holding an
11 authorization under Section 3 of the TGA is a permittee, an individual holding an authorization
12 under Section 15 of the TGA holds a lease and is a lessee. For the purpose of the PEIS both
13 permittees and lessees are referred to as permittees.
14

15 **Permitted use:** The forage allocated by, or under the guidance of, an applicable land use plan for
16 livestock grazing in an allotment under a permit or lease; expressed in Animal Unit Months
17 (AUMs) (43 CFR 4100.0-5).
18

19 **Personal Protective Equipment (PPE):** Clothing and equipment that are worn to reduce
20 exposure to potentially hazardous chemicals and other pollutants.
21

22 **Pesticide:** Substances or mixtures thereof, intended for preventing, destroying, repelling, or
23 mitigating any pest. Also, any substance or mixture intended for use as a plant regulator,
24 defoliant, or desiccant.
25

26 **Pestle:** An elongated, often cylindrical stone used to pulverize food products and other cultural
27 products in a mortar. *See also* Mortar.
28

29 **Petrocalcic:** Soil horizon formed when secondary calcium carbonate accumulates in the subsoil
30 and hardens into a hardpan.
31

32 **Petroglyph:** A figure or design carved, abraded, or pecked on rock.
33

34 **PFYC:** *See* Potential Fossil Yield Classification.
35

36 **Phosphorous:** A chemical element used as a dopant in making n-type semiconductor layers. An
37 essential chemical food element that can contribute to the eutrophication of lakes and other water
38 bodies. Increased phosphorus levels result from discharge of phosphorus-containing materials
39 into surface waters.
40

41 **Photon:** A particle of light that acts as an individual unit of energy.
42

43 **Photosynthesis:** The process in green plants and certain other organisms by which carbohydrates
44 are synthesized from carbon dioxide and water using sunlight as an energy source. Most forms of
45 photosynthesis release oxygen as a byproduct. Chlorophyll typically acts as the catalyst in this
46 process.
47

1 **Photovoltaic (PV) array:** An interconnected system of PV modules that function as a single
2 electricity-producing unit. The modules are assembled as a discrete structure, with common
3 support or mounting. In smaller capacity systems, an array can consist of a single module.
4

5 **Photovoltaic (PV) cell:** The smallest semiconductor element within a PV module that converts
6 incident sunlight into electrical energy (direct current voltage and current). Also called a solar
7 cell.
8

9 **Photovoltaic (PV) facility:** A solar energy facility that uses photovoltaic cells to produce
10 electricity and that includes all components, such as the PV system, power conditioning
11 equipment, monitoring and control capabilities, and other features required for safe connection
12 of the facility to the bulk electricity transmission grid, as well as buildings, access roads,
13 perimeter fence, and other equipment needed for operation and maintenance of the facility.
14

15 **Photovoltaic (PV) module:** An assembly of solar cells (flat-plate type) or receiver(s) and optics
16 (concentrator type) and ancillary parts, such as interconnects and terminals, enclosed in a
17 weatherproof container, intended to generate DC power under unconcentrated sunlight. (Note: A
18 CPV module is a concentrator type PV module.) The structural (load carrying) member of a
19 module can either be the top layer (superstrate) or the back layer (substrate).
20

21 **Photovoltaic (PV) panel:** A collection of modules, either flat-plate or concentrator type,
22 mechanically fastened, electrically interconnected, and designed to provide a field-installable
23 unit. (Note: Not all PV systems will use panelized units during installation. Sometimes the
24 modules are individually attached to a support structure.)
25

26 **Photovoltaic (PV) power plant:** *See* Photovoltaic (PV) facility.
27

28 **Photovoltaic (PV) receiver:** An assembly of one or more PV cells that accepts concentrated
29 sunlight and incorporates means for thermal and electric energy removal.
30

31 **Photovoltaic (PV) system:** *See* Photovoltaic (PV) facility.
32

33 **Photovoltaics (PV):** Technologies that utilize semiconducting materials that convert sunlight
34 directly into electricity.
35

36 **Phreatic vegetation:** Vegetation supported by groundwater below the land surface.
37

38 **Phreatophytes:** Any plant, typically living in the desert, that obtains its water from long taproots
39 that reach the water table.
40

41 **Physiography:** The physical geography of an area or the description of its physical features.
42

43 **Phytoplankton:** Small, often single-celled plants that live suspended in bodies of water.
44

45 **Pictograph:** A design drawn in pigment upon an unprepared or ground rock surface.
46

1 **Piezometer:** A nonpumping well, generally of small diameter, for measuring the elevation of a
2 water table.
3

4 **Pithouse:** A semi-subterranean dwelling with an excavated floor and earthen superstructure
5 supported by posts and beams.
6

7 **Placer:** An alluvial deposit of sand and gravel containing valuable minerals. (nps geo)
8

9 **Placer Mining:** That form of mining in which the surficial detritus is washed for gold or other
10 valuable minerals. When water under pressure is employed to break down the gravel, the term
11 hydraulic mining is generally employed.
12

13 **Placer mining claim:** Minerals are loose on the ground or in a streambed.
14

15 **Plains:** An extensive area that ranges from level to gently sloping or undulating.
16

17 **Planetary boundary layer turbulence structure:** In the Earth's atmosphere, the planetary
18 boundary layer is the air layer near the ground that is affected by diurnal heat, moisture, or
19 momentum transfer, to or from the surface.
20

21 **Plankton (planktonic):** The aggregate of small plant and animal organisms that float or drift in
22 fresh or salt water.
23

24 **Playa:** Flat areas that contain seasonal or year-to-year shallow lakes that often evaporate, leaving
25 minerals behind. Playas form in arid basins where rivers merge, but do not drain.
26

27 **Playa lake:** Ephemeral lakes formed in the lowest part of a closed (internally drained) basin in
28 an arid region. High rates of evaporation in these areas often leave behind mineral deposits.
29 Also referred to as dry lakes or alkali flats.
30

31 **Pleistocene:** The oldest epoch of the Quaternary period, ranging from 2.6 million to
32 10,000 years ago. Together the Pleistocene and the Holocene make up the Quaternary period.
33

34 **Plume:** A visible or measurable discharge of a contaminant from a given point of origin. Can be
35 visible or thermal in water, or visible in the air as, for example, a plume of smoke.
36

37 **Plume downwash:** Downward movement of plumes immediately to the lee of flow obstacles
38 such as buildings, bluffs, or smokestacks, caused by wake turbulence or lee cavity circulations
39 generated by the obstacles. It brings higher-concentration pollutants down toward the ground.
40

41 **Plume model:** A computer model used to calculate air pollutant concentrations at receptor
42 locations. The model assumes that a pollutant plume is carried downwind from its emission
43 source by a mean wind and dispersed horizontally and vertically by atmospheric stability
44 characteristics.
45

46 **Pluton:** A body of igneous rock that solidified below the Earth's surface.
47

1 **Plutonic:** Pertaining to a class of igneous rocks that have solidified far below the Earth's surface.
2

3 **Pluvial lake:** A lake formed during episodes of heavy precipitation or glacial melting, such as
4 during the Pleistocene, and may either be extinct or remain as a remnant or dry lake with
5 periodic water.
6

7 **PM_{2.5}:** Particulate matter with a mean aerodynamic diameter of 2.5 micrometers (0.0001 in.)
8 or less. Particles less than this diameter can lodge deeply in the lungs. PM_{2.5} is one of the
9 six criteria pollutants specified under Title I of the Clean Air Act.
10

11 **PM₁₀:** Particulate matter with a mean aerodynamic diameter of 10 micrometers (0.0004 in.) or
12 less. Particles less than this diameter can be inhaled and accumulate in the respiratory system.
13 PM₁₀ is one of the six criteria pollutants specified under Title I of the Clean Air Act.
14

15 **Point light source:** A light source that has no visible surface area, and appears as a point, such
16 as a star.
17

18 **Point of diversion:** A specifically named place where water is removed from a body of water.
19 The location of a surface water or groundwater extraction associated with a water right.
20

21 **Point source (emissions):** A stationary location or fixed facility from which pollutants are
22 discharged; any single identifiable source of pollution; e.g., a pipe, ditch, ship, ore pit, or a
23 factory smokestack.
24

25 **Potable water:** Water of a sufficient quality that it can be consumed by humans without the risk
26 of immediate or long-term effects. Also referred to as drinking water.
27

28 **Potential Fossil Yield Classification (PFYC):** Initially developed by the U.S. Forest Service
29 and the Region 2 Paleo Initiative in May 1996, the PFYC system provides baseline guidance
30 for assessing the relative occurrence of important paleontological resources and the need for
31 mitigation. Specifically, it is used to classify geologic units, at the formation or member level,
32 according to the probability that they could yield paleontological resources of concern to land
33 managers.
34

35 **Potentially Active Fault:** *See* Fault, potentially active.
36

37 **Power block:** Portion of the facility at which electrical power is generated.
38

39 **Power Conditioning System (PCS):** In solar energy facilities, the collection of electrical
40 equipment that converts direct current (DC) from a photovoltaic array to alternating current (AC)
41 or that conditions AC current produced at CSP facilities to match the voltage and phase
42 conditions of the bulk electricity grid to which the solar energy facility is connected; power
43 conditioning systems also include system monitoring devices and isolation switches that can
44 isolate the solar energy facility from the bulk electricity grid during off-normal conditions that
45 could jeopardize or damage either the facility or the grid.
46

1 **Power, electrical:** A unit of electrical energy, usually expressed in watts (W), kilowatts (kW), or
2 megawatts (MW). One watt equals 3.14 Btu/hr.

