

Glossary

Abandonment - The loss of a water right by intended nonuse of water.

Achieving Flow Settings – The process of ensuring that there is sufficient water in streams to satisfy the instream flow requirements adopted by rule-making and other processes.

Adaptive Management – A process whereby management decisions can be changed or adjusted based on additional biological, physical or socioeconomic information.

Adfluvial – Migrating between lakes and rivers or streams; typically used of fish species.

Adjudication – See General Adjudication.

Adjudicated Certificate - A document issued pursuant to RCW 90.03.240 to evidence a water right adjudicated under the terms of an adjudication through a Superior Court.

Administrative Order - A written statement signed by an official of the department who has authority to issue such notices and orders that determines the legal rights, duties, privileges, or other legal interests of a person. Orders are used for a variety of purposes under the water code and may be appealed to the Pollution Control Hearings Board.

Anadromous – Pertaining to fish that spend a part of their life cycle in the sea and return to freshwater streams to spawn, for example, salmon, steelhead trout, and chad.

Applicant - The person requesting a new water right, change to an existing water right; or state funding through a grant and/or loan program.

Application for Change - The standard form, which when completed and filed with Washington State Department of Ecology, is the first step toward changing a water right.

Application for Permit - The standard form which is filed with Washington State Department of Ecology to request that a permit be issued for the use of water, and is the first step toward establishing a water right.

Appropriation of Water - The process of legally acquiring the right to specific amounts of public water through application of the water to beneficial use.

Aquifer - A geologic formation that contains water.

Aquifer Recharge and Recovery - Involves recharge to and recovery of water from an aquifer, that is, both artificial recharge of the aquifer and recovery of the water for subsequent use. Artificial recharge facilities that add to the volume of water within an aquifer, include infiltration basins (spreading basins), infiltration galleries (recharge trenches), vadose zone recharge wells (dry wells), and combination groundwater recharge/recovery wells.

Assignment - Conveying, approved by the department, an application for permit or a water right permit from one person to another.

Base Flow -- Streamflow originating entirely from ground water discharging to the stream. Also used to refer to a level of streamflow established in accordance with provisions of chapter 90.54 RCW required in perennial streams to preserve wildlife, fish, scenic, aesthetic, and other environmental and navigational values. WAC 173-500-050 (3)

Basin - A region in which rainfall or snowmelt water will flow toward a single point. Thus, it is any hollow or trough in the earth's crust, whether filled by water or not. A basin is the total area drained by a river and its tributaries. Used interchangeably with watershed.

Beneficial Use - (1) The use of water for domestic, stock watering, industrial, commercial, agricultural, irrigation, hydroelectric power production, mining, fish and wildlife maintenance and enhancement, shell fish and other aquatic life, navigation, recreation, thermal power production, preservation of environmental and aesthetic values, and all other uses compatible with the enjoyment of the public waters of the state, or (2) the measure of a water right based on the amount of water applied in a reasonable manner without waste.

Benthic Invertebrates – Aquatic animals without backbones that dwell on or in the bottom sediments of fresh or salt water. Examples are clams, crayfish, and a wide variety of worms.

Boldt Phase II -- The decision arising from the court case *United States v. Washington* (1974) which established that the tribal harvest treaty right is for 50% of the harvestable amount of each run of fish returning to tribal usual and accustomed fishing areas. This case included elements regarding habitat which remain to be adjudicated, commonly referred to collectively as “Boldt Phase 2”. As a result of this decision, treaty tribes share co-management authority and responsibility with non-Indian fishery managers. “Boldt” comes from the name of the judge who presided over the case, George Boldt.

Bypass Reach - That section of a stream between the point of diversion and return point which is dewatered when water used nonconsumptively is discharged downstream from the point of diversion.

Certificate - A document issued pursuant to chapters 90.03 or 90.44 RCW to evidence a water right perfected under the terms of the water right permit.

Certificate of change - A document issued pursuant to chapters 90.03 or 90.44 RCW to evidence a change to a water right claim under the terms of an approval by the department.

Channel-Maintenance Flow – (1) The minimum streamflow to sustain biota; (2) range of flows within a stream from normal to peak runoff and may include, but is not limited to, flushing flows or flows required to maintain the existing natural stream channel and adjacent riparian vegetation

Change Authorization - A document issued pursuant to chapters 90.03 or 90.44 RCW to provide a record that a change to an existing water right has been authorized.

