

Appendix D

Glossary

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The following glossary is taken from the Regional Water Planning Handbook. For a comprehensive glossary of terms, visit the Nevada Division of Water Resources Water Words Dictionary at <http://water.nv.gov/Water%20planning/dict-1/ww-index.htm>.

Regional Water Planning Handbook

<http://www.seo.state.nm.us/doing-business/water-plan/rwp-handbook.html>

Last Modified: 6/24/99

GLOSSARY

ACRE-FOOT:

Volume of water required to cover 1 acre of land (43,560 square feet) to a depth of 1 foot, equivalent to 325,851 gallons.

ALLUVIUM:

General term for deposits of clay, silt, sand, gravel, or other particulate material deposited by a stream or other body of running water in a streambed, on a flood plain, on a delta, or at the base of a mountain.

AQUACULTURE:

Art and science of farming organisms that live in water, such as fish, shellfish, and algae.

AQUIFER:

A geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

ARTESIAN WATER:

Ground water under sufficient pressure to rise above the level at which the water-bearing bed is reached in a well. The pressure in such an aquifer commonly is called artesian pressure, and the formation contains artesian water is an artesian aquifer.

ARTIFICIAL RECHARGE:

The addition of water to the ground water reservoir by man's activities, such as irrigation or induced infiltration from streams or wells.

AVERAGE ANNUAL YIELD (WATER):

The average annual supply of water produced by a given stream or water development over a period of 12 months.

BANK STORAGE:

Water absorbed and stored in the banks of a stream, lake, or reservoir when the stage rises above the water table in the bank formations and stays there for an appreciable length of time. Bank storage may be returned in whole or in part as seepage back to the water body when the level of the surface water returns to a lower stage.

BASE FLOW:

Sustained or fair-weather runoff--generally that portion of the streamflow derived from discharging ground water or other delayed sources such as lakes or snow fields.

BEDLOAD:

That part of the sediment load in which the particles of material move on or near the stream bed.

BEDROCK:

General term for consolidated (solid) rock that underlies soils or other unconsolidated material.

BENEFICIAL USE OF WATER:

The use of water by man for any purpose which benefits are derived, such as domestic, municipal, irrigation, livestock, industrial, power development, and recreation. Under the New Mexico constitution beneficial use is the basis, the measure and the limit of the right to use water; therefore, beneficial use of public water diverted or impounded by manmade works is an essential element in the development of a water right.

BIOCHEMICAL OXYGEN DEMAND (BOD):

The quantity of oxygen utilized primarily in the biochemical oxidation of organic matter in a specified time and at a specified temperature.

BOLSON:

An alluvium-floored basin, depression, or wide valley, mostly surrounded by mountains and drained by a system that has no surface outlet. Bolson fill is the alluvial detritus that fills a bolson--also commonly called bolson deposits.

CENTER-PIVOT IRRIGATION:

See Irrigation.

CHEMIGATION:

Application of pesticides or fertilizers to farmlands through irrigation systems.

CLOSED BASIN:

A basin is considered closed with respect to surface flow if its topography prevents the occurrence of visible outflow. It is closed hydrologically if neither surface nor underground outflow can occur.

CONFINING BED:

A rock formation that will not readily transmit water and which retards or stops the free movement of water underground. Confining beds have also been called aquicludes, aquitards, or semiconfining beds.

CONJUNCTIVE WATER USE:

Combined use of ground water and surface water.

CONSUMPTIVE IRRIGATION REQUIREMENT (CIR):

The quantity of irrigation water, exclusive of precipitation, stored soil moisture, or ground water that is required consumptively for crop production.

CONSUMPTIVE USE (EVAPOTRANSPIRATION):

The quantity of water used in a given area in transpiration, building of plant tissue, and evaporated from adjacent soil, water surface, snow or intercepted precipitation in a specific period of time.

