**Abandonment** – The intentional, prolonged, non-use of a perfected water right. 1

**Acre-feet** – A unit of volume, mostly used  
in the United States, to describe large-scale water volumes. It is the volume of one acre of surface area to the depth of one foot which is equal to 43,560 cubic feet.

**Adjudication of Water Rights** – In the context of Montana water law this refers to the statewide judicial proceeding to deter- mine the type and extent of all water rights claimed to exist before July 1, 1973.2

**Adverse Effect** – Interference with a water right owner’s ability to reasonably exercise their water right. In the context of new water use permits and change applications, the applicant must prove lack of adverse affect prior to appropriating water for a beneficial use pursuant to §85-2-311, MCA, or changing a water right pursuant to §85-2-402, MCA. 3

**Appropriate** – To divert, impound, or with- draw, including by stock for stock water, a quantity of water for a beneficial use.1

**Appropriation Right/Water Right** – Any right to the beneficial use of water which would be protected under the law as it existed prior to July 1, 1973, and any right to the beneficial use of water obtained in compliance with the provisions and requirements the Title 85, Chapter 2.1

**Aquatic Ecology** – The relationships among aquatic living organisms and between those organisms and their water environment.

**Aquatic Invasive Species** – Non-native plants, animals or pathogens that cause environmen- tal or economic harm.

**Beneficial Use** – Use of water for the benefit of the appropriator, other persons, or the public, including but not limited to agricul- tural (including stock water), domestic, fish and wildlife, industrial, irrigation, mining, municipal, power, and recreational uses; use of water to maintain and enhance streamflows to benefit fisheries pursuant to conversion or lease of a consumptive use right. 1

**Call** – The request by an appropriator for water which the person is entitled to under his/her water right; such a call will force those users with junior water rights to cease or diminish their diversions and pass the requested amount of water to the down- stream senior water right holder making the call.

**Claim/Statement of Claim** – The asser- tion that a water right exists under the laws of Montana or that a reserved water right exists under the laws of the United States in Montana’s general adjudication. 2

**Climate** – The average weather over a period of time, typically taken as a 30-year period from a human perspective. Geologists and paleoclimatologists refer to the earth’s climate over thousands to millions of years.

**Climate Variability** – The fluctuation of temperature, precipitation, wind, and other climate descriptors, over a period of time. This variation may be due to natural processes or human-induced factors.

**Compact** – a negotiated agreement for the equitable division and apportionment of waters between the State and its people and: 1) the several Indian Tribes claiming reserved water rights within the state (MCA 85-2-701); or, 2) between the State and its people and the federal government claiming non-Indian reserved waters within the state.

**Conjunctive Management** – Management of ground and surface water as a single resource.

**Conjunctive Use** – The deliberate combined use of groundwater and surface water.

**Conservation District** – A political subdivision of state government, possessing both public and private attributes, that primarily distrib- utes irrigation water in a given region and that may also administer electric power genera- tion, water supply, drainage, or flood control.

**Consumptive Use** – Use of water that reduces supply, such as irrigation or household use.1

**Decree** – Is a final product of adjudication and is a legal document issued by a district court or the Montana Water Court defin- ing the priority, amount, use, and location of a water right or set of water rights. The Montana Water Court adjudicates and prepares decrees for entire basins as part of the adjudication process.2

**Dewatering of Streams, Chronic and Peri- odic** – Dewatering is a reduction in stream flow below the point where stream habitat is adequate to support healthy fish populations. Chronic dewatering is a significant problem in all years while periodic dewatering is a signifi- cant problem only in drought years.

**Means of Diversion/Diversion** – Structures, facilities, or methods used to appropriate, impound, or collect water including but not limited to a dike, dam, ditch, headgate, infil- tration gallery, pipeline, pump, pit or well. 1

**Evapotranspiration (ET)** – means the loss of water from the soil both by evaporation and by transpiration from living plants. Evapora- tion accounts for the movement of water to the air from sources such as the soil, canopy interception, and water bodies. Transpiration accounts for the movement of water within a plant and the subsequent loss of water as vapor through stomata in its leaves. 1

**Exempt Wells** – Under Montana water law, wells that divert 35 gallons per minute or less, and do not exceed 10 acre-feet per year in the total volume of water diverted are consid- ered exempt from the permitting process. Appropriators of water under these condi- tions are, however, required to file a notice of completion with DNRC.4

**Existing Water Right** – “Existing right” or “existing water right” means a right to the use of water that would be protected under the law as it existed prior to July 1, 1973. The term includes federal non-Indian and Indian reserved water rights created under federal law and water rights created under state law. 1

**Federal or Tribal Reserved Water Rights** – Established by an act of Congress, a treaty, or an executive order. Gives a right to use water; the amount of water reserved depends on the purpose for which the land was reserved.