3
4 **Power production capacity:** The amount of power that a facility can produce under ideal
5 operating conditions. *See also* Battery capacity.

6
7 **Power tower:** A type of CSP technology comprised of many large, sun-tracking mirrors
8 (heliostats) that focus sunlight on a receiver at the top of a centrally located tower. The sunlight
9 heats up a heat transfer fluid in the receiver, which then is used to generate steam (or directly
10 heats water to produce steam) that powers a steam turbine-generator (STG) to produce
11 electricity. Power tower systems can also be equipped with molten salt in which the heat
12 generated at the receiver can be stored for delayed production of electricity.

13
14 **Power tower system:** *See* Power tower.

15
16 **Precambrian:** The oldest and largest division of geologic time, between the consolidation of the
17 Earth's crust and the beginning of the Cambrian period. It includes all time from the origins of
18 the Earth to about 542 million years ago; about 3.3 billion years in duration.

19
20 **Prehistoric:** The time period before the appearance of written records. In the New World this
21 generally refers to indigenous, precontact societies.

22
23 **Prehistoric resources:** Refers to any material remains, structures, and items used or modified by
24 people before Euro-Americans established a presence in the region.

25
26 **Prescribed fires:** Application of fire (by planned or unplanned ignitions) to fuels in either their
27 natural or modified states, under specified conditions, to allow the fire to burn in a predetermined
28 area while producing the fire behavior required to achieve certain management objectives.

29
30 **Prevention of Significant Deterioration (PSD) Program:** A Federal air pollution permitting
31 program intended to ensure that air quality does not diminish in attainment areas which meet
32 national ambient air quality standards.

33
34 **Prey base:** The assemblage of prey (food) animals available in a given area or habitat to support
35 a predator such as a hawk or cougar.

36
37 **Prior Appropriation Doctrine:** A system for allocating water rights used in the western United
38 States under which the first person (or entity) to divert water from a source has a priority to that
39 water right, and so on. Under the system of prior appropriation, water rights that are junior are
40 not allowed to prevent senior water rights holders from obtaining their allocation of water. Thus,
41 in times of drought, a junior water rights holder may not be entitled to its share of the resource.
42 However, even senior water rights holders are not allowed to change the time of use, place of
43 use, purpose of use, or point of diversion of the right, if it would injure other water rights holders
44 within a basin.

45
46 **Projectile point:** Any sharp tip of an arrow, spear, or dart.

1 **PSD increments:** The maximum increases in ambient pollution concentrations allowed over
2 baseline concentrations for a pollutant while ensuring that an area continues to meet national
3 ambient air quality standards. See 40 CFR §51.166 (c) for increments for specific pollutants.
4

5 **Public Land:** Any land and interest in land (outside of Alaska) owned by the United States and
6 administered by the Secretary of the Interior through the Bureau of Land Management.
7

8 **Public Land Order (PLO):** An order affecting, modifying, or cancelling a withdrawal or
9 reservation that has been issued by the Secretary of the Interior pursuant to powers of the
10 President delegated to the Secretary by Executive Order 9146 of April 24, 1942, or 9337 of
11 April 24, 1943.
12

13 **Public Land Survey System (PLSS):** The survey carried out by the Bureau of Land
14 Management and its predecessors for establishing boundaries and subdivisions of public lands
15 of the United States, using the rules embodied in the U.S. Public Land System. The system is
16 frequently used for designating the locations of a parcel of land based on township, range,
17 section, and quarter delineations.
18

19 **Pueblo:** The Spanish word for town. A community dwelling with numerous households within,
20 up to five stories high, built of stone or adobe by Indian tribes in the southwestern United States.
21

22 **Pueblo rights:** A water right possessed by a municipality which, as a successor of a Spanish or
23 Mexican pueblo, entitled to the beneficial use of all needed, naturally-occurring surface and
24 groundwater of the original pueblo watershed. Pueblo rights are paramount to all other claims.
25

26 **Pyroclastic flow:** High-speed avalanches of hot ash, rock fragments, and gas that move down
27 the sides of a volcano during explosive eruptions or when the steep edge of a dome breaks apart
28 and collapses. These pyroclastic flows, which can reach 1500°F (815.55°C) and move at 100 to
29 150 miles per hour, are capable of knocking down and burning everything in their paths.
30

31 **Pyroclastic surge:** Similar to a pyroclastic flow, but contains a higher proportion of gas to rock
32 and is more turbulent and faster moving.
33

34 **Quad-level occurrence:** The recorded occurrence of a species in the area represented by a
35 specific, named U.S. Geological Survey 7.5-minute topographic quadrangle map (quad map).
36 Some State Natural Heritage Programs record the locations of rare species as the name of the
37 quad map on which a species location occurred.
38

39 **Quaternary:** The most recent period of the Cenozoic era, spanning the time between 2.6 million
40 years ago and the present. It contains two epochs: the Pleistocene and the Holocene.
41

42 **Quartzite:** A hard, metamorphic rock that was originally sandstone.
43

44 **Rain shadow effect:** The region on the lee (sheltered) side of a mountain or mountain range
45 where the precipitation is noticeably less than on the windward side, because the moisture-
46 bearing air mass loses most of its moisture on the windward side before reaching the lee side.
47

1 **Rangeland:** Land on which the native vegetation, climax, or natural potential consists
2 predominately of grasses, grasslike plants, forbs, or shrubs. Rangeland includes lands that are
3 revegetated naturally or artificially to provide a plant cover that is managed similar to native
4 vegetation. Rangelands may consist of natural grasslands, savannas, shrub lands, most deserts,
5 tundra, alpine communities, coastal marshes, and wet meadows. (blm4)
6

7 **Rankine steam cycle:** The thermodynamic cycle of temperature and pressure changes of water
8 as it is converted from a liquid to a gaseous state by heating, and returns back to liquid as it
9 performs work, typically by driving a steam turbine. Modern steam turbines operating in a
10 Rankine cycle have a maximum steam temperature of about 1,963°F (1,073°C) with thermal
11 efficiencies of about 40%.
12

13 **Raptor:** A bird of prey such as a falcon, hawk, or eagle.
14

15 **Rare species:** *See* Special Status Species.
16

17 **Rated battery capacity:** The term used by battery manufacturers to indicate the maximum
18 amount of energy that can be withdrawn from a battery under specified discharge rate and
19 temperature. *See* Battery capacity.
20

21 **Rebound (of water levels):** The recovery/rise of the water level in a groundwater aquifer after
22 groundwater pumping has ceased.
23

24 **Receiver:** A component of a solar energy facility that receives solar energy and converts it to
25 useful energy forms, typically heat.
26

27 **Receptor:** A location where environmental resources such as air concentration or noise level are
28 evaluated, e.g., property boundaries, residences, schools, hospitals, libraries, etc.
29

30 **Recharge:** The addition of water to an aquifer by natural infiltration (e.g., rainfall that seeps into
31 the ground) or by artificial injection through wells.
32

33 **Reclamation:** The process of restoring surface environment to acceptable pre-existing
34 conditions.
35

36 **Reclamation Withdrawal:** Withholding an area of public land from the operation of the public
37 land laws for the purpose of reserving the land for the use of the Bureau of Reclamation (BOR).
38 In general, this means that the BOR has first priority for use of the land for BOR projects. Other
39 uses of the land may sometimes be approved with the concurrence of the BOR.
40

41 **Record of Decision (ROD):** A document separate from but associated with an environmental
42 impact statement (EIS) that publicly and officially discloses the responsible agency's decision on
43 the EIS alternative to be implemented.
44

1 **Reflector:** A component of a solar energy facility that reflects incident sunlight to a desired
2 location or component within the facility, allowing it to be converted to other useful forms of
3 energy, typically heat.