Citizen Lawsuits -- A civil suit filed to force the proper implementation of the ESA or to stop the activity of any person, including the United States and any other governmental body or agency that is alleged to be in violation of any part of the ESA or a regulation issued under its authority. Any citizen can file a third party lawsuit regarding ESA implementation. (ESA Section 11)

Clean Water Act -- Growing public awareness and concern for controlling water pollution led to enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act. The Act established the basic structure for regulating discharges of pollutants into the waters of the United States. It gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry. The Clean Water Act also continued requirements to set water quality standards for all contaminants in surface waters. The Act made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. It also funded the construction of sewage treatment plants under the construction grants program and recognized the need for planning to address the critical problems posed by non-point source pollution.

Subsequent enactments modified some of the earlier Clean Water Act provisions. Revisions in 1981 streamlined the municipal construction grants process, improving the capabilities of treatment plants built under the program. Changes in 1987 phased out the construction grants program, replacing it with the State Water Pollution Control Revolving Fund, more commonly known as the Clean Water State Revolving Fund. This new funding strategy addressed water quality needs by building on EPA-State partnerships.

Commercial Use - Use of water by a business enterprise.

Comprehensive Cost-Benefit Analysis - The comparison of benefits and costs in management decision-making. Dollar values are assigned to benefits and costs in most cost-benefit analyses.

Consumptive Use - A use of water whereby there is a diminishment in either quantity or quality of the water source.

Coordinated Water System Plan – A plan for public water systems within a critical water supply service area which identifies the present and future water system concerns and sets forth a means for meeting those concerns in the most efficient manner possible.

Critical Area Ordinance (CAO) – In 1990, the Washington State Legislature passed the Growth Management Act, which required counties and cities to designate and protect critical areas. In October of 1997, Whatcom County Council adopted the Critical Area Ordinance, which developed rules to:

- Minimize adverse impacts to the quality and quantity of water resources.
- Protect public from harm due to landslides, erosion, seismic, flooding and other natural hazards.
- Safeguard water quantity and quality.
- Preserve and enhance critical habitat areas necessary to maintain natural ecosystems.

- Protect unique, fragile and valuable elements of the environment, including fish, wildlife and shellfish habitat areas.

Critical Aquifer Recharge Area – Based on the Critical Area Ordinance, Critical Aquifer Recharge Areas are 1) locations of high susceptibility to aquifer contamination due to presence of soil conservation service hydrologic soil groups A or B, and 2) the subsurface above the water table consists of highly permeable materials that are unobstructed by poorly permeable strata.

Cubic Foot Per Second (CFS) - A unit expressing rate of discharge, usually of surface water. One cubic foot per second is equal to the discharge of water having a cross sectional area of one square foot and flowing at an average velocity of one foot per second. One cubic foot per second is equal to 448.8 gallons per minute, 646,317 gallons per day, or 724 acre-feet per year.

Dam - Any artificial barrier and/or any controlling works, together with appurtenant works that can or does impound or divert water.

Decision Support System (DSS) - A series of computer models that will use scientific data to help predict what might happen under different water policies. The DSS will have several components. At its heart will be a database containing information about the quality and quantity of water in WRIA 1, fish habitat, current and projected land uses, and other information. The DSS' other components will help users to access, analyze, and display the information in the database in different ways. For example, there will be a "data visualization" element to show data as maps, charts, and tables; models to help project water use, water quality, and other issues into the future; and an "alternatives builder" that will allow users to test different water policies and project their relative effects.

Demand Forecast - The quantity of water projected to be used within a given geographic area within a specified time for a specific use.

Detailed Management Area (DMA) Within WRIA 1 watershed, three geographic areas (Lynden North, South Fork of the Nooksack, and Tenmile Creek) were identified as DMAs. These areas will have detailed management options developed and evaluated by models due to the areas' significant issues/problems that parallel other areas within WRIA 1 and because these areas have representative economic sectors, and significant data has already been collected, allowing for greater model detail.

Diversion - (1) A physical structure constructed to take surface water from its natural course into a canal, pipe or other conduit by means of gravity flow or by pumping, or (2) the action of taking water from a stream or other body of water.

Domestic Use - The use of water within or at a residence for drinking, cooking, cleaning, sanitation, and maintenance of outdoor amenities associated with the residence.

