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# **GLOSSARY OF TERMS RELATED TO WATER AND WATERSHED MANAGEMENT IN ALBERTA**

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**1<sup>ST</sup> EDITION**

Partnerships & Strategies Section  
Alberta Environment

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Copies of this glossary can be downloaded from the Management and Planning Resources section of the Toolkit page of the following website:

Water for Life: Alberta's Strategy for Sustainability

<http://www.waterforlife.alberta.ca/>

## PREFACE

### Purpose

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This glossary was prepared at the request of water stewards across Alberta, both within and outside of government. They desired an easy-to-understand glossary of common Alberta-based water and watershed management-related terms to aid communication and understanding between the numerous water/watershed stewardship organizations and partnerships in Alberta.

### Method

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The definitions found in this glossary are compiled from previously published sources; both government and non-government (see the *References* section). Many of the terms included here were found to have several different published definitions. Since printing all of the definitions for each term would have made this document completely unwieldy, it was thought best to include one definition for each term, wherever possible. In cases where published definitions were deemed to provide a significantly different context to use of the term, multiple definitions have been included.

Specific rules were applied in choosing between similar definitions. In all cases, definitions from Alberta were selected over those from other jurisdictions due to the specific meaning that many water words have within the provincial regulatory context. In cases where several Alberta-specific definitions existed, the definition found in a piece of legislation, regulation, code of practice, etc. was selected preferentially over those from non-regulatory sources, unless a definition existed that included the legislative definition plus additional information. In other cases where several non-regulatory, Alberta-specific definitions existed, it was left to the discretion of the compiler to select the most appropriate definition, or list multiple definitions. For the few cases where no definition existed for a term, or where the definition was out-of-date, Alberta Environment experts were enlisted to provide a current definition. Finally, in the interest of readability, many of the definitions in this document have been edited for brevity and clarity, while retaining their original intent as closely as possible.

### Use

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Because the purpose of this glossary is to aid communication and understanding within and between water/watershed stewardship organizations, **it and the definitions contained within are not intended for legal use.** If there are specific legal questions regarding the definition of a water-related term, please refer to the relevant referenced piece of legislation or contact Alberta Environment directly for clarification. This glossary is provided for **general information only.**

The definitions are laid out as follows:

1. The term being defined is in bold in the top line.
2. Common acronyms or synonyms for the term are in brackets following the term.
3. Related terms are printed in italics to the far right of the listed term.
4. The definition is printed below each of the terms.
5. An abbreviation of the term's source is found in brackets at the end of the definition. The complete reference to which the abbreviation refers can be found at the end of the glossary in the *References* section.

An alphabetical list of the terms included is located at the beginning of the glossary. A list of the terms, organized by subject, is found near the end of the glossary, just before the *References* section.

### **Suggestions**

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This glossary should be considered as a working document and will be updated periodically. Feedback is welcome for consideration in future versions. Comments and/or suggestions pertaining to the glossary can be forwarded to Curtis Horning at [curtis.horning@gov.ab.ca](mailto:curtis.horning@gov.ab.ca) or by fax at (780) 422-5120.

## TERMS LISTED ALPHABETICALLY

Acute Effects  
Adaptive Management  
Administrative Penalty  
Adverse Effect  
Alberta Water Council  
Algae  
Algal Bloom  
Alkalinity  
Ambient  
Anoxic  
Apportionment Agreement  
Approval  
Approvals Manager  
Approved Water Management Plan  
Aquatic Ecosystem  
Aquatic Environment  
Aquatic Macrophyte  
Aquatic Species  
Aquifer  
Artificial Wetland  
Assimilative Capacity  
Assurance  
Bacteria  
Base Flow  
Baseline Data  
Benchmarking  
Benthic Invertebrates  
Berm  
Best/Beneficial Management Practices  
Biochemical Oxygen Demand  
Biocriteria  
Biological Diversity  
Biosolids  
Blue-Green Algae  
Bog  
Canadian Heritage River  
Case-Specific Technology Limit  
Check Dam  
Chlorophyll a  
Chronic Effects  
Cistern  
Code of Practice  
Coliform Bacteria  
Collaboration  
Combined Sewer  
Command and Control Approach  
Compliance Assessment  
Compliance Assurance  
Concentration  
Confined Aquifer  
Conjunctive Use  
Consensus  
Conservation  
Consumptive Use  
Contaminant  
Continuous Improvement  
Control Dam  
Crown Reservation  
Cubic Feet Per Second  
Cumulative Effects  
Dam  
Dam<sup>3</sup>  
Deep-Well Injection  
Deleterious Substance  
Demand Management  
Designated Director  
Dike  
Discharge  
Disposal Well  
Directly Affected Person  
Disinfection  
Disposal Water  
Dissolved Oxygen  
Ditchrider  
Diversion of Water  
Domestic Wastewater  
Domestic Water Use  
Drain  
Drainage Basin  
Drainage District  
Drawdown  
Driller  
Drinking Water  
Drought  
Dry Pond  
Ecological Integrity  
Economic Instruments  
Ecosystem  
Effluent  
Effluent Plume  
Emergency Spillway  
End-of-Pipe Limit  
Endorsement  
Enforcement  
Enforcement Order  
Enforcement Response

|  |                                   |
|--|-----------------------------------|
| Enhanced Oil Recovery Environment            | Inactive Water Well Indicator     |
| Environmental Appeals Board                  | Industrial Runoff                 |
| Environmental Assessment                     | Industrial Wastewater             |
| Environmental Indicator                      | Injectant                         |
| Environmental Outcome                        | In-Stream Flow Needs              |
| Environmental Protection and Enhancement Act | In-Stream Objectives              |
| Environmental Protection Order               | Intake                            |
| Environmental Quality                        | Inter-Basin Transfer              |
| Ephemeral Wetland                            | Intra-Basin Transfer              |
| Erosion                                      | Irrigation                        |
| Eutrophic                                    | Irrigation District               |
| Eutrophication                               | Lagoon                            |
| Evapotranspiration                           | Leachate                          |
| Fen  | Leaching                          |
| First-in-Time, First-in-Right                | Legislation                       |
| Fish Habitat                                 | Load Discharge                    |
| Fishery                                      | Local Authority                   |
| Fish Ladder                                  | Long-Term Yield                   |
| Flexible Regulatory and Non-Regulatory Tools | Low Level Outlet                  |
| Flood  | Mainstem                          |
| Flood, 100-Year                              | Major Ions                        |
| Flood Fringe                                 | Major River Basin                 |
| Floodplain                                   | Make-Up Water                     |
| Floodway                                     | Market-Based Instruments          |
| Fluvial                                      | Marsh                             |
| Framework                                    | Master Agreement on Apportionment |
| Freeboard                                    | Maximum Daily Limit               |
| Full Supply Level                            | Mesotrophic                       |
| Governance                                   | Microorganisms                    |
| Grassroots                                   | Ministerial Order                 |
| Green Area                                   | Mixing Zone                       |
| Grey Water                                   | Multi-Barrier Approach            |
| Groundwater                                  | Municipal Water                   |
| Groundwater Recharge                         | Municipal Water Use               |
| Guideline                                    | Natural Area                      |
| Habitat                                      | Natural Capital                   |
| Hardness                                     | Naturalized Flow                  |
| Headwaters                                   | Naturally Occurring Wetland       |
| Headworks                                    | Navigable Water                   |
| Height of Dam                                | Net Diversion of Water            |
| Household Purposes                           | Non-Compliance                    |
| Hydrologic Cycle                             | Non-Consumptive Use               |
| Hydrology                                    | Non-Point Source Pollution        |
| Hydrophytic                                  | Non-Regulatory Instruments        |
| Hypereutrophic                               | Non-Saline Water                  |
| Impervious Surfaces                          | Nutrient                          |
| Impoundment                                  | Offsets                           |
| In-Situ Surface Water Treatment              | Offstream Use                     |
|  | Oilfield Injection                |
|  | Oligotrophic                      |

|  |                                      |
|--|--------------------------------------|
| Organic Contaminants                             | Reservoir Capacity                   |
| Outcomes   | Resource Trade-Off                   |
| Outfall  | Retrofit Provision                   |
| Outlet   | Return Flow                          |
| Outlet Gate                                      | Riparian                             |
| Partnership                                      | Riparian Area                        |
| Pathogen   | Riparian Health Assessment           |
| Peatland   | Riparian Outlet                      |
| Performance Assessment                           | Riparian Owner                       |
| Performance Measure                              | Riparian Rights                      |
| Permanent Water Licence                          | Riprap                               |
| Pesticide  | Risk                                 |
| pH   | Risk Analysis                        |
| Place-Based Approach                             | Risk Management                      |
| Point-Source Pollution                           | River Basin                          |
| Policy   | Runoff                               |
| Policy Analysis                                  | Saline Groundwater                   |
| Policy Development                               | Saline Water                         |
| Policy Instruments                               | Sanitary Sewer Overflow              |
| Pollutant  | Secondary Recovery                   |
| Pollutant Load                                   | Secondary Wastewater Treatment       |
| Polycyclic Aromatic Hydrocarbons                 | Sector-Specific Technology Agreement |
| Potable Water                                    | Sediment                             |
| Potentially Water-Short Area                     | Sedimentation                        |
| Preliminary Certificates                         | Seepage                              |
| Preventative Order                               | Self-Regulation                      |
| Primary Wastewater Treatment                     | Septage                              |
| Prior Appropriation                              | Septic System                        |
| Priority   | Service Spillway                     |
| Priority Number                                  | Settling Pond                        |
| Probable Maximum Flood                           | Sewage                               |
| Produced Water                                   | Sewage Treatment                     |
| Prosecution                                      | Sewer                                |
| Public and Stakeholder Involvement               | Shallow Open Water                   |
| Qualified Wetland Aquatic Environment Specialist | Shared Governance                    |
| Raw Water  | Shared Outcome                       |
| Reach  | Shared Responsibility                |
| Reclaimed Water                                  | Shore                                |
| Recycled Water                                   | Siltation                            |
| Referral   | Slough                               |
| Regime   | Sludge                               |
| Registration                                     | Source Water                         |
| Regulation                                       | Source Water Protection              |
| Regulator  | Specific Conductance                 |
| Regulatory Instruments                           | Spillway                             |
| Release  | Spillway Capacity                    |
| Relief Stormwater Trunk                          | Stakeholder                          |
| Remedial Order                                   | Start-Up Water                       |
| Reservoir  | Standard                             |
| Reservoir Area                                   | State of the Watershed Report        |
|  | Statement of Concern                 |

|                                       |  |
|---------------------------------------|--|
| Steam Injection                       | Water Flooding                             |
| Stewardship                           | Water for Life                             |
| Stilling Basin                        | Water Harvesting                           |
| Stormwater                            | Water Licence                              |
| Stormwater Drainage System            | Water Licence Conditions                   |
| Strategy                              | Water Licence in Good Standing             |
| Sub-Basin                             | Water Licence Renewal                      |
| Sub-Watershed                         | Water Licence Term                         |
| Supply Management                     | Water Licence Transfer                     |
| Surface Water                         | Water Management                           |
| Suspended Solids                      | Water Management Plan                      |
| Sustainability                        | Water Marketing                            |
| Tailings                              | Water Mastering                            |
| Target                                | Water Meter                                |
| Temporary Diversion License           | Water Power Development                    |
| Term Water License                    | Water Pricing                              |
| Tertiary Wastewater Treatment         | Water Productivity                         |
| Threshold                             | Water Quality                              |
| Top of a Dam                          | Water Quality Based Effluent Limits        |
| Total Dissolved Solids                | Water Quality Guidelines                   |
| Total Maximum Daily Load              | Water Quality Indicators                   |
| Total Suspended Solids                | Water Quality Management Area              |
| Tradable Water Rights                 | Water Quality Standard                     |
| Traditional Agricultural Registration | Water Quantity                             |
| Treat                                 | Water Right                                |
| Treated Wastewater                    | Water Table                                |
| Triple Bottom Line                    | Water Treatment Plant                      |
| Trophic Status                        | Water Well                                 |
| Turbidity                             | Water Withdrawal Licensing Process         |
| Turnover, Fall                        | Watercourse                                |
| Turnover, Spring                      | Watercourse Crossing                       |
| Upland                                | Watering Point                             |
| Waste                                 | Watershed                                  |
| Wastewater                            | Watershed Approach                         |
| Wastewater Collection System          | Watershed Management                       |
| Wastewater Lagoon                     | Watershed Management Plan                  |
| Wastewater System                     | Watershed Management Planning              |
| Wastewater Treatment                  | Watershed Planning and Advisory<br>Council |
| Wastewater Treatment Plant            | Water Re-use                               |
| Water Act                             | Watershed Stewardship Group                |
| Water Allocation                      | Water-Short Area                           |
| Water Allocation Transfer             | Waterworks System                          |
| Water Balance                         | Weir                                       |
| Water Body                            | Wet Pond                                   |
| Water Conservation                    | Wetland                                    |
| Water Conservation Holdback           | Wetland Banking                            |
| Water Conservation Objective          | Wetland Compensation                       |
| Water Co-op                           | Wetland Loss                               |
| Water Cycle                           | Wetland Margins                            |
| Water Distribution System             | Wetland Mitigation                         |
| Water Efficiency                      |  |