4
5 **Region of Influence (ROI):** Area occupied by affected resources and the distances at which
6 impacts associated with license renewal may occur.

7
8 **Regular-track proposals:** Proposals on public land with pending applications considered as
9 potential future projects, but not necessarily foreseeable projects, since not all applications would
10 be expected to be carried to completion.

11
12 **Relict:** A land surface that was once a basin (valley) floor.

13
14 **Renewable Resource Generation Development Areas (GDAs):** Regions within Colorado with
15 a concentration of renewable resources that provide a minimum of 1,000 MW of developable
16 electric generating capacity.

17
18 **Reptile:** Cold-blooded vertebrate of the class Reptilia whose skin is usually covered in scales or
19 scutes. Reptiles include snakes, lizards, turtles, crocodiles, and alligators.

20
21 **Reserved Water Right:** A special water right accompanying federal lands (military
22 reservations, national parks, forests, or monuments) or Indian reservations. Federal reserved
23 water rights have a priority date originating with the creation of the federal land or reservation
24 and may be used in the future in the amount necessary to fulfill the purpose of the federal land
25 or reservation.

26
27 **Reservoir:** A natural or artificial place to store water. Water storage created by building a dam.
28 A pond, lake, or basin used for the storage, regulation, and control of water.

29
30 **Residuum:** Unconsolidated, weathered, or partly weathered mineral material that accumulates
31 by disintegration of bedrock in place.

32
33 **Resource Conservation and Recovery Act (RCRA):** An amendment to the Solid Waste
34 Disposal Act, RCRA (42 U.S.C. 6901 et seq.) authorized the development of federal regulations
35 for the definition, storage, treatment, and disposal of solid wastes and hazardous wastes, as well
36 as the process by which states may obtain primacy for implementation of the federal program.

37
38 **Resource Management Plan (RMP):** A land use plan that establishes land use allocations,
39 multiple use guidelines, and management objectives for a given planning area. The RMP
40 planning system has been used by the Bureau of Land Management since about 1980.

41
42 **Retinal damage:** Damage to photoreceptor cells of the retina. One mechanism for such damage
43 is exposure to bright light that triggers chemical reactions in the tissues (this may also be called
44 retinal burn).

1 **Reuse:** The reclamation of water diverted from a municipal or industrial wastewater conveyance
2 system. To use again; to intercept for subsequent beneficial use, either directly or by exchange.
3 Water that would otherwise return to the steam system.
4

5 **Rhyolite:** Volcanic rock (or lava), characteristically light in color and containing 69% silica or
6 more and generally rich in potassium and sodium (felsic composition).
7

8 **Rhyolitic domes:** *See also* Dome, volcanic; Rhyolite.
9

10 **Richter Magnitude Scale:** Developed in 1935 by Charles Richter to measure and compare the
11 size of earthquakes. The magnitude is determined from the logarithm of the amplitude of waves
12 recorded by seismographs.
13

14 **Rift:** An area where the Earth's crust and lithosphere is being pulled apart by extensional
15 tectonic forces.
16

17 **Rift zone:** A tectonic feature characterized by a central linear downfaulted segment (graben)
18 with parallel normal faulting and flanking uplifts (horsts). The rift axis commonly contains
19 volcanic rocks and volcanic and/or hydrothermal activity.
20

21 **Right-of-Way (ROW):** The legal right to cross the lands of another. Also used to indicate the
22 strip of land for a road, railroad, or power line. In BLM, a permit or an easement which
23 authorizes the use of public lands for certain specified purposes. Also, the lands covered by such
24 an easement or permit. The authorization to use a particular parcel of public land for specific
25 facilities for a definite time period. Authorizes the use of a ROW over, upon, under, or through
26 public lands for construction, operation, maintenance, and termination of a project.
27

28 **Right-lateral fault:** *See* Fault, right-lateral.
29

30 **Rill:** A small and shallow incision into topsoil layers resulting from erosion by overland flow or
31 surface runoff that is common on slopes of unvegetated ground and agricultural land.
32

33 **Riparian:** Relating to, living in, or located on the bank of a river, lake, or tidewater.
34

35 **Rinsate:** Water that is used to rinse or clean equipment or reaction vessels and that may, as a
36 result, become contaminated and require special handling and disposal.
37

38 **Riparian obligate species:** Plants or animal species found only in riparian habitats.
39

40 **Risk:** The likelihood of suffering a detrimental effect as a result of exposure to a hazard.
41

42 **River basin:** The land area surrounding one river from its headwaters to its mouth. The area
43 drained by a river and its tributaries.
44

45 **Riverine wetland:** Wetlands within river and stream channels, generally characterized by
46 flowing water. Ocean-derived salinity is less than 0.5 part per thousand.
47

1 **Rock art:** Images on rock surfaces. There are two types of rock art: pictographs, which are
2 drawn or painted *onto* the surface, and petroglyphs, which are pecked, incised, or abraded *into*
3 the surface.
4

5 **Rock outcrop:** The part of a rock formation that appears above the surface of the surrounding
6 land.
7

8 **Roost:** An area where birds or bats rest or sleep. Birds often use branches or tree cavities for
9 roosts while bats use tree bark, tree hollows, caves, mines, buildings, bridges, or rock crevices.
10

11 **Sacred landscapes:** Natural places recognized by a cultural group as having spiritual or
12 religious significance.
13

14 **Sacred sites:** Any specific, discrete, narrowly delineated location on federal land that is
15 identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative
16 representative of an Indian religion, as sacred by virtue of its established religious significance
17 to, or ceremonial use by, an Indian religion; provided that the tribe or appropriate authoritative
18 representative of an Indian religion has informed the agency of the existence of such a site.
19

20 **Safe Drinking Water Act (SWDA):** Act authorizing development of maximum contaminant
21 levels for drinking water applicable to public water systems (i.e., systems that serve at least
22 25 people or have at least 15 connections).
23

24 **Safe yield:** The amount of groundwater that can be withdrawn from a groundwater basin over a
25 period of time without exceeding the long-term recharge of the basin or unreasonably affecting
26 the basin's physical and chemical integrity.
27

28 **Safe yield:** *See* Perennial/Safe/Sustainable yield.
29

30 **Salinity:** A measure of the amount of salt and other mineral substances dissolved in water.
31

32 **Salt flat:** Low-lying ground where salts collect in the soil because of the evaporation of standing
33 water.
34

35 **Sand:** A rock or mineral fragment of any composition that has a diameter ranging from 0.5 to
36 2.0 mm. Sand has a gritty feel.
37

38 **Sand boil:** A sand boil is sand and water that come out onto the ground surface during an
39 earthquake as a result of liquefaction at shallow depth.
40

41 **Sand dune:** An elongated mound (hill or ridge) of sand accumulated and sorted by the action of
42 wind or water.
43

44 **Sand dune obligate species:** Plant or animal species found only in sand dune habitats.
45

1 **Sanitary waste:** Nonhazardous, nonradioactive liquid and solid waste generated by normal
2 housekeeping activities.
3

4 **Sanitary wastewater:** Wastewater (includes toilet, sink, shower, and kitchen flows) generated
5 by normal housekeeping activities.
6

7 **Savanna:** A flat grassland of tropical and subtropical regions usually having distinct periods of
8 dry and wet weather.
9

10 **Scarify:** Loosening topsoil or breaking up the forest floor to improve conditions for seed
11 germination or tree planting. Also refers to nicking or abrading the hard seed coat of some
12 species to aid germination.
13

14 **Scarp:** *See* Escarpment.
15

16 **Scenic integrity:** The degree of “intactness” of a landscape, which is related to the existing
17 amount of visual disturbance present. Landscapes with higher scenic integrity are generally
18 regarded as more sensitive to visual disturbances.
19

20 **Scenic quality:** A measure of the intrinsic beauty of landform, water form, or vegetation in the
21 landscape, as well as any visible human additions or alterations to the landscape.
22

23 **Scenic resources:** The visible physical features on a landscape (e.g., land, water, vegetation,
24 animals, structures, and other features). Also referred to as visual resources.
25

26 **Scenic value:** The importance of a landscape based on human perception of the intrinsic beauty
27 of landform, water form, and vegetation in the landscape, as well as any visible human additions
28 or alterations to the landscape.
29

30 **Schist:** A metamorphic rock formed from many types of rocks. Minerals in the rocks include
31 micas, chlorite, talc, hornblende, and garnets. The minerals are characteristically platy and
32 foliated (layered), indicating they were subjected to intense compression.
33