CONVEYANCE LOSS:

Water that is lost in transit from a canal, conduit, or ditch by leakage or evaporation. Generally, the water is not available for further use; however, leakage from an irrigation ditch, for example, can percolate to a groundwater source and be available for further use.

CUBIC FOOT PER SECOND:

The rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second. It is equivalent to 7.48 gallons per second, or 448.8 gallons per minute.

DECLARED UNDERGROUND WATER BASIN:

An area of the state proclaimed by the State Engineer to be underlain by a ground water source having reasonably ascertainable boundaries. By such proclamation the State Engineer assumes jurisdiction over the appropriation and use of ground water from the source.

DEPLETION:

That part of a withdrawal that has been evaporated, transpired, incorporated into crops or products, consumed by man or livestock, or otherwise removed.

DISCHARGE:

Rate of flow at a given instant in terms of volume per unit of time; pumping discharge equals pumping rate, usually given in gallons per minute (gal/min); stream discharge, usually given in cubic feet per second (ft³/s). With respect to water underground, the movement of water out of an aquifer. Discharge may be natural, as from springs, as by seepage, or it may be artificial as by constructed drains or from wells.

DISSOLVED OXYGEN:

The amount of free (not chemically combined) oxygen in water. Usually expressed in milligrams per liter.

DISSOLVED SOLIDS:

Chemical compounds in solution.

DIVERSION:

A turning aside or alteration of the natural course of a flow of water, normally considered physically to leave the natural channel. In some States, this can be a consumptive use direct from a stream, such as by livestock watering. In other States, a diversion must consist of such actions as taking water through a canal or conduit.

DOMESTIC WATER USE:

Water for normal household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns, gardens and livestock supplied from a domestic source. Also called residential water use. The water can be obtained from a public supply or be self-supplied.

DRAINAGE BASIN:

A part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

DRAWDOWN (GROUND WATER):

The depression or decline of the water level or potentiometric surface in a pumped well or in nearby wells caused by pumping. At the well, it is the vertical distance between the static and the pumping level.

DRIP IRRIGATION:

See Irrigation.

DRYLAND FARMING:

Practice of crop production without irrigation in semiarid regions usually by using moisture-conserving farming techniques.

EPHEMERAL STREAM:

A stream or portion of a stream which flows only in direct response to precipitation. Such flow is usually of short duration. Most of the dry washes of the region may be classified as ephemeral stream.

EVAPORATION:

Process by which water is changed from the liquid state to the vapor state. See also Evapotranspiration; Transpiration.

EVAPORATION, NET RESERVOIR:

The evaporative water loss from a reservoir after making allowance for precipitation on the reservoir. Net reservoir evaporation equals the total evaporation minus the precipitation on the reservoir surface.

EVAPOTRANSPIRATION:

The process by which water is returned to the air through direct evaporation or by transpiration of vegetation.

FALLOW:

Cropland, either tilled or untilled, allowed to lie idle, during the whole or the greater part of the growing season.

FARM EFFICIENCY:

The consumptive crop irrigation requirement divided by the farm delivery.

FECAL COLIFORM BACTERIA:

Bacteria that are present in the gut or the feces of warm blooded animals; they are indicators of possible sewage pollution.

FLOOD IRRIGATION:

See Irrigation.

FLOOD PLAIN:

Land bordering a stream. The land was built up of sediment from overflow of the stream and is still subject to flooding when the stream is at flood stage.

FREE-FLOWING WELL:

An artesian well in which the potentiometric surface is above the land surface. See also Potentiometric surface.

FRESHWATER:

Water that contains less than 1,000 mg/L (milligrams per liter) of dissolved solids; generally, more than 500 mg/L is considered undesirable for drinking and many industrial uses.

FURROW IRRIGATION:

See Irrigation.

GAGING STATION:

A particular site on a stream, canal, lake or reservoir where systematic observations of gage height or discharge are made.

GAINING STREAM:

A river, or reach of a stream or river, that gains flow from ground water seepage or from springs in, or alongside, the channel--sometimes called an effluent stream.