**Flowing Well** – An oil or water well from which the product flows without pumping due to natural or artificially supplied subterranean pressure.

**Flow Rate** – A measurement of the rate at which water flows or is diverted, impounded, or withdrawn from the source of supply for beneficial use, and commonly measured in cubic feet per second (cfs) or gallons per minute (gpm). 1

**Geographic Information System (GIS)** – A computer system designed to capture, store, manipulate, analyze, manage, and present geographical data.

**Groundwater** – Any water beneath the land surface.1

**Groundwater Recharge or Aquifer Recharge** – Can refer both to the natural process of groundwater recharge (achieved by infiltration of precipitation or discharge from surface water), OR can refer to human efforts to enhance more groundwater storage. Artificial aquifer recharge (AR) is the enhance- ment of natural groundwater supplies using man-made conveyances such as infiltration basins or injection wells. Aquifer storage and recovery (ASR) is a specific type of AR prac- ticed with the purpose of both augmenting groundwater resources and recovering the water in the future for various uses.1

**Hydraulic Conductivity** – the capacity of a unit thickness of an aquifer to transmit water per unit width and unit gradient.

**Hydrologic Regime** – The relationship between precipitation inputs and streamflow outputs in a basin or watershed. The amount and timing of water moving through a water- shed often characterized by the average annual hydrograph.

**Hydrograph** – A chart showing the relation- ship between flow rate and time at given point (gage) in a watershed flow network. Time is usually on the horizontal axis and flow rate is usually on the vertical access.

**Instream Flow** – Water left in a stream for non-consumptive uses such as aquatic habitat, recreation, navigation, or hydropower.

**Interstate Compact** – A legal agree- ment between two states that divides (or apportions) water crossing the states’ bound- aries.

**Junior Appropriator/Junior Water Right** – A general term referring to a water right or the owner of a water right with a priority date that is later in time than another water right.

**Channel Migration** – Natural movement of river channels through the processes of erosion and deposition.

**Legal Water Availability** – Typically determined based upon comparison of physical water availability to the legal demands on a source or reach of a source by subtracting the legal demands from physical water availability. 3

**METRIC (Mapping Evapotranspiration  
at high Resolution and with Internalized Calibration)** – An image-processing tool for computing evapotranspiration (ET) using Landsat Thematic Mapper data.

**Montana Code Annotated (MCA)** – Laws of Montana classified by subject. Title 85 contains laws pertaining to water use.

**Murphy Rights** – Instream flow rights on 12 Blue Ribbon trout streams for the preservation of fish and wildlife. Named for the legislative author, Jim Murphy of Kalispell. Murphy Rights exist for specific reaches of the follow- ing rivers: Big Spring Creek, Blackfoot River, Flathead River, Middle Fork Flathead River, South Fork Flathead River, Gallatin River, West Gallatin River, Madison River, Missouri River, Rock Creek, Smith River, and Yellowstone River. The priority dates are 1970 and 1971 and only protect flows when senior water rights have been satisfied.

**Natural Storage of Water** – See storage of water, natural.

**Non-Consumptive Use** – Use of water that does not consume water.

**Overstated Water Rights** – Water rights in excess of what was perfected through benefi- cial use.

**Permit** – An authorization to use water, issued by DNRC, specifying conditions such as type, quantity, time, and location of use. 3

**Physical Water Availability** – the amount of water physically available at a specific point on a source typically measured in flow rate and volume. 3

**Priority Date** – The clock time, day, month, and year assigned to a water right applica- tion or notice upon DNRC acceptance of the application or notice. The priority date deter- mines the ranking among water rights. 1

**Federal Reserved Water Right** – A special water right accompanying federal lands or Indian reservations, holding a priority date originating with the creation of the land.

**Resource Indemnity Trust** – Article IX of the Montana Constitution provides for the protection and improvement of the Montana environment and requires the existence of a resource indemnity trust (RIT) fund for that purpose, to be funded by taxes on the extraction of natural resources.

