

SECTION 6 GLOSSARY AND REFERENCES

6.1 GLOSSARY

100-year floodplain: The area along the river corridor that would receive flood waters during a 100-year flood event. This flood event has the probability of occurring 1% of the time during any given year. If a 100-year flood event occurs, the following year will still have the same probability for occurrence of a 100-year event. The 100-year floodplain also includes wetlands and meadows associated with the hydrologic and ecological processes of the river.

A

Acre-foot: A volume of water that would cover 1 acre to a depth of 1 foot (325,850 gallons, 43,560 cubic feet).

Adaptive management: A systematic process for continually improving management policies and practices by learning from the outcomes of operational programs. A way for resources managers to proceed responsibly in the face of such uncertainty.

Affected environment: Existing biological, physical, social, and economic conditions of an area subject to change, both directly and indirectly, as the result of a proposed human action. Also, the chapter in an environmental impact statement describing current environmental conditions.

Alluvium: A general term for all deposits resulting from the operations of modern rivers, including the sediments laid down in riverbeds, floodplains, lakes, fans at the foot of mountain slopes, and estuaries.

Alternatives: Courses of action which may meet the objectives of a proposal at varying levels of accomplishment, including the most likely future conditions without the project or action.

Aquifer: A geological formation or structure that stores and/or transmits water, such as to wells and springs.

Archaeology: Study of human cultures through the recovery and analysis of their material relics.

Arroyo: A gully or channel cut by an intermittent stream.

Artifact: A human-made object.

B

Backflooding: Flooding due to backup of excess flow behind a constriction in a major conduit.

Backwater: A small, generally shallow body of water attached to the main canal, with little or no current of its own.

Baseline: Condition that would prevail if no action were taken.

Bed material: Unconsolidated material of which a streambed is composed.

Benthic: Bottom of lakes or oceans; organisms that live on the bottom of water bodies.

Benthos: Organisms living in or on the bottom of a lake, pond, ocean, or stream.

Biological diversity: Number and kinds of organisms per unit area or volume; the composition of species in a given area at the given time.

Biological Opinion: Document which states the opinion of the U.S. Fish and Wildlife Service about whether a Federal action is likely to jeopardize the continued existence of a threatened or endangered species or result in the destruction or adverse modification of critical habitat.

Biota: The types of plant and animal life found in specific regions at specific times.

Bosque: Spanish word for forest, used to refer to the riparian forest along the Rio Grande.

Bypass flow: Water allowed to flow past a diversion structure or storage facility.

C

Candidate species: Plant or animal species that are candidates for designation as endangered (becoming extinct) or threatened (likely to become endangered).

Capital costs: Costs (usually long-term debt) of financing construction and equipment. Capital costs are usually fixed, one-time expenses.

Channel: The bed or deepest portion of a stream, river, or other body of water.

Community: A group of one or more interacting populations of plants and animals in a common spatial arrangement at a particular point in time.

Consumptive use: That part of water withdrawn that is evaporated, transpired by plants, incorporated into products or crops, consumed by humans or livestock, or otherwise removed from the immediate water environment. Also referred to as water consumed.

Contiguous: Touching or connected throughout in an unbroken sequence.

Conveyance loss: Water that is lost in transit from a canal, conduit, or ditch by leakage or evaporation. Generally, leakage from an irrigation ditch can percolate to a groundwater source and be available as groundwater.

Conservation easement: A restriction placed on a piece of property to protect the resources (natural or man-made) associated with the parcel.

Corridor: Narrow strip of land reserved that extends over several miles.

Critical habitat: Areas designated by the Secretary as critical habitat under section 4 of the ESA (16 USC sec. 1533). The term is a legal term which connotes a formal designation that takes place through a rulemaking process.

Cultural resource(s): Sites, structures, landscapes, and objects of some importance to a culture or community for scientific, traditional, religious, or other reasons.

Colonization: The successful establishment of a new habitat by a species

D

Degradation: Process wherein the elevation of streambeds, sandbars, and floodplains is lowered by erosion. The opposite of aggradation.

Depletion: To permanently remove water from a system for a specific use.

Deposition: Material settling out of the water onto the streambed. Occurs when the energy of the flowing water is unable to support the load of suspended sediment.

Direct impact: An impact caused by an action that occurs at the same time and place as the [proposed] action (see 40 CFR 1508.8).