Drainage – (1) The removal of excess surface water or groundwater from land by means of surface or subsurface drains. (2) Improving the productivity of agricultural land by removing excess water from the soil by such means as ditches or subsurface drainage tiles (pipes). (3) The downward movement of water through the soil. When this occurs rapidly, the soil is referred to as “well drained”; otherwise

poorly drained. Most plant roots need oxygen as well as water, and soil that remains saturated (poorly drained) deprives roots of necessary oxygen. (4) Soil characteristics that affect natural drainage.

Drought Permit - A water right permit issued pursuant to chapter 90.03 RCW in accordance with chapter 43.83B RCW and chapter 173-166 WAC.

Due Diligence - Prudence, activity, or assiduousness, as is properly to be expected from, and ordinarily exercised by a reasonable and prudent person in the prosecution of a water right permit or change authorization.

Easement - A right to use the land of another for conveyance of water.

Ecological Flow Regime - Instream flow levels needed to preserve, protect, and restore the physical, biological, and chemical aspects of a stream can be divided into five functional categories: 1) water quality maintenance, 2) fisheries baseflow, 3) channel maintenance, 4) riparian maintenance, and 5) valley maintenance. Each of these flows components are identified as essential for maintaining the ecological health of the stream system.

Endangered Species Act -- Congress passed the Endangered Species Preservation Act in 1966. This law allowed listing of only native animal species as endangered and provided limited means for the protection of species so listed. The Departments of Interior, Agriculture, and Defense were to seek to protect listed species, and insofar as consistent with their primary purposes, preserve the habitats of such species. Land acquisition for protection of endangered species was also authorized. The Endangered Species Conservation Act of 1969 was passed to provide additional protection to species in danger of "worldwide extinction". Import of such species was prohibited, as was their subsequent sale within the U.S. This Act called for an international ministerial meeting to adopt a convention on the conservation of endangered species.

A 1973 conference in Washington led to the signing of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which restricted international commerce in plant and animal species believed to be actually or potentially harmed by trade.

Later that year, the Endangered Species Act of 1973 was passed, which combined and considerably strengthened the provisions of its predecessors, and broke some new ground.

Its principal provisions follow:

U.S. and foreign species lists were combined, with uniform provisions applied to both [section 4];

Categories of "endangered" and "threatened" were defined [section 3];

Plants and all classes of invertebrates were eligible for protection, as they are under CITES [section 3];

All Federal agencies were required to undertake programs for the conservation of endangered and threatened species, and were prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its "critical habitat" [section 7];

Broad taking prohibitions were applied to all endangered animal species, which could apply to threatened animals by special regulation [section 9];

Matching Federal funds became available for States with cooperative agreements [section 6];

Authority was provided to acquire land for listed animals and for plants listed under CITES [section 5]; and

U.S. implementation of CITES was provided [section 8].

Significant amendments have been enacted in 1978, 1982, and 1988, while the overall framework of the 1973 Act has remained essentially unchanged. The funding levels in the present Act were authorized through Fiscal Year 1992. Principal amendments are listed below:

1978:

Provisions were added to Section 7, allowing Federal agencies to undertake an action that would jeopardize listed species if the action were exempted by a cabinet-level committee convened for this purpose;

Critical habitat was required to be designated concurrently with the listing of a species, when prudent, and economic and other impacts of designation were required to be considered in deciding on boundaries [section 4];

The Secretaries of Interior and Agriculture (for the Forest Service) were directed to develop a program for conserving fish, wildlife and plants, including listed species, and land acquisition authority was extended to such species [section 5];

The definition of "species" with respect to "populations" was restricted to vertebrates; otherwise, any species, subspecies or variety of plant, or species or subspecies of animal remained listable under the Act [section 3].

1982:

Determinations of the status of species were required to be made solely on the basis of biological and trade information, without any consideration of possible economic or other effects [section 4];

A final rule to determine the status of a species was required to follow within one year of its proposal unless withdrawn for cause [section 4];

Provision was made for designation of experimental populations of listed species that could be subject to different treatment under section 4 , for critical habitat, and section 7 [section 10]; and

A prohibition was inserted against removing listed plants from land under Federal jurisdiction and reducing them to possession [section 9].

1988:

Monitoring of candidate and recovered species was required, with adoption of emergency listing when there is evidence of significant risk [section 4].

Several amendments dealt with recovery matters: 1) recovery plans will undergo public notice and review, and affected Federal agencies must give consideration to those comments; 2) section 4(g) requires five years of monitoring of species that have recovered; and 3) biennial reports are required on the development and implementation of recovery plans and on the status of all species with plans.