GRAVITY IRRIGATION:

See Irrigation.

GROUND WATER:

Generally, all subsurface water as distinct from surface water; specifically, that part of the subsurface water in the saturated zone (a zone in which all voids, large and small, ideally are filled with water under pressure equal to or greater than atmospheric).

GROUND WATER MINING:

The condition that exist when the withdrawal of water from an aquifer exceed the recharge causing a decline in the ground water level.

GROUND WATER RECHARGE:

The addition of water to the zone of saturation. Infiltration of precipitation and its movement to the water table is one form of natural recharge.

GROUND WATER RESERVOIR STORAGE:

The amount of water in storage within the defined limit of the aquifer.

HYDRAULIC GRADIENT (GROUND WATER):

The gradient or slope of the water table or potentiometric surface in a specific direction.

HYDROELECTRIC POWER:

Electric energy generated by means of a power generator coupled to a turbine through which water passes.

HYDROGRAPH:

A graph showing the stage, flow, velocity, or other property of water with respect to the passage of time.

Hydrographs of wells show the changes in water levels during the period of observation.

IMPERMEABLE:

Not capable of transmitting fluids or gases in appreciable quantities. Few rocks are completely impermeable; but some--such as unweathered granite, dense basalt, welded tuff, dense limestone, and well-cemented conglomerate--may be so considered for practical purposes.

INTERBASIN TRANSFER OF WATER:

See Water exports; Water imports.

INTERMITTENT STREAM:

A stream which flows for only a part of the time. Flow generally occurs for several weeks or months in response to seasonal precipitation, due to ground water discharge, in contrast to the ephemeral stream that flows but a few hours or days following a single storm.

IRRIGATED AREA:

The gross area upon which water is artificially applied.

IRRIGATION:

Generally, the controlled application of water to arable lands to supply water requirements of crops not satisfied by rainfall. (See also Irrigation water use.) Systems used include the following:

Center-pivot:

Automated sprinkler irrigation achieved by rotating the sprinkler pipe or boom, supplying water to the sprinkler heads or nozzles, as a radius from the center of the circular field to be irrigated. The pipe is supported above the crop by towers at fixed spacings and propelled by pneumatic, mechanical, hydraulic, or electric power on wheels or skids in fixed circular paths at uniform angular speeds. Water, which is delivered to the center or pivot point of the system, is applied at a uniform rate by progressive increase of nozzle size from the pivot point of the system to the end of the line. The depth of water applied is determined by the rate of travel of the system. Single units are ordinarily about 1,250 to 1,300 feet long and irrigate about a 130-acre circular area.

Drip:

An irrigation system in which water is applied directly to the root zone of plants by means of applicators (orifices, emitters, porous tubing, perforated pipe, and so forth) operated under low pressure. The applicators can be placed on or below the surface of the ground or can be suspended from supports.

Flood:

The application of irrigation water where the entire surface of the soil is covered by ponded water.

Furrow:

A partial surface flooding method of irrigation normally used with clean-tilled crops where water is applied in furrows or rows of sufficient capacity to contain the design irrigation stream.

Gravity:

Irrigation in which the water is not pumped but flows in ditches or pipes and is distributed by gravity.

Sprinkler:

A planned irrigation system in which water is applied by means of perforated pipes or nozzles operated under pressure so as to form a spray pattern.

Subirrigation:

A system in which water is applied below the ground surface either by raising the water table within or near the root zone or by using a buried perforated or porous pipe system that discharged directly into the root zone.

Traveling gun:

Sprinkler irrigation system consisting of a single large nozzle that rotates and is self-propelled. The name refers to the fact that the base is on wheels and can be moved by the irrigation or affixed to a guide wire.

IRRIGATION CONVEYANCE LOSS:

The loss of water in transit from a reservoir, point of diversion, or ground water pump to the point of use, whether in natural channels or in artificial ones, such as canals, ditches, and laterals.