Wetland Restoration  
Wetland Restoration Agency  
White Area  
Works



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# A

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**Acute Effect**

Stimuli severe enough to rapidly induce a response. In aquatic toxicity tests, a response observed in 96-hours or less is typically considered acute. When referring to aquatic toxicology or human health, an acute effect is not always measured in terms of lethality. (WQLM)

*Chronic Effect***Adaptive Management**

A dynamic system or process of task organization and execution that recognizes the future cannot be predicted perfectly. Planning and organizational strategies are reviewed and modified frequently as better information becomes available. Adaptive management applies scientific principles and methods to improve management activities incrementally as decision-makers learn from experience, collect new scientific findings, and adapt to changing social expectations and demands. (SEM)

**Administrative Penalty**

A monetary penalty assessed by the regulator. An administrative penalty has a specific and general deterrent effect. The legislation specifies the contraventions for which administrative penalties are available. (G&Gglossary)

**Adverse Effect**

Impairment of or damage to the environment, human health or safety, or property. (EPEA)

**Alberta Water Council**

A provincial advisory body, including sector representatives from industry, non-government organizations (NGOs), the Government of Alberta and Provincial Authorities, and other governments, established as part of the *Water for Life* strategy to provide advice to the Government of Alberta regarding water issues. (WCAG)

**Algae**

Simple single-celled (phytoplankton), colonial, or multi-celled, mostly aquatic plants, containing chlorophyll and lacking roots, stems and leaves. Aquatic algae are microscopic plants that grow in sunlit water that contains phosphates, nitrates, and other nutrients. Algae is either suspended in water (plankton) or attached to rocks and other substrates (periphyton). Their abundance, as measured by the amount of chlorophyll *a* (green pigment) in an open water sample, is commonly used to classify the trophic status of a lake. Algae are an essential part of the lake ecosystem and provides the food base for most lake organisms, including fish. (NALMS)

**Algal Bloom**

A heavy growth of algae in and on a body of water that is often triggered by environmental conditions such as high nitrate and phosphate concentrations. The decay of algal blooms may reduce dissolved oxygen levels. (NSWA)

**Alkalinity**

The acid-neutralizing capacity of water. (SWQG)

*pH***Ambient**

Surrounding or occurring before a location or before an activity occurs. Ambient temperature is the temperature of the surrounding air. Ambient water quality is the water quality in a river, lake, or other water body, as opposed to the quality of water being discharged. In a river or stream, ambient water quality usually refers to the water upstream of a discharge point. (BRBC)

**Anoxic**

Denotes the absence of oxygen, as in bodies of water, lake sediments, or sewage. Anoxic conditions generally refer to a body of water sufficiently deprived of oxygen to where *Zooplankton* and fish would not survive. (NALMS)

**Apportionment Agreement**

An inter-provincial or international contract specifying the sharing of water resources from trans-boundary sources. For example, Alberta and Saskatchewan share the resources of the North and South Saskatchewan Rivers through apportionment agreements. (WCAG)

**Appropriation**

The amount of water a user has the legal right to withdraw from a water source. (HWUC)

**Approval**

Water Withdrawal Licencing Process

Under the *Water Act*, an approval provides authority for constructing works or undertaking an activity within a water body. The approval includes conditions under which the activity can take place. (WFL)

**Approvals Manager**

Designated Director

An Alberta Environment Administrator responsible for issuing *Water Act* licences within a specified area of Alberta. (WCAG)

**Approved Water Management Plan**

Water Management Plan

Under the *Water Act*, a water management plan that must be considered by a Director when making licence and approval decisions. (Partnerships)

**Aquatic Ecosystem**

An aquatic area where living and non-living elements of the environment interact. This includes the physical, chemical, and biological processes and characteristics of rivers, lakes, and wetlands and the plants and animals associated with them. (GWMT)

**Aquatic Environment**

The components of the Earth related to, living in, or located in or on water or the beds or shores of a water body including (but not limited to) all organic and inorganic matter, living organisms and their habitat (including fish habitat), and their interacting natural systems. (WCAG)

**Aquatic Macrophyte**

Large (in contrast to microscopic) plants that live completely or partially in water. (NALMS)

**Aquatic Species**

The plants and animals living in, or associated with, water bodies, wetlands, and riparian areas. (FWMP)

**Aquifer**

An underground water-bearing formation that is capable of yielding water. Aquifers have specific rates of discharge and recharge. As a result, if groundwater is withdrawn faster than it can be recharged, the underground aquifer cannot sustain itself. (WFL)

**Artificial Wetland**

A man-made wetland in an area where a natural wetland did not exist before. (WRCG)

**Assimilative Capacity**

The ability of a water body to purify or remove contaminants from wastewater. (BRBC)

**Assurance**

Confirmation and public confidence that management systems are producing the desired resource and environmental outcomes. (SEM)

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## B

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**Bacteria**

A diverse group of microorganisms that occur naturally in aquatic environments. Bacteria that occur naturally in surface water generally are not harmful to humans, but pathogenic bacteria can be introduced into surface waters from wastewater, particularly from municipal sewage effluents. (SWQG)

**Base Flow**

The fair-weather or sustained flow of streams; that part of stream discharge not attributable to direct runoff from precipitation, snowmelt, or a spring. Discharge entering streams channels as effluent from the groundwater reservoir. Also referred to as *Groundwater Flow*. (NALMS)

**Baseline Data**

An initial set of observations or measurements used for comparison; a starting point. (US-EPA)

**Benchmarking**

The process of identifying best practices indicating superior performance. Benchmarks are adopted as targets for optimal organizational performance, and may include standards or environmental management processes. (G&Gglossary)

**Benthic Invertebrates (Zoobenthos)**

Animals that live on river and lake bottoms. Many of these inhabitants are immature stages of insects such as mayflies, stoneflies, caddisflies, and midges. Other types of animals include aquatic earthworms or bristleworms, roundworms, snails and leeches. The variety and abundance of benthic invertebrates in a river reflects the habitat the river provides. (SWQG)

**Best Management Practices (BMPs) (Beneficial Management Practices)**

Techniques and procedures that have been proven through research, testing, and use to be the most effective and appropriate for use in Alberta. Effectiveness and appropriateness are determined by a combination of: (1) the efficiency of resource use, (2) the availability and evaluation of practical alternatives, (3) the creation of social, economic, and environmental benefits, and (5) the reduction of social, economic, and environmental negative impacts. (BRBC)

**Biochemical Oxygen Demand (BOD) (Biological Oxygen Demand)**

A measure of the amount of oxygen consumed by aquatic organisms in the degradation of organic material. This is important because it is an indicator of how much oxygen will be removed from the water and the resulting stress on the aquatic ecosystem. (BRBC)

**Biocriteria**

The biological characteristics that quantitatively describe a water body with a healthy community of fish and associated aquatic organisms. Components of biocriteria include the presence and seasonality of key indicator species; the abundance, diversity, and structure of the aquatic community; and the habitat conditions required for these organisms. (US-EPA)

**Biological Diversity (Biodiversity)**

The variability among living organisms and the ecological complexes of which they are a part. This includes the diversity found within and between species and ecosystems. (WA)

**Biosolids**

Treated solid or semi-solid residues generated during the treatment of domestic sewage in a wastewater treatment facility. Primarily an organic product produced by wastewater treatment processes that can be beneficially used. (NSWA)

**Blue-Green Algae**

A group of phytoplankton which often cause nuisance conditions in water. Some produce chemicals toxic to other organisms, including humans. They often form floating scum as they die. Many can fix nitrogen (N<sub>2</sub>) from the air to provide their own nutrient. (NALMS)

**Bog**

*Fen, Marsh, Shallow Open Water, Swamp*

A wetland characterized by peat deposits, acidic water, and extensive surface mats of sphagnum moss. Bogs receive their water from precipitation rather than from runoff, groundwater, or streams, with decreases the availability of nutrients needed for plant growth. (WCW)

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**C**

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**Canadian Heritage River**

Designation assigned to a river by the Minister of Canadian Heritage and the equivalent provincial or territorial minister, with the objective of conserving and protecting the best examples of Canada's river heritage, giving them national recognition, and encouraging the public to enjoy and appreciate them. (CHRS)

**Case-Specific Technology Limit**

*End-of-Pipe Limits, Sector-Specific Technology Limit*

A subcategory of technology-based limits. It is a limit based on existing performance, or performance from similar facilities. Unlike a sector-specific technology limit, it is not a published limit. It is derived using best professional judgment. (WQLM)

**Check Dam**

A small dam constructed in a gully or other small watercourse to decrease the streamflow velocity, minimize channel erosion, promote deposition of sediment, and to divert water from a channel. (NALMS)

**Chlorophyll  $\alpha$** 

A photosynthetic pigment found in most algae. Concentrations of chlorophyll  $\alpha$  in a water sample provide a good estimate of the amount of algae suspended in the water. Chlorophyll  $\alpha$  may also be extracted from algae growing on rocks in the river. (SWQG)

**Chronic Effect**

*Acute Effect*

A stimulus that lingers or continues for a relatively long period of time, often one-tenth of the life span or more. Chronic effects should be considered a relative term depending on the life span of the organism and could appear as reduced growth, reduced reproduction, lethality or other measures. (WQLM)

**Cistern**

A tank for storing water or other liquids, usually placed above the ground. (BRBC)

**Code of Practice**

A document governing an activity or a portion of an activity. One example is the *Code of Practice for Pipelines and Telecommunication Lines Crossing A Water Body*. (EPEA)

**Coliform Bacteria**

Micro-organisms that typically inhabit the intestines of warm-blooded animals. Drinking water quality assessments commonly include tests for coliform bacteria to determine if water has been polluted by human or animal waste. (AAFWeb)

**Collaboration**

*Partnership*

A process through which parties who see different aspects of a problem can explore constructively their differences and search for (and implement) solutions that go beyond their own limited vision of what is possible. Collaboration is a mechanism for leveraging resources; dealing with scarcities; eliminating duplication; capitalizing on individual strengths; building internal capacities; and increasing participation and ownership strengthened by the potential for synergy and greater impact. (SEM)

**Combined Sewer**

Older drainage systems that carry both sanitary waste and storm water runoff. During heavy rain, the capacity of the combined sewer to carry wastewater to the sewage treatment plant may be exceeded, and a discharge of the untreated waste to the river may occur. In Alberta, plans are underway to improve these older systems. (SWQG)

**Command and Control Approach**

A method of environmental management by government that involves specific statutory controls and associated regulatory offences which are generally prescriptive in terms of outcomes and behaviours. Examples of this approach include: acts, regulations, approvals, licenses, authorizations, Codes of Practice, and orders. (G&Gglossary)

**Compliance Assessment**

An activity undertaken to determine whether a regulated party's activity/operation complies with a statute, regulation, authorization or Code of Practice. Compliance assessments educate the regulated party on legislative requirements and also identify current or potential non-compliance. Compliance assessments include inspections, reviews, and audits. (G&Gglossary)

**Compliance Assurance**

Activities that ensure regulated parties comply with legislation, including the Water Act. These activities include promoting compliance through education and prevention initiatives, and compelling compliance through enforcement responses. (G&Gglossary)

**Concentration**

The amount of a substance in a given volume of water. For most substances, the concentration is expressed as milligrams per litre (mg/L), which is the same as *parts per million* (ppm). Technology now exists that can measure substances at the *parts per trillion* or *quadrillion* level! (SWQG)

**Confined Aquifer**

An aquifer which is bounded above and below by formations of impermeable or relatively impermeable material. (NALMS)

**Conjunctive Use**

The use of more than one water source, systematically, to reduce overall environmental impacts. For example, someone might use groundwater instead of surface water during a drought period, and then return to using surface water when runoff became abundant again. (WCAG)

**Consensus**

When a group of individuals in a decision-making process work towards general agreement by all involved. (GWMT)

**Conservation**

1. The planning, management, and implementation of an activity with the objective of protecting the essential physical, chemical, and biological characteristics of the environment against degradation. (EPEA)
2. The process of managing biological resources (e.g., timber, fish) to ensure replacement by re-growth or reproduction of the part harvested before another harvest occurs. A balance between economic growth and environmental and natural resource protection. (G&Gglossary)

**Consumptive Use**

The balance of water taken from a source that is not entirely or directly returned to that source. For example, if water is taken from a lake to feed cattle, it is considered a consumptive use of water. (GWMT)

**Contaminant**

A substance that, in a sufficient concentration, will render water, land, fish, or other things unusable or harmful. (BRBC)

*Pollutant*

**Continuous Improvement***Performance Assessment, Performance Measures*

The ongoing improvement of performance in achieving environmental and resources outcomes, as well as improvements in the management systems used to achieve the outcomes (ie: policies, delivery performance assessment, and information systems). Continuous improvement is based on the need to continuously monitor performance and success and to strive for improvement at all levels, across all activities and sectors, with all participants. (SEM)

**Control Dam**

A dam or structure with gates to control the discharge from the upstream reservoir or lake. (NALMS)

**Crown Reservation**

The Water Act states, "The Minister may by order reserve water that is not currently allocated under a licence or registration or specified in a preliminary certificate in order to (1) determine how the water should be used, or (2) for any other purpose." Water reserved by the Minister for future use. (SSRB)

**Cubic Feet per Second (cfs)**

A measure of the volume of water passing a particular point each second. This volume of water is called the "rate of flow" or simply the "flow." (BRBC)

**Cumulative Effects**

The combined effects on the aquatic environment or human developments arising from the combined environmental impacts of several individual projects. (WCAG)