A new section 18 requires a report of all reasonably identifiable expenditures on a species-by-species basis be made on the recovery of endangered or threatened species by the States and the Federal government [see last page].

Protection for endangered plants was extended to include destruction on Federal land and other taking when it violates State law [section 9].

Evapotranspiration - The combined loss of water to the atmosphere from land and water surfaces by evaporation and from transpiration, interception, and sublimation.

Extension Request - A written request from a water right permittee or change authorization holder requesting additional time under a development schedule or deadline imposed on a permit.

Federal Reserved Water Right – A category of federal water rights, created by federal law. These rights are created when the federal government withdraws land from the public domain to establish a federal reservation such as a national park, forest, or Indian reservation. By this action, the government is held to have reserved water rights sufficient for the primary purposes for which the land was withdrawn.

Flow, Optimum – That instantaneous discharge which provides the best set of hydraulic conditions for a selected life history stage, species, or fishery. (Bahya 1979)

Fluvial - Of or pertaining to rivers and streams; growing or living in streams or ponds; produced by the action of a river, stream or flood flow, as in a fluvial plain.

Forage Fish - Small fish which breed prolifically and serve as food for predatory fish.

Forfeiture - Statutory loss of water right for non-use of water for five successive years.

Gallons Per Minute - A unit of measurement of the flow of ground water being withdrawn from a well. A flow of one gallon per minute is the amount of water necessary to fill a liquid measure of one gallon each minute the water is flowing.

General Adjudication of Water Rights - A Washington State Superior Court legal proceeding initiated by the department of ecology as plaintiff to determine the validity, priority and extent of existing water rights in a given geographic area or watershed. An adjudication is a form of a quiet title action.

Glacial Outwash Plains - Stratified material, chiefly sand and gravel deposited by meltwater streams in front of the margin of a glacier.

Ground Water - All waters that exists beneath the land surface or beneath the bed of any stream, lake, or reservoir, or other body of surface water within the boundaries of Washington State, whatever may be the geological formation or structure in which such water stands or flows, percolates or otherwise moves.

Ground Water Right - An authorization to withdraw and use ground water for a beneficial purpose established pursuant to chapter 90.44 RCW or under prior existing statutory or common laws of the State of Washington or the United States which has not been abandoned or relinquished.

Group Domestic - The domestic use of water for two or more service connections.

Growth Management Act - In 1990, the Washington State Legislature passed the Growth Management Act, which required counties and cities to adopt comprehensive land use plans and development regulations to coordinate and manage growth and development, as well as protect the State's natural resources and critical areas. After several years of development, study and public input, the Whatcom County Council adopted the *Whatcom County Comprehensive Plan* in May 1997 and the *Whatcom County Critical Areas Ordinance (CAO)*, WCC Chapter 16.16, in October 1997.

Hydraulic Conductivity (effective) - The rate of water flow through a porous medium that contains more than one fluid (such as water and air in the unsaturated zone), which should be specified in terms of both the fluid type and content and the existing pressure.

Hydraulic Continuity - The natural interconnection of ground water and surface water bodies. An aquifer is in hydraulic continuity with wetlands, lakes, streams, rivers or other surface water bodies if it discharges, recharges, or otherwise affects the surface water bodies.

Hydrogeology - The part of geology concerned with the functions of water in modifying the earth, especially by erosion and deposition; geology of ground water, with particular emphasis on the chemistry and movement of water.

Impairment - To adversely impact the physical availability of water for beneficial use for a water right holder so as to prevent the exercise and beneficial use of the water to which such holder is

entitled or to adversely affect the flow of a surface water course at a time when the flows are at or below established instream flows levels.

Impervious Surfaces - A term denoting the resistance to penetration by water or plant roots; incapable of being penetrated by water; non-porous.

Inchoate Water Right - A water right or portion thereof not yet put to beneficial use.

Indigenous Species - Existing, growing, or produced naturally in a region.

Industrial Use - Use of water in any industrial process as a constituent of the process or for related thermal control, washing, drinking, and sanitation. It generally includes commercial water use.