IRRIGATION EFFICIENCY:

The percentage of the water diverted from a water source that is consumed. It is the product of the distribution efficiency and the farm efficiency.

IRRIGATION LEACHING REQUIREMENT:

The amount of water required to move residual salts out of the root zone and maintain an adequate soil-salt balance for crop production.

IRRIGATION REQUIREMENT:

The quantity of water, exclusive of precipitation, that is required for production of a specific crop.

IRRIGATION RETURN FLOW:

Part of irrigation water that is not consumed by evapotranspiration and that drains from the irrigated area to an aquifer or surface-water body.

IRRIGATION WATER USE:

Artificial application of water on lands to assist in the growing of crops and pastures or to maintain vegetative growth on recreational lands such as parks and golf courses. See also Irrigation.

KARST:

A type of topography that is formed on limestone, dolomite, gypsum beds, and other rocks by dissolution and is characterized by closed depressions, sinkholes, caves, and underground drainage.

LOSSES INCIDENTAL TO IRRIGATION:

The quantity of water depleted by irrigation in excess of the beneficial irrigation consumptive use.

MILLIGRAMS PER LITER:

The weight in milligrams of any substance contained in 1 liter of liquid. (Equivalent to parts per million for values less than about 7,000 mg/L.)

MILLION GALLONS PER DAY:

A rate of flow of water of one million gallons per twenty four hour period.

OVERDRAFT:

Withdrawals of ground water at rates perceived to be excessive. See also Groundwater mining.

PER CAPITA USE:

The average amount of water used per person during a standard time period, generally per day.

PERCHED GROUND WATER:

Water in a saturated zone of material underlain by a relatively impervious stratum which acts as a barrier to downward flow and which is separated from the main ground water body by a zone of unsaturated material above the main ground water body.

PERENNIAL STREAM:

A stream that normally has water in its channel at all times.

PHREATOPHYTE:

A plant that habitually obtains its water supply from the zone of saturation, either directly or through the capillary fringe.

PLAYA:

Flat-floored bottom of an undrained desert plains basin.

POROSITY:

The ratio of the total volume of pore space (voids) in a rock or soil to its total volume, usually stated as a percentage. Effective porosity is the ratio of the volume of interconnected voids to the total volume. Unconnected voids contribute to total porosity but are ineffective in transmitting water through the rock.

POTABLE WATER:

Water that is safe and palatable for human consumption.

POTENTIOMETRIC SURFACE:

An imaginary surface representing the static head of ground water in tightly cased wells that tap a water-bearing rock unit (aquifer); or in the case of unconfined aquifers, the water table.

PRECIPITATION:

Includes atmospheric hail, mist, rain, sleet and snow which descends upon the earth; the quantity of water accumulated from the above events.

RECHARGE:

The addition of water to an aquifer by infiltration, either directly into the aquifer or indirectly by way of another rock formation. Recharge may be natural, as when precipitation infiltrates to the water table, or artificial, as when water is injected through wells or spread over permeable surfaces for the purpose of recharging an aquifer.

RECOVERABLE GROUND WATER:

The amount of water which may be physically and economically withdrawn from the ground water reservoir.

RECYCLED WATER:

Water that is used more than one time before it passes back into the natural hydrologic system.

RETURN FLOW:

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

RIPARIAN VEGETATION:

Vegetation growing on the banks of a stream or other body of surface water.

RUNOFF:

The part of the precipitation that appears in surface streams.

SALINE WATER:

Water that contains more than 1,000 milligrams per liter of dissolved solids. It generally is considered unsuitable for

human consumption and less desirable for irrigation because of its high content of dissolved solids. Salinity generally is expressed as milligrams per liter (mg/L) of dissolved solids, with 35,000 mg/L defined as seawater. A general salinity scale is:

SALINITY

DISSOLVED SOLIDS (MG/L)

Slight	1,000-3,000
Moderate	3,000-10,000
Very	10,000-35,000
Brine	more than 35,000

SALTWATER INTRUSION:

Replacement of freshwater by saline water in an aquifer or body of water.