## D

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**Dam**

A barrier constructed on a water body for storage, control, or diversion purposes. A dam may be constructed across a natural watercourse or on the periphery of a reservoir. Natural barriers formed by ice, landslides, or earthquakes are excluded. (ISDG)

**Dam<sup>3</sup>**

A measure of water volume, short for *decameters cubed*. One dam<sup>3</sup> is equal to 1,000 cubic metres or 0.81 acre-feet. (SSRB)

**Deep-Well Injection**

Deposition of raw or treated, filtered hazardous waste by pumping it into deep wells, where it is contained in the pores of permeable subsurface rock. (NALMS)

**Deleterious Substance**

According to the Canadian Fisheries Act:

1. any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or
2. any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, (CFA)

**Demand Management***Supply Management*

1. An approach that aims to conserve water by using a variety of policy instruments to reduce water use and increase efficiency. This approach recognizes that water is a finite resource. (NSWA)
2. Water management aimed at reducing the demand for water, such as water conservation, drought rationing, rate incentive programs, public awareness and education, drought landscaping, etc. (NALMS)



**Designated Director***Approvals Manager*

For purpose of administering the *Water Act*, certain Alberta Environment staff (such as Approvals Managers) are named as *Directors*. Under the *Water Act*, a Director has sole authority to make decisions concerning a number of specified subjects such as water transfers, holdbacks, and establishing Water Conservation Objectives. (SSRB)

**Dike (levee)**

A long low embankment dam. The term is usually applied to auxiliary dams used to close off areas that would otherwise be flooded by the reservoir. (ISDG)

**Discharge**

Refers to the outflow, and is used as a measure of the rate at which a volume of water passes a given point. Therefore, the use of this term is not restricted as to course or location, and it can be used to describe the flow of water from a pipe or a drainage basin. (NALMS)

**Disposal Well**

A deep well used for the disposal of liquid wastes. (NALMS)

**Directly Affected Person**

A person whose personal interests are affected or potentially affected by the water diversion proposed in a water licence application. Directly affected persons have special rights and responsibilities under the *Water Act*. (WCAG)

**Disinfection**

A process that has as its objective destroying or inactivating pathogenic micro-organisms in water. (EPEA)

**Disposal Water***Produced Water*

Produced water from oil, gas, and crude bitumen production that is injected into deep underground formations for disposal. The Energy and Utilities Board must approve this activity. (WCAG)

**Dissolved Oxygen**

A measurement of the amount of oxygen available to aquatic organisms. Temperature, salinity, organic matter, biochemical oxygen demand, and chemical oxygen demand affect dissolved oxygen solubility in water. (NSWA).

**Ditchrider**

A person who delivers water to a portion of an irrigation district. (BRBC)

**Diversion of Water***Water Allocation, Water Licence*

1. The impoundment, storage, consumption, taking or removal of water for any purpose. This does not include removal for the sole purpose of removing an ice jam, drainage, flood control, erosion control or channel realignment. (WFL)
2. The transfer of water from a stream, lake, aquifer, or other source of water by a canal, pipe, well, or other conduit to another watercourse or to the land, as in the case of an irrigation system. Also, a turning aside or alteration of the natural course of a flow of water, normally considered physically to leave the natural channel. (NALMS)

**Domestic Wastewater**

A composite of liquid and water-carried wastes associated with the use of water for drinking, cooking, cleaning, washing, hygiene, sanitation or other domestic purposes, together with any infiltration and inflow wastewater, that is released into a wastewater collection system. (ADR)

**Domestic Water Use**

Water used for drinking, cooking, washing, and yard use. (GWMT)

**Drain**

A conduit, channel, or other structure constructed or used to carry water or wastewater by gravity or pumping. (BRBC)

**Drainage Basin**

The total area of land that contributes water and materials to a lake, river, or other water body, either through streams or by localized overland runoff along shorelines. (SWQG)

**Drainage District**

Farmer-led cooperative groups, established under the Drainage Districts Act, that work to improve agricultural water management within a specific area of the province. Districts are formed by Order-in-Council or Ministerial Order at the request of local landowners. Once formed, the district has the power to set and collect taxes, to construct water management works and to enact bylaws. In Alberta, nine drainage districts exist. (AENVWeb)

**Drawdown**

1. A reduction in the water level of a water well when the pump is operating. (WCAG)
2. The lowering of the water surface level of a reservoir due to a release of water from the dam. (ISDG)

**Driller**

A person who is authorized under *The Water Act* to drill or reclaim a water well. (WA)

**Drinking Water**

*Potable Water*

Water that has been treated to provincial standards and is fit for human consumption. (WFL)

**Drought**

Periods of less than average precipitation over a certain period of time. Drought is naturally occurring and can cause imbalances in the hydrologic system. (NSWA)

**Dry Pond**

*Wet Pond*

Relief systems that provide a diversion of excess flow from a storm sewer trunk to an impoundment for temporary storage. A dry pond is often a playground or other open space not normally covered by water. A dry pond reduces flooding downstream. (BRBC)

## E

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**Ecological Integrity**

*An ecosystem*

exhibits integrity if, when it is subjected to stress, it is able to sustain a state that allows that ecosystem to thrive. (FWMP)

**Economic Instruments**

*Market-Based Instruments*

Policies, programs, or initiatives that provide financial motivation to achieve environmental and resource management objectives. Economic instruments encourage firms and/or individuals to undertake pollution control efforts that are in their own interests and that collectively meet policy goals by provide monetary or near-monetary rewards for polluting less or by imposing costs for polluting more, thus supplying the necessary motivation for polluters to change their behaviour. A few examples of economic instruments include pollution taxes, tax credits, and deposit refund systems (like the beverage container recycling program), among many others. (G&Gglossary)

**Ecosystem**

A community of interdependent organisms together with the environment they inhabit and with which they interact. (BRBC)

**Ecosystem Functions**

Processes that are necessary for the self-maintenance of an *Ecosystem* such as primary production, nutrient cycling, decomposition, etc. The term is used primarily as a distinction from values. (NALMS)

**Effluent**

1. The liquid waste of municipalities, industries, or agricultural operations. Usually the term refers to a treated liquid released from a wastewater treatment process. (BRBC)
2. The discharge from any *on-site sewage* treatment component. (PSSSPH)

**Effluent Plume***Mixing Zone*

When effluent is discharged into a river, it often has a different water chemistry than the river. This discharge maintains its integrity for some distance downstream before it mixes completely with the river water. This relatively un-mixed effluent is detectable by sampling across the river and is called a *plume*. (SWQG)

**Emergency Spillway***Service Spillway, Spillway*

A secondary spillway designed to operate only during large floods. The emergency spillway crest is higher than the service spillway crest. (ISDG)

**End-of-Pipe Limit***Case-Specific Technology Limit, Sector-Specific Technology Limit*

End-of-pipe limits are either technology or water quality based. If they are water quality based, then the limits are calculated to support a wasteload allocation value, the value required to maintain in-stream guidelines. A technology limit is formulated on some statistical derivation of existing performance, or published sector-specific limits. The average monthly limit (AML) and the maximum daily limit (MDL) are end-of-pipe limits that are calculated either to ensure that the wasteload allocation is not exceeded at some specified frequency, or they are based on technological capability (i.e., the limits are either sector-specific or case-specific technology based). (WQLM)

**Endorsement**

The act of partners within a partnership formally expressing their assent, publicly and definitively, to proceed with a policy, plan, or initiative.

**Enforcement**

Those activities that compel and/or force adherence to legal requirements. (G&Gglossary)

**Enforcement Order**

Under the *Environmental Protection and Enhancement Act* and the *Water Act*, an enforcement order is a legal document requiring a person to stop an activity, fix a problem, or restore the environment. (BRBC)

**Enforcement Response**

Actions taken in response to a determination of non-compliance in order to remedy the non-compliance, deter future non-compliance, or punish the offender. (G&Gglossary)

**Enhanced Oil Recovery***Oilfield Injection, Secondary Recovery*

A process in which a substance, typically water (saline, non-saline, produced or recycled), is injected into oil reservoirs to increase and maintain the reservoir pressure so more oil can be extracted. The two main types of enhanced oil recovery are *water flooding*, in which water is pumped into conventional oil field reservoirs, and *steam injection*, where steam is forced into heavy oil deposits. Enhanced oil recovery operations do not include oil sands mining operations. (WCAG)

**Environment**

The components of the earth, including air, land, and water, all layers of the atmosphere, organic and inorganic matter, living organisms, and their interacting natural systems. (EPEA)

**Environmental Assessment**

A formal review of the impacts of a proposed development project to support the goals of environmental protection and sustainable development, as required by the *Environmental Protection and Enhancement Act*. (WCAG)

**Environmental Appeals Board (EAB)**

An independent board established by the Government of Alberta to hear appeals, as mandated by the *Environmental Protection and Enhancement Act* and the *Water Act*. (WCAG)

**Environmental Indicator**

A measurement, statistic or value that provides a proximate gauge or evidence of the effects of environmental management programs or of the state or condition of the environment. (NALMS)

**Environmental Outcome**

The desired environmental end state defining the specific conditions or functions that one expects for the environment. An outcome is an event, occurrence, or condition that results from an activity or program that has an actual effect on resources, the environment, or Albertans. (IHCR)

**Environmental Protection and Enhancement Act (EPEA)**

Provincial legislation that takes an integrated approach to the protection of Alberta's air, land, and water. One of the Act's cornerstones is the guarantee of public participation in decisions affecting the environment. This public involvement includes increased access to information, participation the Environmental Assessment and Approval Processes, and the right, when directly affected, to appeal certain decisions. (WFL)

**Environmental Protection Order**

Under EPEA, a legal document issued by AENV that is intended to prevent environmental problems or, failing that, to ensure that action is taken to fix environmental problems. (BRBC)

**Environmental Quality**

A measure of the status of the environment, overall or in relation to a media (air, water, land) or the needs of its inhabitants, including humans. (G&Gglossary)

**Ephemeral wetland**

An area that is periodically covered by standing or slow moving water and that has a basin typically dominated by vegetation of the low prairie zone, similar to the surrounding lands. Because of the porous conditions of the soils, the rate of water seepage from these areas is very rapid, and surface water may only be retained for a brief period in early spring. (WCW)

**Erosion**

The natural breakdown and movement of soil and rock by water, wind, or ice. The process may be accelerated by human activities. (AARDWeb)

**Eutrophic**

*Hypereutrophic, Mesotrophic, Oligotrophic*

Pertaining to a lake or other body of water characterized by large nutrient concentrations such as nitrogen and phosphorous and resulting high productivity. Such waters are often shallow, with algal blooms and periods of oxygen deficiency. (NALMS)

**Eutrophication**

The process by which lakes and ponds become enriched with dissolved nutrients, either from natural sources or human activities. Nutrient enrichment may cause an increased growth of algae and other microscopic plants, the decay of which can cause decreased dissolved oxygen levels. Decreased oxygen levels can kill fish and other aquatic life. (NSWA)

**Evapotranspiration**

The combination of evaporation from the surface of soils and vegetation, plus the transpiration of water through plant leaves and vegetation. (GWMT)

**F**

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**Fen**

*Bog, Marsh, Swamp, Shallow Open Water*

A wetland characterized by slow internal drainage from groundwater movement and seepage from upslope sources. Fens are characterized by peat accumulation, but due to the seepage of nutrient-rich water, fens are typically less acidic and more nutrient-rich than bogs. (WCW)

**First-in-Time, First-in-Right**

*Priority Number*

The principle used to prioritize water rights in Alberta. This principle, established in 1894, means that water rights are prioritized according to how senior (old) the licence is, regardless of its use. The older the licence, the higher the user is on the priority list to receive water. (WFL)

**Fishery**

An area of water inhabited by fish. (BRBC)

**Fish Habitat**

Spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes. (CFA)

**Fish Ladder (Fishway)**

A series of small pools arranged in an ascending fashion to allow the migration of fish upstream past construction obstacles, such as dams. It may also be an inclined trough which carries water from above to below a dam so that fish can easily swim upstream. (NALMS)

**Flexible Regulatory and Non-Regulatory Tools**

*Economic Instruments*

A set of adaptable compliance assurance tools and incentives. They include both regulatory and non-regulatory instruments.