Initiating Governments - There are five Initiating Governments for the WRIA 1 Watershed Management Project. They include City of Bellingham, Lummi Nation, Nooksack Tribe, Public Utility District, and Whatcom County. Each has an Administrative Decision Maker and at least one staff member. The staff members meet on a regular basis to discuss project issues. In January 2000, the Initiating Governments signed an interlocal agreement, creating a Joint Board to handle the project's administrative functions.

Instream - Within the natural stream channel.

Joint Board – In January 2000, the Initiating Governments signed an interlocal agreement, creating a Joint Board to handle administrative functions of the WRIA 1 Watershed Management Project.

Junior Water Right - Any water right established with a priority date subsequent to the right under consideration.

Legal Water Availability - Water that is not only physically available, but which has not been previously appropriated by another person or which is not required to satisfy instream flows (see physical water availability).

Limiting Factors - A condition whose absence or excessive concentration is incompatible with the needs or tolerance of a species or population and which may have a negative influence on their ability to thrive and/or survive. A factor such as temperature, light, water, or a chemical that limits the existence, growth, abundance, or distribution of an organism.

Low Flow - Flow level limitations appearing as provisions on permits and certificates issued by the department or its predecessors.

Lower Aquifer Zone - Any aquifers occurring at a depth below the upper aquifer zone, as determined by the department, or as set forth in the ground water subarea management program for the area, if one exists (see WAC 173-154-040(8)).

Marine Water - The waters of the Pacific Ocean, Strait of Juan de Fuca, Puget Sound, Hood Canal, and bays, inlets, and other waters of the state continuous with these waters at sea level and which are salty or brackish but does not include those surface waters occurring upstream of the mouth of any river or stream.

Maximum Net Benefits - Assessment of the economic, social and environmental costs and benefits of alternative water uses and sources in order to maximize benefits accruing to the people of the state from a water allocation decision. This assessment is applicable to only that quantity of water available over and above the instream flow level.

Minimum Instream Flow - Streamflows established by administrative rule for the purpose of protecting and preserving instream values. Flows adopted by rule are considered a water right with a priority date as of the date of their adoption. Also called "instream flows" and "base flows" in Washington statutes, and generally referred to as "instream flows".

Mitigation - A wide variety of measures (such as siting, facility design, operation, and retrofit) which the department determines are defensible, technically feasible, and environmentally sound that are taken to diminish the impact of an action. It may include, but is not limited to not implementing the decision, taking affirmative steps to avoid the impact, rectifying through restoration or compensating by replacing or providing substitute resources; changes in siting, facility design or operation; retrofitting; transfer or protection of equivalent resources.

Model – A description of a system, theory, or phenomenon that accounts for its known or inferred properties and may be used for further study of its characteristics. Ground water and surface water models are typically a series of mathematical equations that characterize the theorized physical properties of the hydrologic cycle.

Model Calibration and Validation – Calibration refers to the process in which simulated results produced by a model are compared to measured data from a natural system to ensure that the model is estimating what is observed as accurately as possible. Validation of a model is the process in which the calibrated model simulates additional data to compare to data not used in the calibration process.

Model Sensitivity and Uncertainty Analysis – Model sensitivity and uncertainty analyses are conducted to assess if critical assumptions made in the modeling phase can have a predictable effect on the simulated results.

Multiple Aquifer System - Any geologic formation(s) which contains distinct aquifers at different depths that exhibit a significant degree of local or regional hydraulic separation.

Municipal Use - Use of water for multiple purposes associated with urban and suburban water development.

Natural Attenuation - Reliance on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a time frame that is reasonable compared to that offered by other more active methods. The 'natural

attenuation processes' that are at work in such a remediation approach include a variety of physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater. These in-situ processes include biodegradation; dispersion; dilution; sorption; volatilization; radioactive decay; and chemical or biological stabilization, transformation, or destruction of contaminants." (EPA, OSWER Directive 9200.4-17P). Thus, the hazardous or waste contamination concentrations can be reduced through natural processes occurring within the ground water.

Naturalized Surface Water Runoff – Naturalized flow is streamflow or runoff that remains after the effects of humans upon the flow is removed.

Net Water Savings - The amount of water determined to be conserved and usable within a specified stream reach for other purposes without impairment or detriment to water rights existing at the time a water conservation project is undertaken, reducing the ability to deliver water, or reducing the supply of water that otherwise would have been available to other existing water uses.

Non-Consumptive - A use of water whereby there is no diminishment in either quantity or quality of the water source. Uses such as hydropower production, which divert the water and return it at the bottom of a bypass reach are considered non-consumptive with respect to the stream below the return point but are consumptive for the bypass reach.