SALVAGED WATER:

The part of a particular stream or other water supply that is saved from loss and made available for use.

SEWAGE:

Waste matter carried off by sewers and drains.

SEWAGE TREATMENT:

The processing of wastewater for the removal or reduction in the level of dissolved solids or other undesirable constituents.

SEWAGE-TREATMENT RETURN FLOW:

Water returned to the hydrologic system by sewage-treatment facilities.

SPECIFIC CAPACITY:

In ground water hydrology, the yield of a well in gallons per minute per foot of drawdown after a period of sustained pumping.

SPRINKLER IRRIGATION:

See Irrigation.

STOCK POND/TANK:

Any manmade or natural catchment used exclusively for livestock watering. Generally, for purposes of determining permitting requirements, a stock pond/tank either within a water course or off-stream that is used exclusively for livestock, of 10 acre-feet or less regardless of height, does not require a permit. However, there are basins in the state that require permitting in any case, so checking with the State Engineer is advised.

STREAM, PERENNIAL:

A stream that flows continuously.

STREAMFLOW:

The discharge that occurs in a natural channel of a surface stream course.

SUBIRRIGATION:

See Irrigation.

SURFACE WATER:

An open body of water, such as a stream or a lake.

SUSPENDED SEDIMENT:

Sediment that is transported in suspension by a stream. Fragmental material, both mineral and organic, that is maintained in suspension in water by the upward components of turbulence and currents and (or) by colloidal suspension.

TAILWATER RECOVERY:

Process of collecting irrigation water runoff for reuse.

THERMOELECTRIC POWER:

Electrical power generated by using fossil-fuel (coal, oil, or natural gas), geothermal, or nuclear energy.

TOTAL DISSOLVED SOLIDS (TDS):

An aggregate of carbonates, bicarbonates, chlorides, sulfates, phosphates, nitrates, etc., of calcium, magnesium, manganese, sodium, potassium, and other cations which form salts. High TDS concentrations exert varying degrees of osmotic pressures and often become lethal to the biological inhabitants of an aquatic environment. The common and synonymously used term for TDS is "salt".

TOTAL SEDIMENT LOAD:

The sum of the bedload and the suspended sediment load.

TRANSMISSIBILITY (GROUND WATER):

The rate at which water at the prevailing water temperature is transmitted through a unit width of the aquifer under a unit hydraulic gradient. It is generally expressed as gallons per day through a vertical strip of the aquifer 1 foot wide under a hydraulic gradient of 1 foot per foot, or more recently as cubic feet per day under the same conditions. It replaces the term "coefficient of transmissibility".

TRANSPIRATION:

Process by which water absorbed by plants, usually through the roots. The residual water vapor is emitted into the atmosphere from the plant surface. See also Evaporation; Evapotranspiration.

TRAP EFFICIENCY OF RESERVOIRS:

Ratio of sediment retained to sediment inflow expressed as a percentage.

TURBIDITY:

The opaqueness or reduced clarity of a fluid due to the presence of suspended matter.

WASTEWATER:

Water that contains dissolved or suspended solids as a result of human use.

WATER BUDGET:

An accounting of the inflow to, outflow from, and storage changes of water in a hydrologic unit.

WATER EXPORTS:

Artificial transfer (pipe, canals) of water to one region or subregion from another.

WATER RIGHT:

Legal rights to use a specific quantity of water, on a specific time schedule, at a specific place, and for a specific purpose.

WATER TABLE:

The upper surface of zone of saturation. See also Potentiometric Surface.

WETLANDS:

Lands that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support and that, under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions.

WITHDRAWAL:

Water removed from the ground or diverted from a surface-water source for use.

ZONE OF SATURATION:

The zone in which all the connected interstices or voids in permeable rock or soil formation are filled with water under pressure equal to, or greater than atmospheric pressure.

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