1. *Regulatory instruments* use a rules-based system that typically focuses on enforcing compliance with minimum standards. Their goal is compliance with the law and their driving mechanism is deterrence. Regulatory tools include laws and regulations.
2. *Non-regulatory instruments* use a performance-based system that promotes improvement through incentives. Their goal is to move "beyond compliance" and to foster continuous improvement by creating the flexibility for parties to innovate. Its driving mechanisms are financial incentives and stewardship. Non-regulatory tools include economic instruments, cooperative management agreements, and voluntary stewardship. (SREM)

**Flood**

An overflow of water onto lands that are used or usable by man and not normally covered by water. Floods have two essential characteristics: it is temporary; and the land is adjacent to and inundated by overflow from a river, stream, lake, or ocean. (NALMS)

**Flood, 100-Year**

A 100-year flood does not refer to a flood that occurs once every 100 years, but to a flood level with a 1 percent or greater chance of being equaled or exceeded in any given year. (NALMS)

**Flood Fringe**

The part of a floodplain where, during a flood, the water is shallower (<1m in depth) and moves more slowly (<1m/sec). Contrast *floodway*. (BRBC)

**Floodplain**

An area adjoining a body of water that has been or may be covered by flood water. (ISDG)

**Floodway**

The part of floodplain that, during a flood, has the deepest, fastest, and most destructive flow of water. Contrast *flood fringe*. (BRBC)

**Fluvial**

Of or pertaining to rivers and streams; growing or living in streams ponds; produced the action of a river or stream. (NALMS)

**Framework**

An organized structure of policies, legislation, programs and tasks created to achieve a specific outcome. There can be frameworks for broad policies and strategic initiatives at various scales (e.g. provincial, regional, sector, media); programs and program delivery; and short-term tasks and projects. (SEM)

**Freeboard**

The vertical distance between the top of a dam and a particular water level. For example, "freeboard above maximum surface" or "freeboard above normal reservoir level." (ISDG)

**Full Supply Level**

The maximum storage level of a reservoir when it is full. This level usually corresponds to the level of the spillway crest for an un-gated spillway, or to the water level for which the dam is designated. (ISDG)

**G**

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**Governance***Shared Governance*

The process and structure that brings together capable people and relevant information to achieve goals. Governance defines an organization's accountability systems and ensures effective use of public resources. Governance is the process where elements in society hold power and authority, and influence and enact policies and decisions about public life, and economic and social development. Provincial governance refers to the processes by which a Minister, or agency of a ministry, oversees the management of public resources and/or delivery of public programs across the province. Governance can refer to the framework or processes by which a ministry assures accountability for achieving outcomes and for the management system and decisions. In these instances, the ministry remains accountable even when partners, delegates, or contractors deliver the programs or services that produce the outcomes. (SEM)

**Grassroots**

Originating from the local community or ordinary people. (BRBC)

**Green Area (Green Zone)***White Area*

The mainly public, forested lands of northern Alberta and the Eastern Slopes that are not available for agricultural development, other than grazing. (GWMT)

**Grey Water**

Untreated, used water from a household or small commercial establishment (excluding that from toilets or other fixtures and appliances whose wastewater might have come into contact with human waste. (HWUC)

**Groundwater**

All water under the surface of the ground whether in liquid or solid state. It originates from rainfall or snowmelt that penetrates the layer of soil just below the surface. For groundwater to be a recoverable resource, it must exist in an aquifer. Groundwater can be found in practically every area of the province, but aquifer depths, yields, and water quality vary. (WFL)

**Groundwater Recharge**

Inflow of water to a ground water reservoir (*zone of saturation*) from the surface. Infiltration of precipitation and its movement to the water table is one form of natural recharge. Also, the volume of water added by this process. (NALMS)

**Guideline**

A specific performance measure that is not legally binding unless designated in legislation. It is a guide or indication of a future course of action. It describes how something will be accomplished. It may contain numerical performance measures and may deal with multiple uses of water. (BRBC)

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# H

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**Habitat**

The natural home of a living organism. The three components of wildlife habitat are food, water, shelter. (WFL)

**Hardness**

A measure of the amount of certain dissolved substances in water, primarily calcium and magnesium. Concerns with hardness relate mainly to encrustation and excessive soap consumption in water supplies, although it can also influence the form and toxicity of numerous heavy metals. (SWQG)

**Headwaters**

The source and upper tributaries of a stream or river. (BRBC)

**Headworks**

All structures and associated facilities located at the beginning (upstream end) of a water management project. In the case of the headworks owned by Alberta Environment, this includes structures for diverting water from the river (*e.g.* dams or weirs) and facilities for carrying and storing water (*e.g.* canals or reservoirs). (BRBC)

**Height of Dam**

The difference in elevation between the crest elevation and the lowest point at the downstream toe of a dam. (ISDG)

**Household Purposes**

Water used for human consumption, sanitation, fire prevention, and watering animals, gardens, lawns and trees. (WFL)

**Hydrologic Cycle (Water Cycle)**

The process by which water evaporates from oceans and other bodies of water, accumulates as water vapor in clouds, and returns to oceans and other bodies of water as rain and snow or as runoff from this precipitation or groundwater. (WFL)

**Hydrology**

The science dealing with the properties, distribution, and flow of water on or in the Earth. (AARDWeb)

**Hydrophytic**

In relation to vegetation, plants that grow in water or in saturated soils that are periodically deficient in oxygen as a result of high water content. (NALMS)

**Hypereutrophic**

*Eutrophic, Mesotrophic, Oligotrophic*

Pertaining to a lake or other body of water characterized by excessive nutrient concentrations such as nitrogen and phosphorous and resulting high productivity. Such waters are often shallow, with algal blooms and periods of oxygen deficiency. (NALMS)

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**Impervious Surfaces**

Land where water cannot infiltrate back into the ground such as roofs, driveways, streets, and parking lots. *Total imperviousness* means the actual amount of land surface taken up with impervious surfaces, often stated as a percentage. Interestingly, a site with a total imperviousness of 60% can act like a site with only 10% imperviousness if strategies such as channeling roof runoff into a garden and using swales to capture rainwater are used. (NSWA)

**Impoundment**

Storage of water (BRBC)

**In-Situ Surface Water Treatment**

The in-situ application of a substance other than a pesticide to surface water, except in a dugout, for restoration, enhancement or other purposes. (ADR)

**Inactive Water Well**

A water well that is not currently being used, but is being maintained for future use. (WA)

*Water Well*

**Indicator**

A direct or indirect measurement of some valued component or quality in a system, including an ecosystem or organization. For example, an indicator can be used to measure the current health of the watershed or to measure progress toward meeting an organizational goal. (EPA)

**Industrial Runoff**

Surface water resulting from precipitation that falls on a plant or facility. (ADR)

*Runoff*

**Industrial Wastewater**

The composite of discarded liquids and unwanted water-carried substances resulting directly from a process carried on at a plant or facility. (ADR)

**Injectant**

A fluid (water, wastewater, solvent, steam, gas, etc.) approved by the Energy and Utilities Board for injecting into an enhanced oil recovery project or disposal well. (GWMT)

**In-Stream Flow Needs (IFN)**

*In-stream Objectives, Water Conservation Objective*

The scientifically determined amount of water, flow rate, or water level that is required in a river or other body of water to sustain a healthy aquatic environment or to meet human needs such as recreation, navigation, waste assimilation, or aesthetics. An in-stream flow need is not necessarily the same as the natural flow. (WFL)

**In-Stream Objectives**

*In-Stream Flow Needs, Water Conservation Objective*

Regulated flows that should remain in the river via improved dam operations or restrictions on licences. The term was common prior to 2002 when replaced by In-Stream Flow Needs. In-Stream Objectives were usually set in response to fish habitat in-stream needs and/or water quality requirements. (SSRB)

**Intake**

Any structure on the upstream face of a dam or within a reservoir created for directing water into a confined conduit, tunnel, canal, or pipeline. (ISDG)

**Inter-Basin Transfer**

*Intra-Basin Transfer, Water Allocation Transfer*

1. A transfer or diversion of water (either groundwater or surface water) from one basin to another. This may also be referred to as water export/import. (NALMS)
2. Constructing facilities to transport water from the basin it naturally occurs in, to another river basin. In Alberta this means between the 7 major basins identified in the Water Act. (McGee)



**Intra-Basin Transfer***Inter-Basin Transfer, Water Allocation Transfer*

1. The diversion of water within a drainage basin. (NALMS)
2. Constructing facilities to transport water between sub-basins within a major basin. This water would have ended up in the same downstream place under natural conditions. (McGee)

**Irrigation**

The controlled application of water for agricultural purposes through man-made systems to supply water requirements not satisfied by rainfall. (NALMS)

**Irrigation District**

An organization that owns and manages a water delivery system for irrigating a given region. In Alberta, there are 13 irrigation districts used for agriculture. Some districts also convey water for other purposes, such as municipal use or stockwatering. (SSRB)

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**J**

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**K**

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**L**

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**Lagoon**

A shallow pond or lake. In Alberta, the term often refers to a small, artificial body of water usually composed of several cells or compartments used to treat wastewater to a secondary level of treatment. (BRBC)

**Leachate**

A liquid that has been in contact with waste in a landfill or other porous substrate and may have undergone chemical or physical changes as a result, and has subsequently seeped out. (NSWA)

**Leaching**

The movement of water carrying dissolved or suspended substances through soil. (AARDWeb)

**Legislation**

Laws such as Acts and Regulations that are established by an elected official. (G&Gglossary)

**Load Discharge**

Release of contaminants, usually expressed as kg/day, at levels or concentrations above that which can be removed through application of best available technology economically achievable. (IHCR)

**Local Authority**

1. In Alberta, refers to a municipal government or other public organization to which the provincial government, through an act of the legislature, has granted decision-making power over a part of the province. The specific definition of what is considered to be a local authority differs from one piece of legislation to another. (BRBC)
2. Refers to:
  - i. The corporation of a city, town, village, summer village, municipal district or specialized municipality.
  - ii. In the case of a special area, the Minister responsible for the Special Areas Act or the Special Areas Board.
  - iii. In the case of an improvement district, the Minister responsible for the Municipal Government Act or the council of the improvement district.
  - iv. A settlement under the Métis Settlements Act.
  - v. A regional services commission established under the Municipal Government Act.
  - vi. The board of directors of an irrigation district.
  - vii. The board of trustees of a drainage district
  - viii. The regional health authority under the Regional Health Authorities Act.
  - ix. Any other entity defined as a local authority in the regulations. (WA)

**Long-Term Yield**

The expected sustainable yield of a water well over a 20 year period (neglecting aquifer recharge) in accordance with the Alberta Environment Groundwater Evaluation Guidelines. (WCAG)

**Low Level Outlet (Bottom Outlet)**

An opening near the bottom of a reservoir, generally used for emptying the reservoir or for scouring sediment. (ISDG)

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**M****Mainstem**

1. The primary channel of a river.
2. The primary river in a drainage basin. (BRBC)

**Major Ions**

Molecules or atoms missing one or more electrons that occur naturally in water as a result of the geochemical weathering of rocks, surface runoff, and atmospheric deposition. The eight major ions (calcium, magnesium, sodium, potassium, bicarbonate, carbonate, sulphate, and chloride) account for most of the total dissolved solids in surface waters. (SWQG)

**Major River Basin**

*River Basin*

Alberta's *Water Act* subdivides the province into seven "Major River Basins" within which water is to be managed. The major basins are: The Peace/Slave River Basin, the Athabasca River Basin, the North Saskatchewan River Basin, the South Saskatchewan River Basin, the Milk River Basin, the Beaver River Basin, and the Hay River Basin. The transfer of water between these river basins is restricted and requires a special Act of the legislature. (WA)

**Make-Up Water**

*Produced Water, Start-Up Water*

Water (not including produced water) that is injected into an oil-bearing zone to improve the operation of an enhanced oil recovery project. It is new water used to replace the volume of oil and gas produced in conventional enhanced oil recovery projects. It is also used to replace the volume of produced water that is lost in treatment and steam generation processes for thermal in-situ projects (oil or crude bitumen). (GWMT)

**Market-Based Instruments***Economic Instruments*

Economic tools that focus on providing incentives to encourage desired behaviour as opposed to threatening punishment for undesired behaviour. (G&Gglossary)

**Marsh***Bog, Fen, Marsh, Shallow Open Water, Swamp*

A water body covered by water for at least part of the year and characterized by aquatic and grass-like vegetation, especially without peat-like accumulation. (BRBC)

**Master Agreement on Apportionment***Apportionment Agreement*

Signed in 1969, this Agreement between Canada, Alberta, Saskatchewan, and Manitoba outlines the quantity of water that each province is allowed to divert, store and/or consume and the quantity and quality of water that each province must allow to pass to its downstream neighbour. Under the general terms of this agreement, Alberta is allowed to “divert, store or consume” up to one-half of the natural flow volume of each watercourse that flows into Saskatchewan (as measured at the Alberta-Saskatchewan border) and must allow at least one half of the natural flow volume to pass downstream to Saskatchewan. The Prairie Provinces Water Board regulates the Agreement. (SSRB)

**Maximum Daily Limit (MDL)***Total Maximum Daily Load*

The absolute maximum allowable load or concentration of a substance in a facility’s effluent. This limit may be based on water quality constraints, sector-specific technology limits, or case-specific technology considerations. The value is typically calculated based on the 99th percentile of existing or required performance. (WQLM)

**Mesotrophic***Eutrophic, Hypereutrophic, Oligotrophic*

A descriptive term for water bodies that contain moderate quantities of nutrients and are moderately productive in terms of aquatic animal and plant life. (US-EPA)

**Microorganism** (microbes)

Tiny living creature that can be seen only with the aid of a microscope. Some micro-organisms cause acute health problems when consumed in drinking water. (WFL)

**Ministerial Order**

A legal document issued by a provincial or federal cabinet minister that order grants authority or requires action to be taken. (BRBC)

**Mixing Zone***Effluent Plume*

Water-quality-based effluent limits allow, where necessary, limited zones for the initial dilution of effluent where in-stream objectives may be exceeded, called *mixing zones*. These are areas are small enough so as not to interfere with other water uses. They are established to limit the acute lethality of organisms passing through the effluent plume and ensure the protection of the water body as a whole from chronic toxicity. (WQLM)