**Return flow** – Part of a diverted flow that is applied to irrigated land or other beneficial use and is not consumed and returns under- ground to its original source or another source of water. Other water users may be entitled to this water as part of their water right. 1

**Riparian** – Riparian means related to or situ- ated on the banks of a river. A riparian zone or riparian area is the interface between land and a river or stream.

**Riverine Processes** – The processes of erosion, transport and deposition of sediment that shape a river’s channel(s) and floodplain.

**Senior Appropriator/Senior Water Right** – A general term referring to a water right or the owner of a water right with a priority date that is earlier in time than another water right.1

**Storage of Water, Artificial or Constructed** – Storing water in reservoirs or other human made impoundments.

**Storage of Water, Natural** – Storage of water in natural landscape features such  
as groundwater aquifers, ponds (including beaver ponds, floodplain ponds), wetlands and swales.

**Stream Depletion Zone** – An area where hydrogeologic modeling concludes that as  
a result of a groundwater withdrawal, the surface water would be depleted by a rate equal to a rate of at least 30% of the ground- water withdrawn within 30 days after the first day a well or developed spring is pumped at a rate of 35 gallons a minute. 1

**Stream Gage** – A stream gage measures  
the flow of water at a point along a stream. The U.S. Geological Survey defines a stream gage as, “an active, continuously function- ing measuring device in the field for which  
a mean daily streamflow is computed or estimated and quality assured for at least 355 days of a water year or a complete set of unit values are computed or estimated and quality assured for at least 355 days of a water year”.

**Sub-basin** – A structural topographic feature where a basin forms within a larger basin. For example, the Bitterroot River basin is some- times referred to as a sub-basin of the Clark Fork River basin.

**Surface water** – All water of the state at  
the surface of the ground, including but not limited to any river, stream, creek, ravine, coulee, undeveloped spring, lake, and other natural surface source of water regardless of its character or manner of occurrence.1

**Telemetered (real-time) Stream Gage** – A telemetered gage has the capability to transmit water elevation and streamflow data to a central location where it may be viewed (for example, via the Internet) as the data is collected.

**Waste** – Unreasonable loss of water through the design or negligent operation of an appropriation or water distribution facility or the application of water to anything but a beneficial use. 1

**Water Bank** – An institutional mechanism used to facilitate the legal transfer and market exchange of various types of surface water, groundwater, and storage entitlements. Water banks use the market to make water available for new uses.

**Waterway and Water Body** – Usually refers to surface water features like rivers, streams, lakes, or ponds.

**Waterway Health** – Waterways are consid- ered to be healthy when surface & groundwa- ter flows & levels are of a timing and duration that provides habitat capable of supporting self-sustaining populations of native fish species and water dependent wildlife. In addition, waterway health refers to flows that help meet water quality standards, support beneficial uses, and support stream renewal functions.

**Water Commissioner** – Local water users can petition for a water commissioner after the water rights in a basin have been verified by the Montana Water Court. The commis- sioner ensures that daily water allocations in the basin occur in accordance with the users’ rights. The local district court appoints the commissioner, and oversees his or her work. 5

**Water Court** – Located in Bozeman, the Montana Water Court’s primary function  
is to carry out the state-wide adjudication. Disputes between water right holders are still handled in local district court, and the local district courts oversee water commissioners in their area.

**Water Lease** – An agreement with a water user to allow a person or organization, for  
a fee, to lease water from the user. Water leases are often used in Montana to maintain instream flow.6

**Water Quality** – Chemical, physical, and biological characteristics of water that deter- mine its suitability for a particular use.

**Water Right Change** – A change in the place of diversion, the place of use, the purpose of use, or the place of storage of a water right. These changes need the approval of DNRC to assure that the change will cause no adverse affect to other water users. 3

**Watershed** – All the land that drains to a river or lake, with boundaries defined by topog- raphy (and includes wetlands, floodplains, riparian areas and uplands). For the purpose of this planning document, the term “water- shed” is referring to a subunit of a sub-basin (smaller area).

**Watershed Health** – A watershed is consid- ered healthy if it can continue to perform without depletion or degradation of water- shed services such as: water collection, storage & delivery, flood and drought moder- ation; water purification, wildlife habitat and support of waterway health (see Waterway Health).

**Water Reservation** – A water right created under state law after July 1, 1973, that reserves water for existing or future beneficial uses or that maintains a minimum flow, level, or quality of water throughout the year or at periods or for defined lengths of time. 7