34 **Scoping:** The process of inviting public comment on what should be considered prior to
35 preparation of an environmental impact statement (EIS). Scoping assists the preparers of an EIS
36 in defining the proposed action, identifying alternatives, and developing preliminary issues to be
37 addressed in an EIS.
38

39 **Scraper:** A stone tool that is modified for the specific task of scraping; for example, to scrape
40 the meat from hides, to remove fat from the underside of a skin, to smooth wood, to scrape
41 leather, and so forth. Different types are described in terms of the shape and/or position of the
42 cutting edge: side scraper, end scraper, snub-nosed scraper, thumbnail scraper, and scoop
43 scraper.
44

45 **Scoria:** Congealed lava, usually of mafic composition and red or black in color, with a large
46 number of vesicles formed by gases coming out of solution.
47

1 **Scree:** Small, loose, rock debris covering a slope; a slope of loose rock debris at the base of a
2 steep incline or cliff.
3

4 **Scrubland:** An area of land that is uncultivated and covered with sparse stunted vegetation.
5

6 **Secondary containment:** A safeguarding method for the prevention of unauthorized releases of
7 toxic or hazardous gases into uncontrolled work areas. Secondary containment is a method in
8 addition to the primary containment system.
9

10 **Sedge:** A grasslike plant with a triangular stem often growing in wet areas.
11

12 **Sedimentary rock:** Rock formed at or near the Earth's surface from the consolidation of loose
13 sediment that has accumulated in layers through deposition by water, wind, or ice, or living
14 organisms. Examples are sandstone and limestone.
15

16 **Sedimentation:** The removal, transport, and deposition of sediment particles by wind or water.
17

18 **Sedentism:** A term used to describe the process of settling down to live in groups for periods
19 of time.
20

21 **Seepage:** The act or process involving the slow movement of water or other fluid through a
22 porous material such as soil or rock.
23

24 **Seeps:** Wet areas, normally not flowing, arising from an underground water source. Any place
25 where liquid has oozed from the ground to the surface.
26

27 **Seismic:** Pertaining to any earth vibration, especially that of an earthquake.
28

29 **Seismic swarm:** *See* Swarm.
30

31 **Seismicity:** Refers to the geographic and historical distribution of earthquakes.
32

33 **Semi-arid:** Moderately dry region or climate where moisture is normally greater than under arid
34 conditions but still definitely limits the production of vegetation.
35

36 **Semiconductor:** Any material that has a limited capacity for conducting an electric current.
37 Certain semiconductors, including silicon, gallium arsenide, copper indium diselenide, and
38 cadmium telluride, are uniquely suited to the photovoltaic conversion process.
39

40 **Senior water rights:** Water rights that have been established first (measured by the date of
41 appropriation) to the limit of their respective right, frequently to the exclusion of other more
42 junior (in time) water right holders. *See also* Junior water right.
43
44

1 **Sensitive Species:** A plant or animal species listed by the state or federal government as
2 threatened, endangered, or as a species of special concern. The list of BLM sensitive species
3 varies from state to state, and the same species can be considered sensitive in one state but not
4 in another. Also, a species that is adversely affected by disturbance or altered environmental
5 conditions, such as sedimentation. *See also* Special Status Species.
6

7 **Sensitivity level (analysis):** Measures (e.g., high, medium, and low) of public concern for the
8 maintenance of scenic quality.
9

10 **Shadow zone:** The region where direct sound does not penetrate because of upward diffraction
11 due to vertical temperature and/or wind gradients.
12

13 **Shale (outcrop):** A fine-grained sedimentary rock characterized by parallel layering.
14

15 **Shear strength:** Internal resistance to stress (or movement) that comes from friction and
16 cohesion of the sediment.
17

18 **Sherds:** Broken pieces of earthenware/pottery.
19

20 **Shrink-swell potential:** The extent to which soil shrinks or swells with changes in soil moisture
21 content. The shrink-swell potential is influenced by the amount and type of clay in the soil.
22 Shrinking and swelling of soils cause damage to building foundations, roads, and other
23 structures.
24

25 **Shrub:** A plant with persistent woody stems and relatively low growth form; usually produces
26 several basal shoots as opposed to a single bole; differs from a tree by its low stature and
27 nonarborescent form.
28

29 **Shrub-steppe:** Habitat primarily composed of various shrubs and grasses.
30

31 **Shrubsteppe obligate:** A species that is dependent on shrubsteppe habitats to provide food
32 and/or habitat necessary for its survival. Examples include the sage grouse, sage sparrow, and
33 pygmy rabbit.
34

35 **Silencer:** A device used for reducing noise within air and gas flow systems.
36

37 **Silicic volcanism:** Volcanism characterized by the eruption of magma that is rich in lighter
38 elements such as silicon, oxygen, aluminum, sodium, and potassium. Silicic volcanoes are
39 associated with the melting of continental crust and often have explosive eruptions.
40

41 **Silicon:** A semi-metallic chemical element that makes an excellent semiconductor material for
42 photovoltaic devices. It crystallizes in face-centered cubic lattice similar to a diamond. It is
43 commonly found in sand and quartz (as the oxide).
44

45 **Silt:** A rock or mineral fragment of any composition that has a diameter ranging from 0.002 to
46 0.05 mm. Moist silt has a floury feel and is gritty when placed between the teeth.
47

1 **Siltation:** The process by which a river, lake, or other water body becomes clogged with
2 sediment. The process of covering or obstructing with silt.
3

4 **Siltstone:** A sedimentary rock made mostly of silt-sized grains.
5

6 **Sink:** Any process, activity, or mechanism which removes a greenhouse gas, an aerosol, or a
7 precursor of a greenhouse gas or aerosol from the atmosphere.
8

9 **Skirt (fan, dune):** A sloping alluvial fan surface made of sediment deposited by a stream at the
10 mouth of a canyon between a mountain and the adjacent alluvial valley floor. *See* fan apron.
11

12 **Sky glow:** Brightening of the sky caused by outdoor lighting and natural atmospheric and
13 celestial factors.
14

15 **Skylining:** Siting of a structure on or near a ridge line so that it is silhouetted against the sky.
16

17 **Slash:** Any tree-tops, limbs, bark, abandoned forest products, windfalls, or other debris left on
18 the land after timber or other forest products have been cut.
19

20 **Slip:** Motion occurring along a fault plane.
21

22 **Slip rate:** The rate of motion obtained when the amount of offset is divided by a time interval.
23 The common units of measure are mm/yr or m/k.y. (equivalent units). The average slip rate at a
24 point along a fault is commonly determined from geodetic measurements, displacement of
25 manmade features, or from offset geologic features whose age can be estimated or measured.
26 Offset is measured parallel to the predominant slip direction or estimated from the vertical or
27 horizontal separation of geologic features. In special cases, interval slip rates may be calculated
28 if the times and amounts of slip of prehistoric earthquake events have been determined. This type
29 of high-quality data is rather sparse.
30

31 **Slope failure:** The downward and outward movement of a mass of rock or unconsolidated
32 materials as a unit. Landslides and slumps are examples.
33

34 **Slope stability:** The resistance of an inclined surface to failure by sliding or collapsing.
35

36 **Snag:** Dead, drying, or defective trees that remain standing or leaning against other trees. Snags
37 provide habitats for a variety of wildlife species.
38

39 **SO₂:** *See* Sulfur Dioxide.
40

41 **Social disruption:** Social and psychological dislocation associated with the alteration or
42 breakdown of social life in small rural communities that may occur as a result of rapid economic
43 and demographic change with rapid industrial and natural resource development.
44

45 **Socioeconomics:** The social and economic conditions in the study area.
46

1 **Soil compaction:** Compression of the soil which results in reduced soil pore space (the spaces
2 between soil particles), decreased movement of water and air into and within the soil, decreased
3 soil water storage, and increased surface runoff and erosion.
4

5 **Soil deposition:** A general term for the accumulation of sediments by either physical or chemical
6 sedimentation.
7

8 **Soil horizon:** A layer of soil developed in response to localized chemical and physical processes
9 resulting from the activities of soil organisms, the addition of organic matter, precipitation, and
10 water percolation through the layer.
11

12 **Soil horizon mixing:** Soil horizon mixing occurs when soil is disturbed by activities such as
13 excavation.
14

15 **Solar array:** *See* Photovoltaic (PV) array.
16

17 **Solar cell:** *See* Photovoltaic (PV) cell.
18

19 **Solar collector:** A component of a solar energy facility that receives solar energy and converts
20 it to useful energy forms, typically heat. Major components include the mirrors or reflectors,
21 additional features designed to further concentrate the incident sunlight (in some facilities), and
22 a receiver containing a heat transfer fluid.
23

24 **Solar collector arrays:** That portion of the solar energy facility containing components that
25 track and capture sunlight and convert it to other useful forms of energy, typically heat. All such
26 solar collector arrays are typically comprised of mirrors, receivers containing some form of heat
27 transfer fluid, and support structures and controls that allow the mirrors to track the sun over the
28 course of the day to maximize solar energy capture. Together, all components of the solar array
29 make up what is known as the solar field of a solar energy facility.
30

31 **Solar energy:** Electromagnetic energy emitted from the sun (solar radiation). The amount that
32 reaches the Earth is equal to one billionth of total solar energy generated, or the equivalent of
33 about 420 trillion kilowatt-hours.
34

35 **Solar energy technology:** Any engineered method for harnessing, storing, and using the
36 Sun's energy.
37

38 **Solar Energy Zone (SEZ):** Lands identified by the BLM as best-suited for large-scale
39 production of solar energy.
40

41 **Solar module:** *See* Photovoltaic (PV) module.
42

43 **Solar panel:** *See* Photovoltaic (PV) panel.
44

45 **Solar power tower:** *See* Power tower.
46

1 **Solar tracking impacts:** The solar panels can be swiveled using the electric motors to follow the
2 path of the sun exactly in the course of the day to maximize the yields.