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

Diversion: The transfer of water from a stream, lake, aquifer, or other source of water by a canal, pipe, well, or other method to another body of water or to the land, as in the case of an irrigation system.

Drainage basin: The area of land that drains water, sediment, and dissolved materials to a common outlet at some point along a stream channel. Also see watershed.

E

Easement: The right to use the real property of another for a specific purpose.

Ecosystem: Complex system composed of a community of animals and plants as well as the chemical and physical environment.

Emergent vegetation: Aquatic plants having most of the vegetation parts growing above water.

Embayment: The formation of a bay.

Emissions: Substances discharged into the air.

Endangered species: A species in danger of extinction throughout all or a significant portion of its range. As a general rule, the term is used only for species that have been formally listed as endangered under the Endangered Species Act (16 USC sec. 1531-1544)..

Ephemeral: Streams that contain running water only for brief periods of time in direct response to precipitation.

Evaporation: Water vapor losses from water surfaces, sprinkler irrigation, and other related factors.

Evapotranspiration: The combined processes of evaporation and transpiration. It can be defined as the sum of water used by vegetation and water lost by evaporation.

Environmental consequences: A section in an Environmental Impact Statement that addresses the alternatives as they affect resource issues; it provides the scientific, analytical, and technical basis for assessing the impacts on those resources.

Environmental measure: For this EIS, changes in operation and maintenance procedures or the manipulation of the biological and physical environment to enhance or restore ecosystems along the Rio Grande.

F

Facilities: Structures associated with irrigation projects, municipal and industrial water systems, power generation facilities, including all storage, conveyance, distribution, and drainage systems.

Fauna: All animals associated with a given habitat, country, area, or period.

Federal agency action: For purposes of the DEIS, actions authorized, funded or carried out by a federal agency and hence subject to Section 7 consultation requirements.

Flood or flooding: A general condition of partial or complete inundation of normally dry land areas from the overflow of inland and/or tidal water, or unusual and rapid accumulation of surface waters from any source.

Floodplain: A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Floodway: A shallow reservoir between the levee line and the bank of the river channel.

Flora: All plant life associated with a given habitat, country, or period. Bacteria are considered flora.

Flow: Volume of water passing a given point per unit of time.

Flume: An artificial channel or chute for a stream of water.

Freeboard: The designed height between the maximum water level and the crest of the flood control levees.

G, H

Gauge or gauging station: Specific location on a stream where systematic observations of hydrologic data are obtained through mechanical or electrical means.

Geomorphology: Geological study of the configuration and evolution of land forms and earth features.

Global Positioning System (GPS): A satellite navigation system used to determine terrestrial position, velocity, and time.

Gradient: General slope or rate of change in vertical elevation per unit of horizontal distance of water surface of a flowing stream.

Greenbelt: A belt of parkways, parks, or farmlands that encircles or runs through a community.

Groin: Structure built from shore into water for protection against erosion, Used in river training as construction works to establish normal channel width; to direct the axis of flow. Also considered a deflector .

Groundwater: Water that flows or seeps downward and saturates soil or rock, supplying springs and wells. The upper level of the saturated zone is called the water table. Water stored underground in rock crevices and in the pores of geologic materials that make up the earth's crust. That part of the subsurface water which is in the zone of saturation; phreatic water .

Habitat: Area or type of environment where a plant or animal lives.

Head: Differential of pressure causing flow in a fluid system, usually expressed in terms of the height of a liquid column (or the vertical distance in feet) that pressure will support.

Headwater: The source and upper part of a stream; water upstream of a dam or powerhouse.

Hydrograph: A graph of the rate of runoff plotted against time for a point on a channel.

Hydrologic cycle: The sequence of conditions through which water passes from vapor in the atmosphere through precipitation upon land or water surfaces, and ultimately, back into the atmosphere as a result of evaporation and transpiration.

Hydrologic floodplain: The land adjacent to the baseflow channel residing below bankfull elevation.

Hydrology: Scientific study of water in nature-its properties, distribution, and behavior.

Hydraulic: Having to do with water in motion, as in the case of channel flow.

Hydraulic gradient: The slope of the hydraulic grade line. This is the slope of the water surface in an open channel, the slope of water surface of the groundwater table, or the slope of the water pressure for pipes under pressure.