**Multi-Barrier Approach**

Approach used to ensure that safe drinking water is provided to all Albertans. In the past, the term ‘multi-barrier’ referred only to the barriers involved in the actual treatment of raw water to provide quality drinking water. This approach has now been expanded to include a number of key elements that are an integral part of a drinking water program to ensure delivery of safe, secure supplies of drinking water. Barriers may be physical (eg: filter) or administrative (eg: planning) in nature. In Alberta, a 5-pronged multi-barrier approach consists of legislation; protection; drinking water systems; performance assurance; and knowledge. (ADWP)

**Municipal Water**

Water under a deemed licence that is processed through a treatment plant of a local authority of Alberta, where water under the deemed licence is transferred from within the province to a location outside of Canada. (EPEA)

**Municipal Water Use**

Purposes usually served by water within a city, town, or village such as household and sanitary purposes, watering of lawns and gardens, and fire protection. (BRBC)

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**N**

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**Natural Capital**

The stock of environmental resources that yields many goods and services that are essential to the sustained health of our environment, communities, and economy. (NSWA)

**Naturalized Flow** (Re-constructed Flow)

The river flow that would have occurred in the absence of any man-made effects. For the purposes of water management, natural flow is a calculated value based on the recorded flows of contributing rivers; a number of factors concerning the river reaches (e.g. evaporation, channel losses, etc.); and water diversions. (SSRB)

**Naturally Occurring Wetland**

An area where water has or does accumulate to the water elevations documented to have occurred under natural conditions. (WRCG)

**Navigable Water**

A body of water that is deep and wide enough for a boat or other floating object to be transported from one place to another. Navigable water includes any body of water capable, in its natural state, of being navigated by floating vessels of any description for the purposes of transportation, recreation, or commerce; as well as any waterway where the public right to navigation exists by dedication of the waterway for public purposes, or by the public having acquired the right to navigate through long use. (BRBC)

**Net Diversion of Water**

A water licence that allows the licensee to receive credit for returning water to the source of the diversion. The water must be of a reasonable quality and be returned with suitable timing. The credit permits increased diversion equivalent to the volume returned, provided the net diversion does not exceed the total licence allocation. (SSRB)

**Non-Compliance**

Where legislative requirements, such as those found in an Act, regulation, Code of Practice, or authorization are not met. (G&Gglossary)

**Non-Consumptive Use**

A use of water in which all of the water used is directly returned to the source from which it came. For example, water used in the production of hydroelectricity is a non-consumptive water use. (WFL)

**Non-Point Source Pollution**

*Point-Source Pollution*

Contaminants that enter a water body from diffuse or undefined sources and are usually carried by runoff. Examples of non-point sources include agricultural land, coal mines, construction sites, roads, and urban areas. Because non-point sources are diffuse, they are often difficult to identify or locate precisely, and are therefore difficult to control. (SWQG)

**Non-Regulatory Instruments**

*Regulatory Instruments*

Performance-based tools that promote improvement through incentives. Their goal is to move "beyond compliance" and to foster continuous improvement by creating the flexibility for parties to innovate. Non-regulatory tools include economic instruments (eg: financial incentives), cooperative management agreements, and voluntary stewardship. (SREM)

**Non-Saline Water**

Water with less than 4000 mg/L of total dissolved solids. Often referred to as fresh water. (GWMT)

**Nutrient**

An element essential for plant or animal growth. Major plant nutrients include nitrogen, phosphorus, carbon, oxygen, sulphur, and potassium. (AARDWeb)

**O**

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**Offsets**

Innovative water supply improvements or replacement options at other projects that can mitigate the impacts of an oilfield injection site's use of non-saline water. (WCAG)

**Offstream Use**

Water withdrawn from a surface water source for uses such as irrigation, municipal and industrial water supply, steam electric power generation, etc. (NALMS)

**Oilfield Injection**

*Enhanced Oil Recovery, Secondary Recovery*

Processes in which water, with or without another injectant (such as a hydrocarbon solvent or CO<sub>2</sub>), is injected through oil wells into conventional oil reservoirs to increase or maintain the reservoir pressure so that oil recovery is increased. Oilfield injection also includes processes in which water is injected as steam through a well into oilsands deposits or conventional heavy oil pools to lower the viscosity of the crude bitumen so it can flow to a production wellbore. (WCAG)

**Oligotrophic**

*Eutrophic, Hypereutrophic, Mesotrophic*

Pertaining to a lake or other body of water characterized by extremely low nutrient concentrations such as nitrogen and phosphorous and resulting very moderate productivity. Oligotrophic lakes are those low in nutrient materials and consequently poor areas for the development of extensive aquatic floras and faunas. Such lakes are often deep, with sandy bottoms and very limited plant growth, but with high dissolved-oxygen levels. This represents the early stages in the life cycle of a lake. (NALMS)

**Organic Contaminants**

Carbon-based chemicals, such as solvents and pesticides, which can get into water through runoff from cropland or discharge from factories. (WFL)

**Outcome**

*Shared Outcome*

The result of either planned or unplanned actions. For planning purposes, "outcomes" are the desired endpoint and should guide the development and implementation of related programs. Outcomes can be broad and long-term in nature or focused. They are used in both direction setting and performance measurement. (G&Gglossary)

**Outfall**

The point at which a pipe or channel discharges to a water body. (BRBC)

**Outlet**

*Spillway*

A discharge opening lower than the spillway crest designed to release reservoir water through or around a dam. (ISDG)

**Outlet Gate**

Any gate designed to control the flow of water through a reservoir outlet in or around a dam. (ISDG)

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## P

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**Partnership***Collaboration*

A relationship in which individuals or organizations share resources and responsibility to achieve a common objective, as well as any resulting rewards or recognition. It often includes a formal contract, new resources and shared risks and rewards. The structure includes a central body of decision-makers whose roles are defined. The links are formalized. Communication is frequent, the leadership is autonomous and the focus is on specific issues. Partnerships are a form of collaboration. (SEM)

**Pathogen**

A disease-causing biological agent such as a bacterium, parasite, virus or fungus. (AARDWeb)

**Peatland**

Permanent wetlands characterized by a bed made of highly organic soil (>50% combustible) composed of partially decayed plant material. (BRBC)

**Performance Assessment***Performance Measures, Continuous Improvement*

The linkage of inputs (e.g., funding, staff, equipment, supplies), actions (e.g., advice, projects, programs, services) and outputs (e.g., reports, plans, policies) to outcomes or results (e.g., an increase in awareness, a change in behaviour, or the achievement of an outcome or end result, such as a healthy environment). (SEM)

**Performance Measure***Continuous Improvement, Performance Assessment*

A qualitative or quantitative measure of an outcome, intended to gauge the performance of the organization, its initiatives, policies, and/or activities. A performance measure tracks the degree to which the organization's performance can influence change (ie: the progress towards a target). (SEM)

**Permanent Water Licence***Term Water Licence, Water Licence*

A water diversion licence issued in perpetuity (no specified term) under the *Water Resources Act* (i.e. prior to 1999). (WCAG)

**Pesticide**

Any chemical compound used to control unwanted species that attack crops, animals, or people. This diverse group of chemicals includes herbicides, fungicides, and insecticides. (SWQG)

**pH***Alkalinity*

A measure of the intensity of the acid or base chemistry of the water. A pH of 7 is neutral, while below 7 is acidic and above 7 is basic. pH in surface water is regulated by the geology and geochemistry of an area and is affected by biological activity. The distribution of aquatic organisms and the toxicity of some common pollutants are strongly affected by pH. (SWQG)

**Place-Based Approach**

A method that recognizes the widely varying circumstances in different regions of the province rather than prescribing a "one-size-fits-all" province-wide solution. The boundaries for describing a "place" may be physical (e.g. watershed, airshed), environmental (e.g. badlands, foothills), or geopolitical (e.g. county, municipality). (SEM, altered)

**Point-Source Pollution***Non-Point Source Pollution*

Pollution that originates from one, easily identifiable cause or location, such as a sewage treatment plant or feedlot. (WFL)

**Policy**

1. A governing principle, plan, or consistent course of action developed in order to meet recognized needs and to achieve specific measurable outcomes. Policies are normally broad, conceptual documents that outline approaches and/or considerations to be taken into account by decision makers. Policies do not act as constraints, but provide information. (SEM)
2. A statement of intent that is not legally binding. It sets direction and expectations for activities. (BRBC)

**Policy Analysis**

The comparison of the viability and effects of an existing or proposed set of operating rules to the impact of some other option. (G&Gglossary)

**Policy Development**

The process of shaping policy, from issue recognition and analysis to implementation and evaluation. While the Alberta Public Service's role is to undertake the necessary steps to develop policy options, it is the role of elected officials to decide policy. This process includes defining the roles of government, citizens (individuals and corporate), communities and markets with a given policy of policy field. (SEM)

**Policy Instruments**

*Regulatory Instruments, Non-regulatory Instruments*

The means and tools available to achieve policy goals, including both regulatory and non-regulatory tools. (SEM)

**Polycyclic Aromatic Hydrocarbons (PAHs)** (Polynuclear Aromatic Hydrocarbons)

Hydrocarbons with two or more benzene rings formed by the incomplete combustion of organic materials such as wood, coal, and refuse. They are found in petroleum products and creosote and include such compounds as naphthalene, anthracene, and benzo-a-pyrene. When carried in water, they can pose a threat to human health and aquatic life. (SWQG)

**Pollutant**

*Contaminant*

A contaminant in a concentration or amount that adversely alters the physical, chemical, or biological properties of the natural environment. (USA - EPA)

**Pollutant Load**

The amount of pollutant entering a water body. Loads are usually expressed in terms of a weight and a time frame, such as kilograms per day (kg/d). (USA - EPA)

**Potable Water**

*Drinking Water*

Water that is provided by a waterworks system (private or municipal) and is used for drinking, cooking, dishwashing, or other domestic purposes requiring water that is suitable for human consumption. (EPEA)

**Potentially Water-Short Area**

*Water-Short Area*

An area considered relatively dry (low natural runoff) or where the watershed has a high level of allocation compared to natural supply. (WCAG)

**Preliminary Certificates**

An authorization issued by the Director to certify that a licence will be issued if certain conditions are met. (SSRB)

**Preventive Order**

A legislation-based command to prevent environmental, natural resource, or safety problems. Examples of preventive orders include Environmental Protection Orders, Directions of an Inspector (under the *Environmental Protection and Enhancement Act*), and Water Management Orders (under the *Water Act*). (G&Gglossary)

**Primary Wastewater Treatment**      *Secondary Wastewater Treatment, Tertiary Wastewater Treatment*

The removal of particulate materials from domestic wastewater, usually done by allowing the solid materials to settle as a result of gravity. Typically, the first major stage of treatment encountered by domestic wastewater as it enters a treatment facility. Primary treatment plants generally remove 25 to 35 percent of the *Biological Oxygen Demand (BOD)* and 45 to 65 percent of the total suspended matter. Also, any process used for the decomposition, stabilization, or disposal of sludges produced by settling. (NALMS)

**Prior Appropriation**

A water law doctrine under which users who can demonstrate earlier use of a particular water source are given right that take precedence over all future users of water. (HWUC)

**Priority**

The concept that the person first using water has a better right to it than those commencing their use later. An appropriator is usually assigned a "priority date". However, the date is not significant in and of itself, but only in relation to the dates assigned other water users from the same source of water. Priority is only important when the quantity of available water is insufficient to meet the needs of all those having a right to use water. (NALMS)

**Priority Number***First-in-Time, First-in-Right*

The number that has been assigned to a water licence or registration in accordance with the *Water Act*. The priority number of a water licence indicates its seniority relative to other water licences. (WA)

**Probable Maximum Flood (PMF)**

An estimate of the flood that would result from the most severe combination of critical meteorological and hydrological conditions possible in the region. (ISDG)

**Produced Water**

Water that is released with hydrocarbons (oil, gas, and crude bitumen) from an oil or gas well. Produced water is separated from the oil and gas and is measured and reported to the Energy Resources Conservation Board. Produced water volumes from every oil and gas production well are included in the Energy Resources Conservation Board *Production Injection Database*. (WCAG)

**Prosecution**

A punitive measure, which has general and specific deterrence effects, which occurs through the courts and to which the only option of appeal is to the courts. Prosecution types include mandatory court appearance and specified penalty tickets. (G&Gglossary)

**Public and Stakeholder Involvement**

The process used by government to obtain advice or recommendations from a community and engage them in decision-making. Public and stakeholder involvement is an umbrella term that includes a range of interactive approaches including information and education, consultation, collaboration, partnerships, and delegated authority. (SEM)

**Q**

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**Qualified Wetland Aquatic Environment Specialist**

An expert with detailed knowledge of the aquatic environment, wetland soils, wetland species, hydrology, and wetland margin habitat and their management or assessment. (WRCG)

**R**

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**Raw Water**

Water in its natural state, prior to any treatment for drinking. (WFL)



**Reach**

A group of river segments with similar biophysical characteristics. Most river reaches represent simple streams and rivers, while some reaches represent the shorelines of wide rivers, lakes and coastlines. (GWMT)

**Reclaimed Water***Recycled Water*

Water that is utilized after it has fulfilled its primary purpose as identified in a Water Act licence and before it becomes return flow (leaves the wastewater treatment plant back to a watercourse). (IHCR)

**Recycled Water***Reclaimed Water*

1. Water that is used more than one time before it passes back into the natural hydrologic system. (NALMS)
2. A type of reuse water typically run repeatedly through a closed system. (HWUC)
3. Produced water that is re-used for conventional water flooding or enhanced recovery steam injection, after its recovery (with hydrocarbons) from production wells. It is the total quantity of water injected at a project, minus the make-up water. (WCAG + GWMT)

**Regime**

The length, width, depth, slope, or other physical condition that define a body of water. (BRBC)

**Registration**

See *Traditional Agricultural Registration*.