3
4 **Sole source aquifer:** An aquifer that supplies 50 percent or more of the drinking water of
5 an area.

6
7 **Solid waste:** All unwanted, abandoned, or discarded solid or semisolid material whether or not
8 subject to decomposition, originating from any source.

9
10 **Source:** Any place or object from which air pollutants are released. Sources that are fixed in
11 space are stationary sources and sources that move are mobile sources.

12
13 **Southwest Regional Gap Analysis Project (SWReGAP):** The Southwest Regional Gap
14 Analysis Project is an update of the Gap Analysis Program's mapping and assessment of
15 biodiversity for the five-state region encompassing Arizona, Colorado, Nevada, New Mexico,
16 and Utah. It is a multi-institutional cooperative effort coordinated by the USGS Gap Analysis
17 Program. The primary objective is to use a coordinated mapping approach to create detailed,
18 seamless GIS maps of land cover, all native terrestrial vertebrate species, land stewardship, and
19 management status, and to analyze this information to identify those biotic elements that are
20 underrepresented on lands managed for their long term conservation or are gaps.

21
22 **Special areas:** Areas of high public interest and containing outstanding natural features or
23 values. Bureau of Land Management special areas include National Wild and Scenic Rivers,
24 National Wildernesses, National Conservation Areas, National Scenic Areas, National
25 Recreation Areas, National Monuments, National Outstanding Natural Areas, National Historic
26 Landmarks, National Register of Historic Places, National Natural Landmarks, National
27 Recreational Trails, National Scenic Trails, National Historic Trails, National Backcountry
28 Byways, Areas of Critical Environmental Concern, Research Natural Areas, Important Bird
29 Areas, United Nations Biosphere Reserves, and World Heritage Sites. *See also* Specially
30 Designated Areas.

31
32 **Special Status Species (Threatened, Endangered, Sensitive, Rare):** Includes both plant and
33 animal species that are proposed for listing, officially listed as threatened or endangered, or are
34 candidates for listing as threatened or endangered under the provisions of the Endangered
35 Species Act; those listed by a state in a category such as threatened or endangered, implying
36 potential endangerment or extinction; and those designated by each BLM State Director as
37 sensitive.

38
39 **Special Use Airspace (SUA):** Airspace of defined dimensions identified by an area on the
40 surface of the Earth wherein activities must be confined because of their nature and/or wherein
41 limitations may be imposed upon aircraft operations that are not a part of those activities.

1 **Specially Designated Areas:** Includes a variety of areas that have received recognition or
2 designation because they possess unique or important resource values. While these areas would
3 not be available for development of solar energy resources, they could be located near solar
4 development areas and could be affected by solar development. Examples of BLM-administered
5 specially designated areas include components of the BLM National Landscape Conservation
6 System (NLCS), areas of critical environmental concern (ACECs), special recreation
7 management areas, and areas with wilderness values. These areas may have been designated by
8 Congress or by the BLM. The majority of specially designated areas discussed in this PEIS are
9 located on BLM-administered public lands; however, some specially designated areas managed
10 by the U.S. Forest Service (USFS), U.S. Fish and Wildlife Service (USFWS), National Park
11 Service, and states also are included in the analysis when they could be affected by solar
12 development on public lands.

13
14 **Species of Special Concern:** A species that may have a declining population, limited
15 occurrence, or low numbers for any of a variety of reasons.

16
17 **Specular reflection:** Also known as direct reflection, regular reflection, or mirror reflection. The
18 reflection of electromagnetic rays without scattering or diffusion. In specular reflection, the angle
19 at which the wave is incident on the reflecting surface is equal to the angle at which it is reflected
20 from that surface. *See also* Glint; Glare.

21
22 **Spill light:** Light that falls outside of the area intended to be lighted.

23
24 **Spring:** The point at which the water table meets Earth's surface, causing water to flow from
25 the ground.

26
27 **Sprinkler system:** Consists of pipelines which carry water under pressure from a pump or
28 elevated source to lateral lines along which sprinkler heads are spaced at appropriate intervals.

29
30 **Staging area:** A designated area where construction equipment is temporarily stored (usually
31 only during the construction phase).

32
33 **State Historic Preservation Officers (SHPOs):** The State officer charged with the
34 identification and protection of prehistoric and historic resources in accordance with the National
35 Historic Preservation Act.

36
37 **Steam amendment chemicals:** Chemicals used to treat raw water to remove certain chemical
38 species, thus amending its hardness or pH, making it suitable for use in a steam cycle.

39
40 **Steam Turbine-Generator (STG):** A device that uses high-pressure steam, produced in a
41 boiler, to drive the blades of a turbine to produce mechanical energy that can then be used
42 to produce electricity by causing rotation of the central shaft of a mechanically connected
43 generator.

44
45 **Steep slopes:** Ground surface that rises precipitously above the horizon.

46

1 **STG:** *See* Steam Turbine Generator.
2
3 **Steppe:** Habitat dominated by shrubs and grasses.
4
5 **Stirling Engine:** Named after its inventor, a reciprocating engine that converts heat into useable
6 mechanical energy (shaftwork) by the heating (expanding) and cooling (contracting) of a captive
7 gas (a working fluid) such as helium or hydrogen. As a solar energy technology, the Stirling
8 Engine uses sunlight reflected off a parabolic surface to heat hydrogen to drive the engine that in
9 turn drives a mechanically connected generator to produce electricity.
10
11 **Stolon:** An elongated stem growing along the ground surface and giving rise to leaves and
12 adventitious roots at the nodes. (Nodes are bud containing areas along a stem.)
13
14 **Strain:** A change in the volume or shape of a rock mass, in response to stress.
15
16 **Strata:** Single, distinct layers of sediment or sedimentary rock.
17
18 **Stratigraphy (stratigraphic):** Layers of sediments and rocks that reflect the geologic history of
19 an area. With respect to cultural resources and archaeological sites, the relative stratigraphic
20 locations of human artifacts help determine the sequence in which past human activities took
21 place.
22
23 **Stream terrace:** A remnant of a floodplain surface formed by streams as they carve downward
24 into their floodplains.
25
26 **Stressors:** Physical, chemical, or biological entities that can induce adverse effects on
27 ecosystems or human health.
28
29 **Strike-slip fault:** Vertical (or nearly vertical) fractures where the blocks have mostly moved
30 horizontally. If the block opposite an observer looking across the fault moves to the right, the slip
31 style is termed right lateral; if the block moves to the left, the motion is termed left lateral.
32
33 **Structure:** Any apparatus constructed to divert or impound water, such as a berm, head gate,
34 pipe, or well.
35
36 **Structural fires:** Fire originating in and burning any part or all of any building, shelter, or
37 other structure.
38
39 **Subalpine:** The upper mountain vegetation immediately below the cold limits of tree and tall
40 shrub growth.
41
42 **Sub-canopies:** Woody vegetation that grows beneath the canopy or tree tops of a forest
43 or woodland.
44
45

1 **Subsidence:** Sinking or settlement of the land surface, due to any of several processes. As
2 commonly used, the term relates to the vertical downward movement of natural surfaces
3 although small-scale horizontal components may be present. The term does not include
4 landslides, which have large-scale horizontal displacements, or settlements of artificial fills.
5

6 **Subsistence:** The practices by which a group or individual acquires food, such as through
7 hunting and gathering, fishing, and agriculture.
8