I, J, K, L

Impoundment: Body of water created by a dam.

Indirect impacts: A condition caused by an action through intermediary causal agents. An effect for which the causal linkages to the action are not readily apparent.

Intermittent (stream): A stream that flows part of the time, usually after rainstorm, during wet weather, or for only part of the year. Also referred to as an ephemeral stream.

Invasive species: Species that evolved elsewhere and have been purposely or accidentally relocated .

Irretrievable: Commitments that are lost for a period of time.

Irreversible: Commitments that cannot be reversed, except perhaps in the extreme long term.

Irrigation releases: Releases of water from the Rio Grande for the purposes of irrigation in accordance with pre-approved agreements, contracts, leases, or charters between the landowner and the USBR.

Land retirement: Removing land from irrigated production.

Lease: A continuance or opportunity for continuance.

Levee: A natural or manmade earthen barrier along the edge of a stream, lake, or river.

Life cycle: Various stages through which an animal passes through from egg fertilization to death.

M

Main channel: The deepest or central part of the bed of a stream, containing the main current.

Maintenance: All routine and extraordinary work necessary to keep the facilities in good repair and reliable working order to fulfill the intended designed project purposes.

“May affect, not likely to adversely affect:” Means that all effects are beneficial, insignificant, or discountable.

Meander: A looplike, winding turn occurring in a river or stream that flows across nearly level terrain.

Measure: For this EIS, the term is used in place of environmental measure.

Middle Rio Grande: The Rio Grande between Cochiti Dam and Elephant Butte Dam in New Mexico (upstream of the RGCP).

Mitigation: Action taken to avoid, reduce the severity of, or eliminate an adverse impact.

Modeling: Use of mathematical equations to simulate and predict real events and processes.

Monitoring: Measuring concentrations of substances in environmental media or in human or other biological tissues.

N, O

National Environmental Policy Act (NEPA): The federal law that requires Federal agencies to include in every recommendation or report on proposals for major Federal actions significantly affecting the quality of the human environment a detailed statement on the environmental impacts of the proposed action, any adverse environmental effects which cannot be avoided should the report be implemented, and alternatives to the proposed action (42 USC sec. 4321-4370e).

Native: Originating, grown, or produced in a particular region.

The National Register of Historic Places: A federally maintained register of districts, sites, buildings, structures, architecture, archeology, and culture.

Neotropical migrant landbirds: Nest in the United States or Canada and spend the winter primarily south in Mexico, Central or South America, or in the Caribbean.

No action alternative: The expected future condition if no action is taken...not necessarily the same as the present condition. The effects of action alternatives are measured against this baseline condition.

No effect: Means there are absolutely no effects of the project, positive or negative.

P

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

Palustrine habitat: Marsh habitat.

Passerine: Of or pertaining to an order of small or medium-sized songbirds having grasping feet with the first toe directed backward.

Percolation: The movement of water through openings in rock or soil.

Phreatophyte: A deep-rooted plant that obtains its water from the water table or the layer of soil just above it. Commonly used to refer to plants, such as saltcedar or Russian Olive, which consume much water.

PM₁₀: (Air) particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

Primary (or main) irrigation season: The 8-month irrigation season, generally from March through October, when water is released from Elephant Butte and Caballo Reservoirs.

Public involvement: Process of obtaining citizen input into each stage of development of planning documents. Required as a major input into any EIS.

Q, R

Qualitative: Descriptive of kind, type, or direction, as opposed to size, magnitude, or degree.

Quantitative: Descriptive of size, magnitude, or degree.

Reach: Any specified length of a stream, river, channel, or other water conveyance.

Recharge: Water added to an aquifer. For instance, rainfall that seeps into the ground.

Recovery: Improvements in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the Act (50 CFR 402.02).

Recruitment: Survival of young plants and animals from birth to a life stage less vulnerable to environmental change.

Reference community: For this EIS, a desired future condition of vegetation communities that would be created as a result of implementing environmental measures.

Reservoir: Artificially impounded body of water; also, or an extra supply of anything.

Restoration: Repair or reconstruction of ecosystems damaged by human actions.

Return flow: The part of a diverted flow which is not consumptively used and which returns to a water body.

Riparian: Living on or adjacent to a water supply such as a riverbank, lake, or pond.

Riparian area: The land and vegetation along continuously or intermittently flowing rivers, streams and lake shores.