**Regulation***Legislation*

Created under authority granted by a law, a regulation presents more specific requirements than the legislation itself. (BRBC)

**Regulator**

An entity delegated the power to regulate a specific activity or set of activities. (G&Gglossary)

**Regulatory Instruments***Non-Regulatory Instruments*

Rules-based tools that focus on enforcing compliance with minimum standards. Their goal is compliance with the law and their driving mechanism is deterrence. Regulatory tools include laws and regulations. (SREM)

**Release**

Under the *Environmental Protection and Enhancement Act*, "release" refers to the many ways that contaminants can enter the environment, such as spills, discharges, leaks, spraying, and throwing something away, among others. (BRBC)

**Relief Stormwater Trunk**

A pipeline designed to receive an excess volume of water, stormwater, or wastewater. Its purpose is flood protection. (BRBC)

**Remedial Order**

An order used to compel a person to remedy a contravention and, as appropriate, to undertake actions to prevent future contraventions. Examples of remedial orders include enforcement orders, eviction orders, and stop orders. (G&Gglossary)

**Reservoir**

A man-made lake that collects and stores water for future use. During periods of low river flow, reservoirs can release additional flow if water is available. (WFL)

**Reservoir Area**

The total surface of a reservoir measured in a horizontal plane at an elevation corresponding to the full supply level of the reservoir. The area that would be flooded due to backwater elevations or surcharge is not included. (ISDG)

**Reservoir Capacity**

The total volume of water a reservoir is capable of holding when filled up to the full supply or normal water level. Storage derived from temporary flashboards, surcharge, or backwater curve is not included. Reservoir capacity usually is reported as of the date of construction of the dam. (ISDG)

**Resource Trade-Off**

A situation where a resource objective and/or strategy is written in a way to give priority to a particular resource value over other resource value(s) or use(s). (SEM)

**Retrofit Provision**

Water licences issued in recent years contain a condition indicating that once a water conservation objective is established, the licence may be amended to include the water Conservation Objective. The licence holder would then not be permitted to withdraw water when river flow is less than the objective. (SSRB)

**Return Flow**

Water that has been diverted under the terms of a *Water Act* licence for a specific purpose but does not get consumed in the process and is returned to the environment. Typically, this is water that results from a temporary use, such as water cycling through a cooling pond, but it can also result from consumptive uses, such as municipal wastewater, that are treated and returned to the environment. (GWMT)

**Riparian**

Pertaining to the banks of a river, stream, waterway, or other, typically, flowing body of water as well as to plant and animal communities along such bodies of water. (NALMS)

**Riparian Area**

The area of water-loving vegetation beside a stream, river, lake, or pond. Riparian areas are critical in reducing the negative effects of various land-uses on adjacent waters. (AARDWeb)

**Riparian Health Assessments**

An educational tool used by the *Cows and Fish* Program. It involves using visual observation to interpret the health of a riparian area and making comparisons over time. (Partnerships)

**Riparian Outlet**

A structure designed to pass water through a dam for the benefit of downstream water users. (ISDG)

**Riparian Owner**

One who owns land bounding upon a river or water course. (NALMS)

**Riparian Rights**

The legal ability of a person owning or leasing land along a waterbody to use water and protect the quantity and quality of water in the waterbody. Riparian rights have been restricted by legislation in Alberta. (BRBC)

**Riprap**

A layer of stone, pre-cast blocks, bags of concrete, or other suitable materials, generally placed on the upstream slopes of an embankment or along a watercourse as protection against wave action, erosion, or scour. Riprap is usually placed by dumping or other mechanical methods, but is occasionally hand placed. (ISDG)

**Risk**

The uncertainty that surrounds future events and outcomes; the expression of the likelihood and impact of an event with the potential to influence the achievement of an organization's objectives. (SEM)

**Risk Management**

The process of identifying, analyzing, assessing, and evaluating risks; assigning ownership; taking actions to mitigate or anticipate them; and monitoring and reviewing progress. (SEM)

**River Basin**

*Major River Basin*

An area of land drained by a river and its associated streams or tributaries. Alberta's *Water Act* identifies seven Major River Basins within the province: (1) Peace/Slave River Basin, (2) Athabasca River Basin, (3) North Saskatchewan River Basin, (4) South Saskatchewan River Basin, (5) Milk River Basin, (6) Beaver River Basin, and (7) Hay River Basin. (WFL)

**Runoff**

Water that moves across (or through) soils on the land during snowmelt or rainstorms. (SWQG)

**S**

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**Saline Groundwater**

Groundwater that has more than 4000 mg/L of total dissolved solids. (WCAG)

**Saline Water**

Water that has a total dissolved solids content exceeding 4,000 milligrams per litre (mg/L). (WCAP)

**Sanitary Sewer Overflow (SSO)**

An occasional unintentional discharge of raw sewage from a municipal sanitary sewer. (US-EPA)

**Secondary Recovery**

*Enhanced Oil Recovery, Oilfield Injection*

Injecting water into an oil pool to maintain pressure and displace oil. (WCAG)

**Secondary Wastewater Treatment**

*Primary Wastewater Treatment, Tertiary Wastewater Treatment*

Treatment (following *Primary Wastewater Treatment*) involving the biological process of reducing suspended, colloidal, and dissolved organic matter in effluent from primary treatment systems and which generally removes 80 to 95 percent of the *Biochemical Oxygen Demand (BOD)* and suspended matter. Secondary wastewater treatment may be accomplished by biological or chemical-physical methods. Activated sludge and trickling filters are two of the most common means of secondary treatment. (NALMS)

**Sector-Specific Technology Limit**

*End-of-Pipe Limit, Case-specific Technology Limit*

Technology limits often form the minimum effluent restrictions for industrial or municipal discharges. These limits are based on the capabilities of proven pollution control technologies and are applied uniformly across an industrial sector consistent with the age and type of facility. Economic considerations are always factored into the development of a technology limit. Common "technology limit" designations are: Best Practicable Technology (BPT - applied to older facilities), and Best Available Demonstrated Technology (BADT - generally applied to new facilities). Technology limits do not inherently consider ambient constraints, except to the extent that good technology limits will offer some level of protection by virtue of the use of modern pollution control technology. (WQLM)

**Sediment**

Eroded soil, rock and plant debris, transported and deposited by water. (AARDWeb)

**Sedimentation**

The process of material settling out of water. (BRBC)

**Seepage**

The flow or movement of water through a dam, its foundation, or abutments. (ISDG)

**Self-Regulation**

An industry sector assumes responsibility for environmental protection because it addresses their long-term interests and prevents more onerous external (government) regulation. (G&G glossary)

**Septage**

1. Septic tank sludge that is a combination of raw primary sludge and an anaerobically produced raw sludge. (NALMS)
2. Wastewater removed and hauled from a septic tank, holding tank, pit toilet, or similar system that receives only domestic wastewater. This does not include wastes from grease traps, industrial processes, commercial processes or agricultural processes. (SMAC)

**Septic System**

A combination of underground pipe(s) and holding tank(s) which are used to hold, decompose, and clean wastewater for subsurface disposal. (BRBC)

**Service Spillway**

The main spillway for normal and flood flows. (ISDG)

*Spillway*

**Settling Pond**

An open *lagoon* into which wastewater contaminated with solid pollutants is placed and allowed to stand. The solid pollutants suspended in the water sink to the bottom of the lagoon and the liquid is allowed to overflow out of the enclosure. (NALMS)

**Sewage**

1. The liquid waste from domestic, commercial, and industrial establishments. (NALMS)
2. Human excreta, or the water-carried wastes from drinking, bathing, laundering, or food processing. (PSSSPH)

**Sewage Treatment**

The processing of wastewater for the removal or reduction of contained solids or other undesirable constituents. (NALMS)

**Sewer**

Any system of pipes, drains, pumping works, equipment, structures, and other things used for the collection, transportation or disposal of wastewater, but does not include any building drain, plumbing, or building sewer. (ADR)

**Shallow Open Water**

Small bodies of standing water less than 2m deep that act as transitional areas between lakes and marshes. Shallow open water do not contain emergent aquatic vegetation like cattails and reeds, but may support floating vegetation like lily pads. (WCW)

*Bog, Fen, Marsh, Swamp*

**Shared Governance**

1. A governance structure in which government and external parties share responsibility for policy development and delivery of planning, programs, or services, but where government retains accountability. The extent of government involvement varies with the level of control that is desired and/or the capacity of the external parties to carry out the functions. Shared governance requires a clear accountability framework with clear roles, responsibilities, and relationships. (SEM)
2. A collaborative, goal-setting, and problem-solving process built on trust and communication where both government and stakeholders share responsibility for setting and achieving shared outcomes. (SP)

*Governance*

**Shared Outcome***Outcome*

An outcomes that is developed and defined using a collaborative approach. Shared governance, accountability, responsibility, and stewardship start with an agreement on what the parties, representing various interests, want to see as the end result. Development of shared outcomes requires decisions on who needs to be involved and the best process to use. (SEM)

**Shared Responsibility***Collaboration, Partnership*

The recognition that resource and environmental management is not solely the responsibility of government. Good resource and environmental management is based on cooperation, collaboration, and partnerships among parties that have an interest in achieving resource and environmental outcomes. Shared responsibility recognizes the role that parties outside of government can play in resource and environmental management, but understands that management must be done within clear governance and accountability frameworks. (SEM)

**Shore**

The edge of a body of water and includes the land adjacent to a body of water that has been covered so long by water as to wrest it from vegetation or as to mark a distinct character on the vegetation where it extends into the water or on the soil itself. (PSSSPH)

**Siltation**

The deposit of material in a waterbody by sedimentation. (BRBC)

**Slough (Marsh)**

A marshy or reedy pool, pond, inlet, or backwater. (BRBC)

**Sludge**

The accumulated wet or dry solids that are separated from wastewater during treatment. This includes precipitates resulting from the chemical or biological treatment of wastewater. (ADR)

**Source Water**

Raw/untreated water received for treatment to provide potable water to municipal, industrial or private users. Sources may include high quality groundwater, groundwater under the influence of surface water and surface water from lake, stream, river or watercourse. (WinTun)

**Source Water Protection**

1. The prevention of pollution of the lakes, reservoirs, rivers, streams, and groundwater that serve as sources of drinking water. Wellhead protection would be an example of a source water protection approach that protects groundwater sources, whereas management of land around a lake or reservoir used for drinking water would be an example for surface water supplies. Source water protection programs typically include: delineating source water protection areas; identifying sources of contamination; implementing measures to manage these changes; and planning for the future. (NALMS)
2. Action taken to control or minimize the potential for introduction of chemicals or contaminants in source waters, including water used as a source of drinking water (SGMW).

**Specific Conductance**

Also called conductivity. A measure that indicates water's ability to conduct an electrical current. It provides an indication of the amount of dissolved substances in the water. When conductivity is high, the concentration of dissolved material is also high. (SWQG)

**Spillway***Emergency Spillway, Service Spillway*

A chute, weir, conduit, tunnel, channel, or other structure designed to permit discharges from a reservoir. The primary purpose of a spillway is to discharge flood flows safely past a dam, but they may also be used to release water for other purposes. A spillway may be gated (controlled) or not. Gates are used to regulate the level of the reservoir above the spillway crest. In an un-gated (uncontrolled) spillway, the discharge occurs automatically when the water level rises above the level of the spillway crest. (ISDG)

**Spillway Capacity**

The maximum flow a spillway is capable of discharging when the reservoir is at its highest water surface elevation. (ISDG)

**Stakeholder**

An individual, organization, or government with a direct interest in a particular process or outcome. (SEM)

**Start-Up Water**

*Produced Water, Make-Up Water*

The large initial water volume required for injection to a new conventional enhanced oil recovery project to replace oil and gas removed. The large volumes of water needed at steam plants to initiate the thermal recovery of bitumen are also referred to as *start-up water*. The ongoing requirements for make-up water in conventional and thermal enhanced oil recovery projects are usually at lower rates than are needed during start-up of the project. (GWMT)

**Standard**

A definite rule established by authority. They are legally enforceable numerical limits or narrative statements found in a regulation, statute, contract, or other legally binding document, which have been adopted from a criterion or objective. Environmental standards often take the form of prescribed numerical values that must be met. (G&Gglossary)

**State of the Watershed Report**

A document that identifies the current condition of a watershed including the physical, chemical, and biological characteristics of its surface and groundwater and the pressures acting on it. (Partnerships)

**Statement of Concern**

A written objection to a *Water Act* licence application. (WCAG)

**Steam Injection**

*Enhanced Oil Recovery*

A process in which steam is pumped into oilsand deposits to reduce the bitumen's viscosity so it can flow and be produced to surface. Steam injection methods of enhanced oil recovery include Steam-Assisted Gravity Drainage (SAGD) and Cyclic Steam Stimulation (CSS). (GWMT)

**Stewardship**

A principle or approach whereby citizens, industry, communities, and government work together as stewards of the province's natural resources and environment. In general terms, stewardship means managing one's life, property, resources, and environment with regard for the rights or interests of others. This can apply to a person, company, community, government or group. Stewardship is an ethic and a value that results from public education and partnerships. It is people-focused in the sense that it relies on the desire and ability of people to make good decisions on their own accord that help resource and environmental outcomes. (SEM)