9 **Substation:** A substation consists of one or more transformers and their associated switchgear. It
10 is used to switch generators, equipment, and circuits or lines in and out of a system. It is also
11 used to change AC voltages from one level to another.
12

13 **Substrate:** The composition of a streambed, including either mineral or organic material.
14 Materials that form an attachment medium for organisms.
15

16 **Sulfur dioxide (SO₂):** A gas formed from burning fossil fuels, notably from coal-fired power
17 plants. Sulfur dioxide is one of the six criteria air pollutants specified under Title I of the Clean
18 Air Act.
19

20 **Sulfur oxides (SO_x):** Compounds containing sulfur and oxygen, such as sulfur dioxide (SO₂)
21 and sulfur trioxide (SO₃). Pungent, colorless gases that are formed primarily by fossil fuel
22 combustion, notably from coal-fired power plants. Sulfur oxides may damage the respiratory
23 tract, as well as plants and trees.
24

25 **Surface expression:** Refers to the physical expression of seismic activity at the ground exterior
26 in the form of a fault rupture or fissure.
27

28 **Surface rupture:** The breakage of ground along the surface trace of a fault caused by the
29 intersection of the fault surface area ruptured in an earthquake with the Earth's surface.
30

31 **Surface texture:** The visual manifestations of the interplay of light and shadow created by the
32 variations in the top of an object or landscape.
33

34 **Surface water:** Water on the Earth's surface that is directly exposed to the atmosphere, as
35 distinguished from water in the ground (groundwater).
36

37 **Sustainable yield:** *See* Perennial/Safe/Sustainable yield.
38

39 **Swale:** A low place in a tract of land, usually moister, and often having denser vegetation than
40 the adjacent higher land.
41
42

1 **Swarm (seismic swarm):** A localized surge of earthquakes, with no one shock being
2 conspicuously larger than all other shocks of the swarm. Seismic swarms typically last longer
3 than more typical earthquake sequences that consist of a main shock followed by significantly
4 smaller aftershocks. Seismic swarms occur in a variety of geologic environments. They are not
5 known to be indicative of any change in the long-term seismic risk of the region in which they
6 occur.

7
8 **Take:** Under the Bald and Golden Eagle Protection Act, it means to pursue, shoot, shoot at,
9 poison, wound, kill, capture, trap, collect, destroy, molest, or disturb. Disturb means to agitate or
10 bother a bald eagle or a golden eagle to a degree that causes, or is likely to cause, based on the
11 best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity,
12 by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest
13 abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

14
15 **Talus:** Rock debris accumulated at the base of the cliff or slope from which they have
16 broken off.

17
18 **Taxonomy:** The field of science that classifies life.

19
20 **Tectonic:** Refers to the rock-deforming processes and resulting structures that occur over large
21 sections of the lithosphere.

22
23 **Tephra:** A general term for fragments of volcanic rock and lava, regardless of size, that are
24 blasted into the air by explosions or carried upward by hot gases in eruption columns or lava
25 fountains. Tephra includes large dense blocks and bombs, and small light rock debris such as
26 scoria, pumice, reticulite, and ash.

27
28 **Tertiary volcanics (Tv):** Volcanic rocks deposited during the Tertiary period (between 2.8 and
29 65 million years ago). The Tertiary period was a time of extensive volcanism in the western
30 United States.

31
32 **Terrace:** A step-like surface, bordering a valley floor or shoreline, that represents the former
33 position of a floodplain, lake, or sea shore.

34
35 **Terrain:** Topographic layout and features of a tract of land or ground.

36
37 **Terrestrial:** Pertaining to plants or animals living on land rather than in the water.

38
39 **Tertiary period:** The earliest period of the Cenozoic era, beginning about 65 million years ago
40 and ending 2.6 million years ago. Together the Tertiary and Quaternary periods make up the
41 Cenozoic era.

42
43 **Texture:** The visual manifestations of light and shadow created by the variations in the surface
44 of an object or landscape.

45

1 **Texture contrasts:** Visual contrasts between different objects or landscapes resulting from
2 different visual manifestations of the interplay of light and shadow created by the variations
3 in the surfaces of the objects or landscapes.
4

5 **Thermal energy:** The use of heat as a source of energy. Thermal energy can be used directly
6 or can be transformed into mechanical energy (using a steam engine) which can then be
7 transformed into electrical energy. Thermal energy is usually measured in British thermal units
8 (Btu).
9

10 **Thermal inertia:** The amount of heat energy that must be present in, preserved, or added to a
11 system (in this case, a CSP facility) before it can function as designed.
12

13 **Thermal water:** A water body (usually a spring or its outflow) that is produced by geothermally
14 heated groundwater.
15

16 **Thermoelectric (power) water use:** Water used in generating electricity with steam-driven
17 turbine generators. Power plants that burn coal and oil are examples of thermoelectric-power
18 facilities. Production of electrical power results in one of the largest uses of water in the United
19 States and worldwide.
20

21 **Thin film:** A layer of semiconductor material, such as copper indium diselenide or gallium
22 arsenide, a few microns or less in thickness, used to make photovoltaic cells.
23

24 **Thorn forest:** A type of forest formation, mostly tropical and subtropical, intermediate between
25 desert and steppe, dominated by small trees and shrubs. Many are armed with thorns and spines;
26 leaves are absent, succulent, or deciduous during long dry periods.
27

28 **Threatened species:** Any species that is likely to become an endangered species within the
29 foreseeable future throughout all or a significant portion of its range. Requirements for declaring
30 a species threatened are contained in the Endangered Species Act. *See also* Special Status
31 Species.
32

33 **Topography:** The shape of the Earth's surface; the relative position and elevations of natural
34 and human-made features of an area.
35

36 **Total dissolved solids (TDS):** The dry weight of dissolved material, organic and inorganic,
37 contained in water. The term is used to reflect salinity.
38

39 **Toxic Air Pollutants (TAPs):** *See* Hazardous air pollutants.
40

41 **Toxic Substances Control Act (TSCA):** An act, 7 U.S.C. Section 136 et seq., authorizing the
42 U.S. Environmental Protection Agency to secure information on all new and existing chemical
43 substances and to control any of these substances that are determined to cause an unreasonable
44 risk to public health or the environment.
45

1 **Toxicity:** Harmful effects to an organism through exposure to a hazardous substance.
2 Environmental exposures are primarily through inhalation, ingestion, or the skin.

3
4 **Tracking array:** A PV panel array that follows the path of the sun to maximize the solar
5 radiation incident on the PV surface. The two most common orientations are (1) single-axis
6 where the array tracks the sun east to west and (2) dual-axis tracking where the array changes
7 position seasonally as well as diurnally to allow the panels to directly face the sun at all times
8 of the year. Tracking arrays use both the direct and diffuse sunlight. Dual-axis tracking arrays
9 capture the maximum possible energy.

10
11 **Traditional cultural property:** A property that is eligible for inclusion in the National Register
12 of Historic Places because of its association with cultural practices or beliefs of a living
13 community that (a) are rooted in that community's history, and (b) are important in maintaining
14 the continuing cultural identity of the community. An example would be a location associated
15 with the traditional beliefs of a Native American group about its origins, its cultural history, or
16 the nature of the world.

17
18 **Transform fault:** *See* Fault, transform.

19
20 **Translocation:** The intentional capture, movement, and release of individuals of a species into a
21 different area, usually to prevent harm to the individuals or to establish populations elsewhere.

22
23 **Transmission corridor:** An electric or pipeline transmission corridor is a route approved on
24 public lands, in a BLM or other federal agency land use plan, as a location that may be suitable
25 for the siting of electric or pipeline transmission systems.

26
27 **Transmission line:** A set of electrical current conductors, insulators, supporting structures, and
28 associated equipment used to move large quantities of power at high voltage, usually over long
29 distances (e.g., between a power plant and the communities that it serves).

30
31 **Transmissivity:** The rate at which water of the prevailing kinematic viscosity is transmitted
32 through a unit width of the aquifer under a unit hydraulic gradient. It is equal to an integration of
33 the hydraulic conductivities across the saturated part of the aquifer perpendicular to the flow
34 paths.

35
36 **Travertine:** A sedimentary rock formed by the precipitation of carbonate minerals from solution
37 in ground and surface waters, and/or geothermal hot-springs.

38
39 **Tribal land:** In NAGPRA, tribal land is defined as: (a) all lands within the exterior boundaries
40 of any Indian reservation; (b) all dependent Indian communities; (c) any lands administered for
41 the benefit of Native Hawaiians pursuant to the Hawaiian Homes Commission Act, 1920, and
42 section 4 of Public Law 86-3. In NHPA, tribal land is defined as: (a) all lands within the exterior
43 boundaries of any Indian reservation; and (b) all dependent Indian communities.