Normal Water Supply - (1) The average amount of water available to a geographical area on an annual basis, based upon an evaluation of precipitation, streamflow, snowpack and other hydrological and meteorological factors, or (2) that amount of water put to beneficial use using reasonably efficient practices, including reasonable conveyance losses, under a valid water right permit or certificate, or a supported registered water right claim.

Perfection - The terms and conditions of a water right permit are satisfied and the amount of water stated in the permit is put to beneficial use

Permeability - (1) The capacity of soil, sediment, or porous rock to transmit water; the property of soil or rock that allows passage of water through it. (2) For a rock or an earth material, the ability to transmit fluids; the rate at which liquids pass through soil or other materials in a specified direction. It is measured by the rate at which a fluid of standard viscosity can move through a material in a given interval of time under a given *Hydraulic Gradient*. Permeability for underground water is sometimes expressed numerically as the number of gallons per day that will flow through a cross section of 1 square foot, at 60EF, under a hydraulic gradient of 100 percent. Permeability is equal to velocity of flow divided by hydraulic gradient. The following permeability terms apply:

- [1] **Very Slow** – less than 0.05 inch per hour;
- [2] **Slow** – 0.05 to 0.20 inch per hour;
- [3] **Moderately Slow** – 0.20 to 0.80 inch per hour;
- [4] **Moderate** – 0.80 to 2.50 inches per hour;
- [5] **Moderately Rapid** – 2.50 to 5.0 inches per hour;
- [6] **Rapid** – 5.0 to 10.0 inches per hour; and
- [7] **Very Rapid** – More than 10.0 inches per hour.

Permit - A document issued by the department pursuant to chapter 90.03 or 90.44 RCW in response to a report of examination that conveys authority to appropriate water and construct physical works associated with the appropriation. To the extent water is not put to use, a permit is an inchoate water right.

Person - Any firm, association, water users' association, public or private corporation, irrigation district, municipal corporation, city, town, Tribe, county, state agency, or the United States of America, as well as an individual.

Physical Water Availability - Water is normally present in the water body or aquifer proposed to be a source of water for appropriation (see also "legal water availability").

Place of Use - The specific portion of a piece of property on which or at which water will be used as specified by a water right permit or certificate. It could be acreage actually irrigated, the site of commercial water use, or the land area to be supplied from a municipal or group domestic water right.

Planning Unit - The Planning Unit operates under a procedural agreement, signed in December 1999, that sets out how the group will function and make decisions. In addition to assisting with the work of the WRIA 1 Watershed Management Project, representatives on the Planning Unit will be responsible for expressing the interests of their constituents.

Point of Diversion/Withdrawal - The place or point on property where water is taken from a surface water source (diversion) or ground water source (withdrawal) to be put to use under a permit, certificate or claimed right.

Preliminary Permit - An authorization issued by the department pursuant to RCW 90.03.290 requiring the applicant to conduct tests or studies for water availability or project viability and/or to collect information to be used by the department to make a decision on an application.

Preservation Flows -- Flow levels designed to "preserve" instream values. This concept is supported by Ch. 90.54.020 RCW which specifies preservation of fish and environmental values. Preservation can be taken to imply safeguarding, for example, a remnant population of fish species – "preservation" as in a "museum piece". Conversely, it can mean preserving conditions at a level that would mimic naturally occurring flows and conditions, i.e. preserve "natural" conditions.

Primary Water Right - The water right relied upon during normal circumstances.

Prior Appropriation Doctrine -- The system for allocating water to private individuals used in most Western states. The doctrine of Prior Appropriation was in common use throughout the arid West as early settlers and miners began to develop the land. The prior appropriation doctrine is based on the concept of "First in Time, First in Right." The first person to take a quantity of water and put it to beneficial use has a higher priority of right than a subsequent user. The rights can be lost through nonuse; they can also be sold or transferred apart from the land.

Priority Date – The date of establishment of a water right. The rights established by application have the application date as the date of priority.

Provision - A condition of a permit or certificate as specified in the report of exam, permit, certificate, or order for that water right.

Public Water Supply - Any water supply intended or used for human consumption or other domestic uses, including source, treatment, storage, transmission and distribution facilities where water is furnished to any community, collection or number of individuals, available to the public for human consumption or domestic use, excluding water supplies serving one single family residence.