**Stilling Basin**

A pond or reservoir, riprapped or in a natural state, formed downstream of a dam, usually by means of a small auxiliary dam or weir. Its purpose is to protect the streambed from scouring caused by spillway and outlet discharges. The basin serves to dissipate energy. (ISDG)

**Stormwater**

Water discharged from a surface as a result of rainfall or snowfall. (PSSSPH)

**Stormwater Drainage System**

Any structure for collecting, storing, or disposing of stormwater and the connections between them as outlined in the *Environmental Protection and Enhancement Act*. The system includes stormwater sewers, pumping stations, storage areas, management facilities, treatment facilities, and outfall structures. (EPEA)

**Strategy**

A perspective, position, or plan developed and undertaken to achieve goals. It is the bridge between policy and concrete actions that outlines how a policy will be implemented to achieve its goals. (SEM)

**Sub-Basin**

River Basin

Part of a river basin drained by a tributary or with significantly different characteristics than the other areas of the basin. (BRBC)

**Sub-Watershed**

Watershed

A smaller watershed that is a piece of a much larger watershed. (NSWA)

**Supply Management***Demand Management*

Managing the supply of water to change the timing of water availability such as water storage, or other measures to increase the supply of water to meet the quantity of water demanded. (McGee)

**Surface Water**

Water bodies such as lakes, ponds, wetlands, rivers, and streams, as well as groundwater with a direct and immediate hydrological connection to surface water (for example, water in a well beside a river). (SSRB)

**Suspended Solids***Turbidity*

Material, such as fine particles of soil, that neither dissolve nor settle out of water, but instead are held or carried along in the water. (BRBC)

**Sustainability**

The balancing of opportunities for growth with the need to protect the environment. It reflects a vision of a vibrant economy and a healthy environment. Regarding renewable resources (eg: water, timber, fish, and wildlife), sustainability involves managing renewable natural resources so that their status, condition, or use is maintained over time. In this context, the use of a renewable resource, or impacts on it from other human activities, should not exceed its capacity to maintain itself through re-growth, reproduction, and management practices. Regarding non-renewable resources (eg: coal, oil, gas, and minerals), sustainability involves the development of resources in a responsible manner. This means protecting the environment during the construction and operation phases and ultimately reclaiming the land disturbed by development. In this context, non-renewable resource development is a temporary land use. (SEM)

**T**

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**Tailings**

The waste material remaining after metal is extracted from ore. (NALMS)

**Target**

A value that reflects a desirable outcome. (IHCR)

**Temporary Diversion License (TDL)**

A license for the temporary diversion of water, for a specified period of time of one year or less. (WA)

**Term Water Licence**Permanent Water Licence, *Water Licence, Water Licence Term*

A water diversion licence issued under the *Water Act* for a specified term two to five years for Enhanced Recovery (ER) projects. (WCAG)

**Tertiary Wastewater Treatment** *Primary Wastewater Treatment, Secondary Wastewater Treatment*

Selected biological, physical, and chemical separation processes to remove organic and inorganic substances that resist conventional treatment practices. *Tertiary Treatment* process consists of flocculation basins, clarifiers, filters, and chlorine basins or ozone or ultraviolet radiation processes. Tertiary techniques may also involve the application of wastewater to land to allow the growth of plants to remove plant nutrients. (NALMS)

**Threshold**

The value of an indicator that reflects a problem condition. (IHCR)

**Top of a Dam**

The elevation of the uppermost surface of a dam, usually the roadway or walkway or the non-overflow section of the dam. (ISDG)

**Total Dissolved Solids (TDS)***Total Suspended Solids*

1. A measure of the concentration of dissolved matter in water. Total Dissolved Solids measurements are often used to estimate a water body's salinity, which may affect the distribution of aquatic organisms. (SWQG)
2. Calcium, magnesium, sodium, potassium, bicarbonate, sulfate, chloride, and silica are typical dissolved solids. (AARDWeb)

**Total Maximum Daily Load (TMDL)**

The amount, or load, of a specific pollutant that a waterbody can assimilate and still meet the water quality standard for its designated use. For impaired waters, the TMDL reduces the overall load by allocating the load among current pollutant loads (from point and non-point sources), background or natural loads, a margin of safety, and sometimes an allocation for future growth. (EPA)

**Total Suspended Solids (TSS)***Total Dissolved Solids*

A measurement of the quantity of matter suspended, but not dissolved, in a unit of water. Suspended solids include a wide variety of materials such as silt, decaying plant matter, industrial wastes, and sewage. (NSWA)

**Tradable Water Rights***Water Allocation Transfer, Water Marketing*

In Alberta, people who have been allocated the right to a certain amount of water can sell conserved portions of their allocations. This provides an incentive for those rights holders to conserve and use less water than their allocation provides. (WFLWeb)

**Traditional Agriculture Registration**

Provides the authority for diverting and using groundwater to an agricultural landowner for the purpose of raising animals or applying pesticides to crops, as part of a farm unit. A registration of a diversion of water may not exceed 6250 cubic metres of water per year or the maximum amount specified in an applicable approved water management plan. The landowner must prove first diversion of such water occurred prior to January 1, 1999. (WA)

**Treat**

To apply any method, technique, or process (including neutralization and stabilization) that is designed to change the physical, chemical, or biological character or composition of a substance, including water. (EPEA)

**Treated Wastewater**

Effluent/discharge from wastewater treatment plant that meets the quality outlined in the wastewater treatment plant approval prior to discharge to the receiving environment or the quality specified for reuse. (IHCR)

**Triple Bottom Line**

Fiscal responsibility, environmental responsibility, and social responsibility. (G&Gglossary)



**Trophic Status***Eutrophic, Hypereutrophic, Mesotrophic, Oligotrophic*

The overall level of biological productivity (or fertility) of a lake. It is usually defined by the concentrations of key nutrients (phosphorus and nitrogen) and the algae present. Alberta is a province with very diverse ecoregions and as a result our lakes vary widely in trophic state. Some lakes, such as those in the foothills and mountains, tend to have low nutrient concentrations while others, like those in the central plains area, tend to have very high nutrient and algal concentrations. Lakes in Alberta are categorized into four trophic levels: Oligotrophic (low productivity), Mesotrophic (moderate productivity), Eutrophic (high productivity), and Hypereutrophic (very high productivity). (SWQG)

**Turbidity***Suspended Solids*

The cloudiness of water. It is determined by the presence of suspended matter such as clay, silt, organic matter, and living organisms. High turbidity may reduce light transmission, and therefore reduce photosynthesis of aquatic plants. (SWQG)

**Turnover, Fall**

A physical phenomenon that may take place in a body of water during early autumn. The sequence of events leading to fall overturn include: (1) the cooling of surface waters; (2) a density change in surface waters producing convection currents from top to bottom; (3) the circulation of the total water volume by wind action; and (4) eventual vertical temperature equality. The overturn results in a uniformity of the physical and chemical properties of the entire water body. Also referred to as the fall overturn. (NALMS)

**Turnover, Spring**

A physical phenomenon that may take place in a lake or similar body of water during the early spring, most frequently in lakes located in temperate zones where the winter temperatures are low enough to result in freezing of the lake surface. The sequence of events leading to spring overturn include: (1) the melting of ice cover; (2) the warming of surface waters; (3) density changes in surface waters producing convection currents from top to bottom; (4) circulation of the total water volume by wind action; and (5) vertical temperature equality. The overturn results in a uniformity of the physical and chemical properties of the entire water mass. Also referred to as the spring overturn. (NALMS)

**U**

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**Upland**

An area of dry land surrounding or upstream of a waterbody. (WCW)

**V**

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**W**

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**Waste**

Any solid or liquid material, product, or combination of them that is intended to be treated or disposed of or that is intended to be stored and then treated or disposed. This does not include recyclables. (ADR)

**Wastewater***Industrial Wastewater, Domestic Wastewater*

A combination of liquid and water-carried pollutants from homes, businesses, industries, or farms; a mixture of water and dissolved or suspended solids. (NALMS)

**Wastewater Collection System***Wastewater Treatment Plant*

A system of sewers, valves, fittings, pumping stations, and accessories that is used to collect wastewater and transfer it to a wastewater treatment plant. (ADR)

**Wastewater Lagoon***Wastewater Treatment*

A wastewater treatment plant that consists of one or more designed and constructed surface impoundments used for biological and physical treatment of wastewater, but does not include such a plant where it uses mechanical aeration. (ADR)

**Wastewater System***Wastewater Collection System, Wastewater Treatment Plant*

An organized process and associated structures for collecting, treating, and disposing of wastewater. It includes any or all of the following:

1. Sewers and pumping stations that make up a wastewater collection system.
2. Sewers and pumping stations that transport untreated wastewater from a wastewater collection system to a wastewater treatment plant.
3. Wastewater treatment plants.
4. Facilities that provide storage for treated wastewater.
5. Wastewater sludge treatment and disposal facilities.
6. Sewers that transport treated wastewater from a wastewater treatment plant to the place where it is disposed of.
7. Treated wastewater outfall facilities, including the outfall structures to a watercourse or any structures for disposal of treated wastewater to land or to wetlands (EPEA)

**Wastewater Treatment***Primary Treatment, Secondary Treatment, Tertiary Treatment*

Any of the mechanical or chemical processes used to modify the quality of waste water in order to make it more compatible or acceptable to man and his environment. (NALMS)

**Wastewater Treatment Plant**

Any structure, thing, or process used for the physical, chemical, biological, or radiological treatment of wastewater before it is returned to the environment. The term also includes any structure, thing, or process used for wastewater storage or disposal, or sludge treatment, storage, or disposal. (ADR)

**Water Act**

A piece of provincial legislation in Alberta used to protect the quality of water and manage its distribution. The *Water Act* regulates all developments and activities that might affect rivers, lakes, or groundwater. (WFL)

**Water Allocation***Diversion of Water, Water Licence*

The permitted volume, rate, and timing of a diversion of water outlined in a water licence. When water is permitted to be redirected for a use other than for domestic purposes, it is referred to as an allocation. Agricultural, industrial, and municipal water users must apply to AENV for a licence to use a set allocation of water. (GWMT)

**Water Allocation Transfer***Tradable Water Rights, Water Marketing*

A water allocation transfer occurs after the holder of an existing water withdrawal licence agrees to provide all or part of the amount they are allocated to another person or organization and Alberta Environment approves the transfer. When this occurs, the allocation is separated from the original land, and a new licence, with the seniority of the transferred allocation, is issued and attached to the new location. Under the *Water Act*, Alberta Environment can place conditions on the new licence. Water allocation transfers can occur only if authorized under an approved water management plan, or by the Lieutenant Governor in Council. (GWMT)

**Water Balance**

(1) A measure of the amount of water entering and the amount of water leaving a system. Also referred to as *Hydrologic Budget*. Also see *Hydrologic Equation*. (2) The ratio between the water assimilated into the body and that lost from the body; also, the condition of the body when this ratio approximates unity. (NALMS)

**Water Body**

Any location where water flows or is present, whether or not the flow or the presence of water is continuous, intermittent, or occurs only during a flood. This includes, but is not limited to, wetlands and aquifers. (WFL)

**Water Conservation**

*Water Efficiency, Water Productivity*

Any beneficial reduction in water use, loss, or waste. Water management practices that improve the use of water resources to benefit people or the environment. (WCEP)

**Water Conservation Holdback**

*Water Conservation Objective*

The Director may withhold up to 10 percent of the water from a licence being transferred, to protect the aquatic environment or implement a water conservation objective. This holdback applies to permanent and temporary transfers, but only to the volume of water being transferred. The holdback does not apply where a temporary transfer reverts to the original licence. (WA)

**Water Conservation Objective**

*In-Stream Flow Needs, Instream Objectives*

As outlined in Alberta's *Water Act*, a water conservation objective is the amount and quality of water set by a Director for the protection of a natural water body or its aquatic environment; the protection of tourism, recreational, transportation or waste assimilation uses of water; or the management of fish or wildlife. (GWMT)

**Water Co-op**

An organization formed by consumers of water to divert and distribute water for their mutual benefit. (BRBC)

**Water Cycle**

See *Hydrologic Cycle*.