44
45 **Tribe:** Term used to designate a Federally recognized group of American Indians and their
46 governing body. Tribes may be comprised of more than one band.

1 **Tributary:** A stream that flows into another stream, river, or lake.
2
3 **Troposphere:** The layer of the atmosphere closest to the Earth’s surface.
4
5 **Tsunami:** Ocean waves produced by earthquakes or underwater landslides.
6
7 **Tuff:** Volcanic rock made up of rock and mineral fragments in a volcanic ash matrix. Tuffs
8 commonly are composed of much shattered volcanic rock glass—chilled magma blown into the
9 air and then deposited. If volcanic particles fall to the ground at a very high temperature, they
10 may fuse together, forming a welded tuff.
11
12 **Tundra:** *See* Arctic or Alpine tundra.
13
14 **Turbidity:** A measure of the cloudiness or opaqueness of water. Typically, the higher the
15 concentration of suspended material, the greater the turbidity.
16
17 **Unconfined aquifer:** *See* Aquifer-unconfined.
18
19 **Unconsolidated (basin fill deposits):** Loose sediment; lacking cohesion or cement.
20
21 **Unconsolidated shore wetlands:** Includes all wetland habitats having three characteristics:
22 (1) unconsolidated substrates with less than 75% areal cover of stones, boulders, or bedrock;
23 (2) less than 30% areal cover of vegetation other than pioneering plants; and (3) any of the
24 following water regimes: irregularly exposed, regularly flooded, irregularly flooded, seasonally
25 flooded, temporarily flooded, intermittently flooded, saturated, or artificially flooded.
26
27 **Underflow:** The movement of groundwater through the soil or a subsurface stratum, or under a
28 structure; specifically, the water flowing beneath the bed of a stream, in the same direction, but
29 much more slowly, especially in a dry stream channel in an arid region.
30
31 **Understory:** The vegetation layer immediately beneath the canopy.
32
33 **Unfaulted:** An area without faults.
34
35 **United States Environmental Protection Agency:** The independent federal agency, established
36 in 1970, that regulates federal environmental matters and oversees the implementation of federal
37 environmental laws.
38
39 **Unrest (episode):** Usually non-eruptive volcanic activity (e.g., ground deformation, steam
40 plumes, degassing) that may be interpreted as a precursor to an eruption.
41
42 **Unstable slopes:** Slopes considered unstable due to their incline (or critical angle of repose),
43 applied to slopes made of unconsolidated material. Unstable slopes are prone to failure in the
44 form of rockfalls, rock flows, plane shears, or rotational shears.
45
46 **Upland:** The portion of the landscape above the valley floor or stream.
47

1 **Upper-air sounding:** An upper-air observation of the vertical profile of an atmospheric variable
2 such as temperature or wind.
3

4 **Uplighting:** Light directed upward at greater than 90° above nadir, generally upward into the
5 sky. Uplighting can result from direct illumination of the sky and/or light reflected upward from
6 illuminated objects below a light source.
7

8 **Upwarp:** A broad anticline with gently sloping limbs formed as a result of differential uplift.
9

10 **USGS:** United States Geological Survey.
11

12 **Utility scale facilities:** Facilities that generate large amounts of electricity that is delivered to
13 many users through transmission and distribution systems.
14

15 **Valley floor:** The gently sloping to nearly level bottom surface of a valley.
16

17 **Vent:** *See* Volcanic vent.
18

19 **Vernal pool:** Seasonally-flooded depressions found on soils with an impermeable layer such as
20 a hardpan, claypan, or volcanic basalt. California's vernal pools occur on a variety of landscape
21 formations, but most often on alluvial formations deposited by ancient waterways and seas. The
22 impermeable layer allows the pools to retain water much longer than the surrounding uplands;
23 nonetheless, the pools are shallow enough to dry up each season.
24

25 **Vertebrate:** Any species having a backbone or spinal column including fish, amphibians,
26 reptiles, birds, and mammals.
27

28 **Vertical angle of view:** Elevation of viewer relative to the elevation of the proposed action, and
29 the resulting angle of difference. *See also* Horizontal angle of view; Angle of view.
30

31 **View duration:** Length of time a proposed action is in view. Impacts that are viewed for a long
32 period of time are generally judged to be more severe than those viewed briefly.
33

34 **Viewer distance:** The distance from a viewpoint to a seen object or landscape element.
35

36 **Viewpoint:** A point from which a landscape view is analyzed and/or evaluated.
37

38 **Viewshed:** The total landscape seen or potentially seen from all or a logical part of a travel route,
39 use area, or water body.
40

41 **Visibility factors:** Conditions or other phenomena that affect the visibility or appearance of an
42 object or a landscape. Examples of visibility factors include distance, lighting conditions, air
43 quality, atmospheric conditions, and viewing angle.
44

45 **Visual absorption capability:** The physical capacity of a landscape to accept human alterations
46 without loss of its inherent visual character or scenic quality.
47

1 **Visual attention:** Noticing and focusing of vision on a particular object or landscape element.
2

3 **Visual clutter:** The complex visual interplay of numerous disharmonious landscape
4 characteristics and features resulting in a displeasing view.
5

6 **Visual contrast:** Opposition or unlikeness of different forms, lines, colors, or textures in
7 a landscape.
8

9 **Visual disharmony:** A state of disagreement, incongruity, or disproportionate arrangement of
10 forms, lines, colors, and textures in the visual elements of a seen landscape.
11

12 **Visual feature:** An element, such as a land or water form, vegetation, or structure in the seen
13 landscape.
14

15 **Visual harmony:** A pleasing array of visual elements in a landscape, usually as a result of a
16 sense of visual order, compatibility, and completeness between and among the land forms, water
17 forms, vegetation, or structures visible in the landscape.
18

19 **Visual impact:** Any modification in land forms, water bodies, or vegetation, or any introduction
20 of structures, which negatively or positively affect the visual character or quality of a landscape
21 through the introduction of visual contrasts in the basic elements of form, line, color, and texture.
22

23 **Visual intrusion:** Any human-caused change in the land form, water form, vegetation, or the
24 addition of a structure which creates a visual contrast in the basic elements (form, line, color,
25 texture) of the naturalistic character of a landscape.
26

27 **Visual mitigation:** Actions taken to avoid, eliminate, or reduce potential adverse impacts on
28 scenic resources.
29

30 **Visual quality:** *See* Scenic quality.
31

32 **Visual resources:** Refers to all objects (man-made and natural, moving and stationary) and
33 features such as landforms and water bodies that are visible on a landscape.
34

35 **Visual Resource Inventory (VRI):** Consists of a scenic quality evaluation, sensitivity level
36 analysis, and a delineation of distance zones. Based on these three factors, BLM-administered
37 lands are placed into one of four visual resource inventory classes.
38

39 **Visual Resource Inventory (VRI) Classes:** VRI Classes are assigned to public lands based
40 upon the results from the Visual Resource Inventory. They do not establish management
41 direction and should not be used as a basis for constraining or limiting surface disturbing
42 activities. Inventory classes are informational in nature and provide the basis for considering
43 visual values in the RMP process. There are four classes (I, II, III, and IV).
44
45

1 **Visual Resource Management (VRM) Classes:** Categories assigned to BLM lands, utilizing
2 the Visual Resource Inventory Classes in the RMP process, with an objective which prescribes
3 the amount of change allowed in the characteristic landscape. All actions proposed during the
4 RMP process that would result in surface disturbances must consider the importance of the visual
5 values and the impacts the project may have on these values. Management decisions in the RMP
6 must reflect the value of visual resources. The value of the visual resource may be the driving
7 force for some management decisions. There are four VRM classes: I, II, III and IV.
8

9 **Visual Resource Management (VRM) Class Designations:** **Class I** objective is to preserve
10 the existing character of the landscape. The level of change to the characteristic landscape
11 should be very low and must not attract attention. **Class II** objective is to retain the existing
12 character of the landscape. The level of change to the characteristic landscape should be low.
13 Management activities may be seen but must not attract the attention of the casual observer. Any
14 changes must repeat the basic elements of form, line, color, and texture found in the predominant
15 natural landscape features. **Class III** objective is to partially retain the existing character of the
16 landscape. The level of change to the characteristic landscape should be moderate. Management
17 activities may attract attention but should not dominate the view of the casual observer. Changes
18 should repeat the basic elements of form, line, color, and texture found in the predominant
19 natural landscape features. **Class IV** objective is to provide for management activities that
20 require major modification of the existing character of the landscape. The level of change to the
21 characteristic landscape can be high.
22