Purpose of Use - An attribute of a water right that is descriptive of one or several beneficial water uses noted on a water right application or claim and/or authorized by a water right permit or certificate.

Purveyor - A person who sells or distributes water.

Reasonably Efficient Practices - Those practices including, but not limited to, methods of conveyance, use, and disposal of water which are reasonable and appropriate under the circumstances to bring about water use without waste.

Reasonable and Feasible Pumping Lift - The dynamic elevation range of an aquifer within which a ground water appropriator's pumping lift will be protected against impairment.

Recharge of Ground Water - The processes by which surface water percolates below the rooting zone of soil and reaches the saturated zone in an aquifer.

Reclamation and Reuse - The act or process of reclaiming or converting a resource to another use, as swamp or desert lands to irrigable lands or urban lands.

Reinstatement - Restoring the authority embodied with a document for the development of or use of water which had previously been lost through issuance of an order of the department.

Relinquishment - (1) The process whereby the department gives public notice to any person who may have been entitled to divert or withdraw waters of the state that it appears the water right has been abandoned or forfeited, or (2) the loss of a water right by any person who voluntarily fails, without sufficient cause, to beneficially use all or any part of said right to divert or withdraw for any period of five successive years.

Report of Examination - A document issued by the department pursuant to RCW 90.03.290 which assembles and discloses information on the department's investigation and makes recommendations to issue a permit under specific conditions in response to a water right application.

Reservation - An allocation of water made by administrative rule for a determined future beneficial use.

Reserved Water Rights -- This class of water rights is a judicial creation derived from *Winters v. United States* (207 U.S. 564, 1907) and a subsequent federal case law, which collectively hold that when the federal government withdraws land from general use and reserves it for a specific purpose, the federal government by implication reserves the minimum amount of water unappropriated at the time the land was withdrawn or reserved to accomplish the primary purpose of the reservation. Federal reserved water rights may be claimed when Congress has by statute withdrawn lands from the public domain for a particular federal purpose or where the President has withdrawn lands from the public domain for a particular federal purpose pursuant to congressional authorization. (National Research Council 1992)

Restoration Flows -- Flows needed to restore instream values to some previous level. For example, flows in a river may be depleted due to water allocation. By putting water back in a stream, i.e. by restoring the flow, the presumption is that the increased flow would be a benefit and the stream would eventually, at some future date, be “restored” to its previous level.

Reservoir - A water storage facility formed by an artificial barrier and/or dam.

Reservoir Permit - A document issued by the department pursuant to chapter 90.03 RCW that conveys authority to construct a dam or other impoundment structure for the storage and beneficial use of the stored water.

Return Flows - That portion of diverted or withdrawn water which, through seepage/spills, deep percolation or discharge, returns to the source or to another body of water.

Rotation - The changing of a place of water use by one or more water right holders in response to a water shortage.

Rulemaking – The process whereby Washington State government agencies adopt regulations as part of the Washington Administrative Code (WAC) in order to implement the statutes embodied in the Revised Code of Washington (RCW).

Runoff - The portion of the rain or snowmelt water that runs over the land surface and ultimately reaches streams or other water courses.

Saturated Zone - (1) Generally, filled to capacity; having absorbed all that can be taken up; soaked through with moisture. (2) (Hydrologic) A condition often used in reference to soils in which all voids or pore spaces between soil particles are filled with water. (3) (Chemistry) Describes a solution in its most concentrated

Seasonal Change Authorization - A document issued by the department pursuant to chapter 90.03 RCW in response to a request for a seasonal transfer of a water right or portion thereof that conveys authority to use water.

Section, Township, Range - A geographic locator system that specifies a location on the earth's surface. Section, township and range are terms used in the Public Land Survey System. In this system, land areas are subdivided into quadrangles, usually containing 16 townships; each township is about 36 square miles. Townships are divided into 36 sections; each about 1 square mile in area. Sections are then divided into quarters and quarter-quarters; a "quarter-quarter" is 1/16th of a section or about 40 acres.

Seepage - That portion of diverted or withdrawn water which is lost in transit to the place of use (not including evapotranspiration) or which moves below the root zone in an irrigation field.

Senior Water Right - Any water right with a priority date earlier than the water right under consideration.

SEPA - The State Environmental Policy Act (see chapter 43.21C RCW).

Short Term Permit - An authorization issued by the department to use water for a time period of less than one year when the water user has no intention of establishing an appropriative water right.