S

Secondary irrigation season: The 4-month irrigation season, generally from November through February, when water is not released from Elephant Butte and Caballo Reservoirs.

Scour: Removing debris and sediments from a channel by the force of water.

Sediment: Unconsolidated solid material that comes from weathering of rock and is carried by, suspended in, or deposited by water or wind.

Sediment load: Mass of sediment passing through a stream cross section in a given period of time, expressed in millions of tons.

Sensitive species: Species not yet officially listed but undergoing status review for listing on the U.S. Fish and Wildlife Service's official threatened and endangered list; species whose populations are small and widely dispersed or restricted to a few localities; and species whose numbers are declining so rapidly that official listing may be necessary.

Shavedown: A reduction by mechanical or manual means in the height of a river bank to accommodate water direction and flow.

Shrubs: Plants with woody stems, generally less than 20 feet tall, such as willows.

Siphon: A pipe-like spillway for water conveyance.

Slope: Change in elevation per unit of horizontal distance

Species: Basic category of biological classification intended to designate a single kind of animal or plant.

Species of concern: Species for which further biological research and field study are needed to resolve their conservation status. Species of concern have no legal protection under the ESA but are often discussed for planning purposes.

Snag: A standing dead tree.

Special status species: For this EIS, those Fish and Wildlife Service Species of Concern that may occur within the study area.

Stakeholder: An individual or group or individuals who own property along the Rio Grande and who will be affected by the decisions made.

Storage: Water held in a reservoir for later use.

Suspended solids: Solids that either float on the surface or are suspended in water or other liquids, and that are largely removable by laboratory filtering.

T

Threatened species: Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. As a general rule, the term is used only when a species has been formally listed as threatened under the ESA. (Note: States also have endangered species laws and may or may not use the same terms and definitions as the federal ESA).

Traditional cultural property: A site or resource that is eligible for inclusion in the *National Register of Historic Places* because of its association with cultural practices or beliefs of a living community.

Transpiration: The process by which water that is absorbed by plants, usually through the roots, is evaporated into the atmosphere from the plant surface, such as leaf pores.

Transport capacity: The capacity of a river to carry sediment in suspension or to move sediment along the riverbed. Usually expressed as mass per unit of time.

Tributary: River or stream flowing into a larger river or stream.

Turbidity: The amount of solid particles that are suspended in water and that cause light rays shining through the water to scatter. Turbidity makes the water cloudy or even opaque in extreme cases.

U, V, W, X, Y, Z

Uplands: Ground elevated above the lowlands along rivers or between hills.

Velocity: Rate of flow of water or water-sediment mixture; expressed in feet per second or miles per hour.

Water allocation: The amount of water allotted to the Irrigation Districts at the beginning of the irrigation season based on hydrologic parameters and legal agreements.

Water banking: A legal mechanism whereby an entity (farmer, company, or individual) who controls rights to water that will not be used can "deposit" those rights in return for compensation from the water bank, and another entity that needs water or additional water can use rights that have been "deposited" in return for compensation to the water bank. Water banking is, in essence, a way to transfer, for a defined period, the rights to water without multiple individual agreements between the various parties.

Water consumption: For this EIS, the amount of water designated for consumptive use.

Water right: Long-term entitlement to water use for a beneficial purpose. Water management in 13 western states, including New Mexico, falls under the doctrine of prior appropriation. Under this doctrine, the first person to divert water from a river acquires the most senior property right ("first in time, first in right").

Watershed: The land that drains into a stream or a river.

Water user: Any individual, district, association, government agency, or other entity that uses water supplied from a Reclamation project.

Weir: A wall or obstruction used to control flow (from settling tanks and clarifiers) to ensure uniform flow rate and avoid short-circuiting.

Wetlands: Lands including swamps, marshes, bogs, and similar areas such as wet meadows, river overflows, mud flats, and natural ponds. Habitat provided by shallow or deep water (but less than 6-feet deep), with or without emergent and aquatic vegetation in wetlands.

Wildlife Habitat Appraisal Procedure (WHAP): Texas Parks and Wildlife Department's method for evaluating wildlife habitat for particular tracts of land in Texas. This habitat appraisal assumes a positive relationship between vegetation diversity and wildlife species diversity.

Xeric: Referring to a habitat characterized by dry conditions.

6.2 REFERENCES

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