23 **Visual Resource Management (VRM) System:** BLM's system for minimizing the visual
24 impacts of surface-disturbing activities and maintaining scenic values for the future. The
25 inventory and planning actions taken to identify visual values and to establish objectives
26 for managing those values; and the management actions taken to achieve the visual
27 management objectives.
28

29 **Visual sensitivity:** Public concern for the maintenance of scenic quality in a particular
30 landscape setting.
31

32 **Visual unity:** The quality or state of appearing to be united in principles and relationships or to
33 be logically and aesthetically connected because of the visual elements and properties of a seen
34 object or landscape.
35

36 **Visual value:** *See* Scenic value.
37

38 **Volatile Organic Compounds (VOCs):** Any organic compound that participates in atmospheric
39 photochemical reactions except those designated by the EPA as having negligible photochemical
40 reactivity. Sources include certain solvents, degreasers (benzene), and fuels. Volatile organic
41 compounds react with other substances (primarily nitrogen oxides) to form ozone, which
42 contributes significantly to photochemical smog production and certain health problems.
43
44

1 **Volcanic ash:** Consists of rock, mineral, and volcanic glass fragments smaller than 2 mm
2 (0.1 inch) in diameter, which is slightly larger than the size of a pinhead. Volcanic ash is not the
3 same as the soft fluffy ash that results from burning wood, leaves, or paper. It is hard, does not
4 dissolve in water, and can be extremely small—ash particles less than 0.025 mm (1/1,000th of
5 an inch) in diameter are common. Volcanic ash is created during explosive eruptions by the
6 shattering of solid rocks and violent separation of magma (molten rock) into tiny pieces.

7
8 **Volcanic chain:** A linear sequence of volcanoes that occurs within a tectonic plate. As the plate
9 moves over a stationary hot spot, new volcanoes are created.

10
11 **Volcanic cone:** A landform built by the material ejected from a volcanic vent and piled up
12 around the vent in the shape of a cone with a central crater. The cone type is defined by the
13 nature of the fragments ejected from the vent (e.g., cinder cones or ash cones).

14
15 **Volcanic-rock aquifer:** *See* Aquifer-volcanic rock.

16
17 **Volcanic vent:** The opening at the Earth's surface through which volcanic materials issue forth.

18
19 **Volcanism:** The process by which magma and associated gases rise to the Earth's crust and are
20 extruded, or expelled, onto the surface and into the atmosphere.

21
22 **Volcano:** A vent (opening) in the surface of the Earth through which magma erupts. It is also the
23 landform that is constructed by the erupted material.

24
25 **Volcanoclastic rock:** Sedimentary rocks such as sandstones formed by the aggregation of rock
26 fragments (clasts) of volcanic origin.

27
28 **Voluntary relinquishment:** To voluntarily relinquish possession with the intent of terminating
29 ownership, but without vesting it in any other person. In determining whether one has abandoned
30 his property or rights, intent is the paramount object of inquiry, for to abandon, one must intend
31 to abandon. The intent must be clear and the act must be complete. To abandon a homestead one
32 must leave with the intention of never returning. To abandon a mining claim held by location
33 without patent, the holder must leave voluntarily, without any intention to retake or resume the
34 claim and regardless of what may become of it in the future. Even in prescriptive rights, non-use
35 is not abandonment.

36
37 **Wake effect:** Enhanced plume dispersion due to mechanical turbulence and zones of turbulent
38 eddies, primarily downwind of a building, which results in increased ground-level concentrations
39 of pollutants.

40
41 **Wash:** A normally dry stream bed that occasionally fills with water.

42
43 **Waste Management:** Procedures, physical attributes, and support services that collectively
44 provide for the identification, containerization, storage, transport, treatment (as necessary), and
45 disposal of wastes generated in association with an activity.

46

1 **Waste minimization:** Actions, policies, or procedures that collectively serve to reduce the
2 amount of wastes generated as a result of operation of an activity or facility. Efforts can extend
3 to identifying recycling options for wastes and for discarded materials and equipment, or by
4 selecting the least hazardous chemicals to input into the process.
5

6 **Wastewater:** Water that typically contains less than 1% concentration of organic hazardous
7 waste materials. Water originating from human sanitary water use (domestic wastewater) and
8 from a variety of industrial processes (industrial wastewater).
9

10 **Water code:** A type of legislation that is specific to the management of water resources.
11

12 **Water quality:** A term used to describe the chemical, physical, and biological characteristics of
13 water, usually with respect to its suitability for a particular purpose.
14

15 **Water right:** A legal entitlement of an individual or entity to extract water from a water source
16 (surface water or groundwater) and to use it for a beneficial use (e.g., potable water supply,
17 irrigation, mining, livestock). *See also* Senior water right.
18

19 **Watershed:** A region or area bounded peripherally by a water parting and draining ultimately to
20 a particular water-course.
21

22 **Water table:** The upper level of ground water; the level below which soil and rock are saturated
23 with water.
24

25 **Watt (W):** A basic unit of power; one joule of energy consumed per second. When used to
26 describe electrical power, one watt is the product of voltage times current.
27

28 **Weed:** A plant considered undesirable, unattractive, or troublesome, usually introduced and
29 growing without intentional cultivation.
30

31 **Wet closed-cycle cooling system:** *See* Closed-loop cooling system.
32

33 **Wet cooling system:** *See* Closed-cycle cooling system.
34

35 **Wetlands:** Areas that are soaked or flooded by surface or groundwater frequently enough or
36 long enough to support plants, birds, animals, and aquatic life. Wetlands generally include
37 swamps, marshes, bogs, estuaries, and other inland and coastal areas and are federally protected.
38

39 **Wickiup:** Temporary dwelling framed of arched poles covered by brush, bark, rushes, or mats.
40

41 **Wild and Scenic Rivers (WSR) Act:** Primary river conservation law enacted in 1968. The Act
42 was specifically intended by Congress to balance the existing policy of building dams on rivers
43 for water supply, power, and other benefits, with a new policy of protecting the free-flowing
44 character and outstanding values of other rivers.
45

1 **Wild Free-Roaming Horses and Burros Act of 1971:** Act passed by Congress in 1971 giving
2 BLM the responsibility to protect, manage, and control wild horses.

3
4 **Wild horses and burros:** Unbranded and unclaimed horses or burros roaming free on public
5 lands in the western United States and protected by the Wild Free-Roaming Horse and Burro
6 Act of 1971. They are descendants of animals turned loose by, or escaped from, ranchers,
7 prospectors, Indian Tribes, and the U.S. cavalry from the late 1800s through the 1930s.

8
9 **Wilderness:** All lands included in the National Wilderness Preservation System by public law,
10 generally defined as undeveloped federal land retaining its primeval character and influence
11 without permanent improvements or human habitation.

12
13 **Wilderness characteristics:** Wilderness characteristics include (1) Naturalness: the area
14 generally appears to have been affected primarily by the forces of nature, with the imprint of
15 man's work substantially unnoticeable; (2) Outstanding Opportunities: the area has either
16 outstanding opportunities for solitude, or outstanding opportunities for primitive and unconfined
17 types of recreation; (3) Size: the area is at least 5,000 acres (20 km²) of land or is of sufficient
18 size as to make practicable its preservation and use in an unimpaired condition; and (4) Values:
19 the area may also contain ecological, geological, or other features of scientific, educational,
20 scenic, or historical value.

21
22 **Wildfires:** Any non-structure fire that occurs in the wildland.

23
24 **Wildlife corridor:** Linear spaces that connect various areas of an animal's habitat (i.e., links
25 between feeding, watering, resting, breeding, or seasonal habitats).

26
27 **Wind rose:** A circular diagram, for a given locality or area, showing the frequency and strength
28 of the wind from various directions over a specified period of record.

29
30 **Winnowing:** Selective sorting or removal of fine particles by wind or water.

31
32 **Withdrawal:** The removal of surface water or groundwater from the natural hydrologic system
33 for use, including: public-water supply, industry, commercial, domestic, irrigation, livestock, or
34 thermoelectric power generation.

35
36 **Xeric (habitat):** Low in moisture. Dry environmental conditions. Habitats or sites characterized
37 by their limited water availability.

38
39 **Yardang:** A wind-carved rock ridge feature found in desert environments.

40
41 **Zoned fault:** *See* Fault, zoned.

42
43 **Zoomorphic:** Having or representing animal forms.

44
45

1 **Zooplankton:** A generic term referring to consumers that have limited ability to move against
2 the current. Zooplankton can be permanent (i.e., rotifers or cladocerans) or temporary, as with
3 the early life stages (i.e., eggs, larvae, juveniles, and adults) of many fish and invertebrate
4 species.
5