Significant Modification - The deepening or reaming of a well, lowering the pump bowls by adding lengths of pump column, adding water quality treatment devices, or other similar modifications, where the total cost or value of such modifications exceeds (1) \$500.00 for domestic, stock or other water withdrawal facilities withdrawing less than 5,000 gallons per day, or (2) \$2500.00 for all other facilities.

Single Domestic - The domestic use of water by an individual residence.

Storativity - The volume of water that a permeable unit, i.e., aquifer, will absorb or expel from storage per unit surface area per unit change in head. In an unconfined aquifer, the storativity value is equal to the *Specific Yield*. The specific yield of the aquifer can be used to estimate the time between when pumping begins and equilibrium groundwater conditions are reached.

Superseding Certificate - A document issued by the department pursuant to chapter 90.03 RCW to evidence a change or modification to a certificate of water right.

Supplemental Water Right - A water right issued by the department as the back-up for a primary water right. The supplemental water right can be exercised only when water is not available to satisfy the primary water right (see primary water right).

Surface Water - (1) A body of water such as a stream, a lake, or spring at or on the land surface, or (2) water flowing in or overland to a stream or present in a lake, pond, or wetland.

Surface Water Right - An authorization to divert and use surface water for a beneficial purpose established pursuant to chapter 90.03 RCW or under prior existing statutory or common laws of the State of Washington or the United States which has not been abandoned or relinquished.

Target Flow -- A flow level a planning group may set as desirable to meet some management “target” goal. It is achievable and has a biological base, and may be attained through measures such as conservation or restoration. A term associated with the ESA. “Target flow” is not defined in Washington State law.

Temporary Permit - A document issued by the department pursuant to chapter 90.03 RCW in response to a request for a temporary permit that conveys authority to use water while the department is reviewing an application for water right.

Tributary - A stream or body of ground water that discharges to a larger stream or body of water.

Trust Water Right - Any water right acquired by the state under Chapter 90.42 or 90.38 RCW by purchase, lease, receipt of gift or thorough state or federal water conservation investments.

Upper Aquifer Zone - All aquifers within a multiple aquifer system lying between the land surface and a geologic formation which acts to retard the downward migration of water or as set forth in the ground water subarea management program for the area, if one exists (WAC 173-154-040(7)).

Vested Water Right - A right to use surface water established prior to the effective date of chapter 90.03 RCW or to use ground water prior to the effective date of the 1945 ground water code (chapter 90.44 RCW).

Waste - Diversion or withdrawal and use of water in excess of what would be reasonable and appropriate under the circumstances using reasonably efficient practices to accomplish the intended purpose.

Water Resource Inventory Area or (WRIA) - One of 62 geographic areas of the state based generally on drainage patterns and demarcated on the map in WAC 173-500-990.

Water Right - A legal right to make beneficial use of public waters of the State of Washington.

Water Right Claim -- A claim to the right to withdraw or divert and make beneficial use of public surface or ground waters of the state, filed on a form provided by Ecology and registered with Ecology in accordance with Chapter 90.14 RCW. Registration of a water right claim was required in order to retain the use of surface water if such use was established prior to enactment of Chapter 90.03 RCW (June 1917); to retain use of ground water if such use was developed prior to enactment of the Chapter 90.44 RCW (June 6, 1945); and to retain use of ground water subject to the permitting exemption of Section 90.44.050 RCW. Parties possessing valid water right permits and/or certificates obtained through the permitting provisions of Chapters 90.03 and 90.44 RCW were not required to register such water right claims.

Water System Plan - A document describing a public water system developed and submitted to the Washington State Department of Health in compliance with chapter 246-290 WAC.

Watershed - A region in which rainfall or snowmelt water flows toward a single point. Thus, it is any hollow or trough in the earth's crust, whether filled by water or not. A watershed is the total area drained by a river and its tributaries. Used interchangeably with basin.

Well - Any excavation that is drilled, cored, bored, washed, driven, dug, jetted, or otherwise constructed when the intended use of the excavation is for the location, diversion, artificial recharge, or withdrawal of ground water. Well includes water-supply well and resource protection well. Well does not mean excavations excluded in chapter 173-160-WAC.

Withdrawal - (1) The physical structures constructed to take ground water from an aquifer into a pipe or other conduit by means of gravity flow or by pumping, or (2) the action of removing ground water from an aquifer.