**Water Distribution System**

*Waterworks System*

An organized process and associated structures of pipes, valves, fittings, and accessories, including associated pressure reducing stations, that are used to convey potable water in a waterworks system to a service connection. (EPEA)

**Water Efficiency**

*Water Conservation, Water Productivity*

1. Accomplishment of a function, task, process, or result with the minimal amount of water feasible.
2. An indicator of the relationship between the amount of water needed for a particular purpose and the quantity of water used or diverted. (WCEP)

**Water Flooding**

*Enhanced Recovery, Oilfield Injection, Secondary Recovery*

A conventional enhanced recovery process in which water is pumped into a well to maintain the reservoir pressure so hydrocarbon recovery is enhanced. Also referred to as *Secondary Recovery*. (WCAG)

**Water for Life: Alberta's Strategy for Sustainability**

The Government of Alberta's new water management approach, outlining a comprehensive set of strategies and actions that will ensure Albertans have safe, secure drinking water, healthy aquatic ecosystems, and a reliable quality water supply for a sustainable economy. (GWMT)

**Water Harvesting**

The capture and use of runoff from rainfall and other precipitation (eg: the collection of rainwater in cisterns). (HWUC)

**Water Licence (water diversion licence)**

*Diversion of Water, Water Allocation*

A water licence provides the authority for diverting and using surface water or groundwater. The licence identifies the water source, the location of the diversion site, an amount of water to be diverted and used from that source, the priority of the "water right" established by the licence, and the conditions under which the diversion and use must take place. (WFL)

**Water Licence Conditions**

Water licence provisions that specify monitoring, reporting, diversion timing, or diversion volume requirements and site or project restrictions. (WCAG)

**Water Licence in Good Standing**

This term is used in Alberta's *Water Act*, but is not defined in it. Before a water allocation can be transferred, a Director must consider whether the allocation is "held under a licence in good standing." The licence has to be in good standing at the time the Director considers the application (that is, it already exists in good standing or the licence holder brings the licence into good standing prior to the time when the Director considers the application to transfer.) Examples of a licence not in "good standing" are a licence that is: (1) in breach of the *Water Act*, (2) subject to an investigation under the *Water Act*, (3) subject to enforcement and prosecution, (4) in breach of terms and conditions of the licence, (5) in non-compliance with the terms and conditions of the licence (e.g. did not build the diversion site within the specified period). (SSRB)

**Water Licence Renewal**

*Term Water Licence, Water License Term*

A process specified in the *Water Act* for the review and continuation of a water diversion licence whose term is nearly finished. (WCAG)

**Water Licence Term**

*Term Water Licence, Water Licence Renewal*

The length of time for which an allocation of water is granted under a *Water Act* licence. (WCAG)

**Water Licence Transfer**

See *Water Allocation Transfer*.

**Water Management**

*Watershed Management*

The protection and conservation of water and aquatic ecosystems, including their associated riparian area. In Alberta, several agencies have a mandate in this area. Alberta Environment is responsible for water quality, quantity monitoring, and water allocations. Under the *Water Act* a Director can set Water Conservation Objectives to protect minimum flow and aquatic ecosystem health. Stakeholders can recommend Water Conservation Objectives to a Director via a Water Management Plan or an Approved Water Management Plan. Alberta Sustainable Resource Development (SRD) manages crown lands including the bed and shores of all water bodies. SRD, through its Fish and Wildlife Division, is also responsible for fisheries and wildlife management. In addition, the Federal Department of Fisheries and Oceans upholds a no-net-loss policy in its mandate to protect fisheries habitat under the Federal *Fisheries Act*. (Partnerships)

**Water Management Plan**

*Water Management, Approved Water Management Plan*

A document developed under the *Water Act* that provides broad guidance regarding water conservation and management, sets clear and strategic directions regarding how water should be managed, or results in specified actions. Alberta's *Framework for Water Management Planning* outlines the process for water management planning and the components required for water management plans. The process applies to all water bodies in Alberta, including streams, rivers, lakes, aquifers, and wetlands. The plans may be considered by a Director when making licence and approval decisions. An *Approved Water Management Plan* must be considered by a Director when making licence and approval decisions. (FocusOn)

**Water Marketing**

*Tradable Water Rights, Water Allocation Transfer*

A concept of water use borne out of increased demand by urban populations for water whereby a holder of water rights is allowed to sell or lease those rights in an open market to the highest bidder. (NALMS)

**Water Mastering**

The monitoring and enforcement of the Water Act's "first-in-time, first-in-right" priority allocation system by Regional AENV staff responsible for water management. This is done for the purpose of limiting water withdrawals when diversions exceed the water supply during low water periods. Depending on the availability of water, water licenses with low (most recent) priority numbers (date at which a water license is issued) are requested to either limit their water withdrawals or refrain from withdrawals of any amount. (FFFAQ)

**Water Meter**

A device that measures the quantity of water used at a house, business, factory, etc. Cities that have implemented a water meter system and charge people according to the amount of water consumed use less water than those cities that charge a flat rate for water. (WFLWeb)

**Water Power Development**

The works required for the storage or diversion of water for the production of power. (WA)

**Water Pricing**

The placing of a dollar value on an amount of water. Most Albertans currently pay a price, based on volume, for having water treated and delivered to their homes, but not for the actual water itself. (WFLWeb)

**Water Productivity**

*Water Conservation, Water Efficiency*

The amount of water that is required to produce a unit of any good, service, or societal value. (WCEP)

**Water Quality**

*Water Quantity*

The chemical, microbiological, and physical characteristics of water. (FWMP)

**Water Quality Based Effluent Limits**

*End-of-Pipe Limits, Case-Specific Technology Limits*

An effluent limit that is derived by calculating how much of a given contaminant can be discharged under certain restrictive (worst case) conditions while still maintaining in-stream objectives or water conservation objectives. These worst case conditions are chosen to occur infrequently enough that if water quality objectives are exceeded, it will not cause undo stress on the receiving environment (*i.e.* the ecosystem can rapidly recover). (WQLM)

**Water Quality Guidelines**

The allowable contaminant concentration in water. Guidelines are used to define water quality according to the use of the water source. For example, water quality guidelines are developed for drinking water, agricultural, industrial, and recreational water use and for the protection of aquatic life. (AARDWeb)

**Water Quality Indicators**

Constituents or characteristics of water that can be measured to determine its suitability for use. (NALMS)

**Water Quality Management Area**

Under the *Canada Water Act*, an area designated for restoring, maintain, or improving the quality of water in rivers or other bodies of water. For water outside of federal jurisdiction, a water quality area is only designated if water quality management planning is of urgent national concern and if there is an agreement with the directly affected province(s). No water quality management areas have been designated in Alberta. (BRBC)

**Water Quality Standard**

The allowable contaminant concentration in a water supply that is enforceable under environmental control laws set by provincial or federal governments. Water quality standards are site-specific. For example, the quality of an industrial effluent that is emptied into a body of water must maintain a certain standard so that it does not significantly change the receiving water body's quality. (AARDWeb)

**Water Quantity**

The volume or amount of water. (FWMP)

*Water Quality*

**Water Rights**

A legal claim to water when the water is available. (BRBC)

*Water Act, Water Allocation*

**Water Table**

The top of the saturated zone in the ground, where water fills the spaces in the soil and rock. (AARDWeb)

*Groundwater*

**Water Treatment Plant**

The physical components of the waterworks system that are used to produce potable (drinkable) water. (ADR)

**Water Well**

An opening in the ground, whether drilled or altered from its natural state, that is used for the production of groundwater, obtaining data on groundwater, or recharging an underground formation from which groundwater can be recovered. By definition in the provincial *Water Act*, a water well also includes any related equipment, buildings, and structures. (WFL)

**Water Withdrawal Licensing Process**

Under the *Water Act*, a system for managing water used for human and industrial consumption while protecting the water body. (Partnerships)

*Approval*

**Watercourse**

The bed and shore of a river, stream, lake, creek, lagoon, swamp, marsh or other natural body of water, or a canal, ditch, reservoir or other artificial surface feature made by humans, whether it contains or conveys water continuously or intermittently. (EPEA)

**Watercourse Crossing**

A permanent or temporary crossing and any associated permanent or temporary structures that are or will be constructed to provide access over or through a waterbody. (EPEA)

**Watering Point**

A waterworks system that provides potable water in bulk to the public. (ADR)

**Watershed**

The area of land that catches precipitation and drains into a larger body of water such as a marsh, stream, river, or lake. A watershed is often made up of a number of sub-watersheds that contribute to its overall drainage. (WRCG)

*River Basin, Major River Basin*

**Watershed Approach**

A way of thinking and acting that focuses efforts within a watershed, taking into consideration both ground and surface water flow. This approach recognizes and plans for the interaction of land, water, plants, animals, and people. Focusing efforts at the watershed level gives the local watershed community a comprehensive understanding of local management needs and encourages locally led management decisions. (WFL)

*Place-Based Approach*

**Watershed Management**

The protection and conservation of water and aquatic ecosystems, including their associated riparian area. Because land use activities on the uplands of a watershed can affect ground and surface water quality and quantity, a broader, more comprehensive approach to planning is often required. A Watershed Management Plan may look at water quantity, water quality, aquatic ecosystems, riparian area, as well as a variety of land use issues as they impact water. Watershed management plans require water and land use managers to work together to ensure healthy watersheds. (Partnerships)

*Water Management*

**Watershed Management Plan***Water Management Plan*

A comprehensive document that addresses many issues in a watershed including water quantity, water quality, point and non-point-source pollution, and source water protection. It may or may not include a Water Management Plan. It may also examine ways to better integrate land and resource management within a watershed. (Partnerships)

**Watershed Management Planning***Watershed Management Plan*

A comprehensive, multi-resource management planning process involving all stakeholders within the watershed, who, together as a group, cooperatively work toward identifying the watershed's resource issues and concerns as well as develop and implement a watershed plan with solutions that are environmentally, socially and economically sustainable. (NSWA)

**Watershed Planning and Advisory Council (WPAC)**

Collaborative, independent, volunteer organizations with representation from all key partners within the watershed. Their mandate is to engage governments, stakeholders, other partnerships, and the public in watershed assessment and watershed management planning, while considering the existing land and resource management planning processes and decision-making authorities. (Partnerships)

**Water Re-use**

Any beneficial use of the treated *wastewater* directed to a specific purpose other than the general release to the surface or subsurface environments. (PSSSPH)

**Watershed Stewardship Group (WSG)**

Community-based groups made up of volunteer citizens, often supported by local businesses and industries, who have taken the initiative to protect their local creek, stream, stretch of river, or lake. These proactive groups develop on-the-ground solutions to ensure the protection of their specific watersheds. (WFL)

**Water-Short Area**

A region where natural conditions or development pressures limit the availability of surface water and groundwater for future sustainable development and protection of the aquatic environment. (WCAG)

**Waterworks System***Water Distribution System, Water Treatment Plant*

Any scheme providing potable water to a city, town, specialized municipality, village, summer village, hamlet, settlement area as defined in the *Métis Settlements Act*, municipal development, industrial development, or privately owned development or private utility. The term also includes the following parts: water wells, surface water intakes, water supply lines, water storage facilities, water pumphouses, water treatment plants, potable water transmission mains, potable water storage facilities, potable water pumping facilities, water distribution systems, and watering points. (EPEA)

**Weir**

An overflow structure frequently used for measuring discharge.

1. In dam terminology, the crest of a spillway controlling the upstream surface level.
2. A structure in a water body over which water flows, and whose prime purpose is to raise the water level, usually to divert water into a watercourse. (ISDG)

**Wet Pond***Dry Pond*

Located at the end of a storm sewer trunk line, this storage area remains full of water. During a storm, the water in the pond rises above its normal level, allowing water to be retained for a sufficient time for downstream flooding to be reduced and water quality improvement to occur prior to the discharge of the stormwater to a stream or other waterbody. (BRBC)

**Wetland**

Land that is saturated with water long enough to promote wetland or aquatic processes as indicated by poorly drained soils, water-loving vegetation, and various kinds of biological activity which are adapted to a wet environment. (WRCG)

**Wetland Banking**

A term used to describe actions required to be taken on the part of developers to mitigate and replace the loss of wetlands. The replacement process allows for the creation or restoration of any number of wetlands to provide replacement credit for future wetlands impacts or debits, i.e., reductions in existing wetlands. Wetland banking not only insures successful wetland restoration, but also typically requires that replacement occurs before targeted wetlands are removed, thereby at least temporarily increasing the overall amount of wetlands. Also, wetland banking credits may frequently be sold in an open market arrangement thereby facilitating both more efficient land use planning and habitat preservation. (NALMS)

**Wetland Compensation**

Payment into a fund for wetland restoration work. (WRCG)

**Wetland Loss**

Includes infilling, altering, or physically draining a wetland, any impact to the riparian area or buffer strips, and any type of interference with the hydrology to and from a wetland. (WRCG)

**Wetland Margins**

The ordinarily dry land adjacent to a wetland (e.g. marsh, bog, fen, or pond) that depends on the presence of a wetland to provide water and habitat for plants and animals. (BRBC)

**Wetland Mitigation**

A process to reduce the loss of wetlands, focusing on avoiding loss, minimizing impact, and compensating for unavoidable wetland loss. (WRCG)

**Wetland Restoration**

The re-establishment of a naturally occurring wetland with a functioning natural ecosystem whose characteristics are as close as possible to conditions prior to its drainage or alteration. (WRCG)

**Wetland Restoration Agency**

An organization responsible for restoring drained wetlands to near natural conditions. Their responsibilities include securing land rights, obtaining approvals/licences under authority of the Water Act, completing restoration works, operating and monitoring the restored wetlands, keeping records, and reporting to Alberta Environment. (WRCG)

**White Area (White Zone)**

*Green Area*

1. The settled regions of Alberta where agriculture is the most significant land use, including the grasslands and parklands of southern and central regions, and the Peace Country in the north. (WCAG)
2. The White Area includes nearly 40% of the total area of Alberta. (BRBC)

**Works**

With regard to water, any structure, device or contrivance made by persons, or part of it, including a dam and canal, and the land associated with it. The term also includes its associated mitigative measures. (WA)

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**X**

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**Y**

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**Z**

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## TERMS LISTED BY CATEGORY

### Biology

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Algae  
 Algal Bloom  
 Anoxic  
 Aquatic Ecosystem  
 Aquatic Environment  
 Aquatic Macrophyte  
 Aquatic Species  
 Bacteria  
 Baseline Data  
 Benthic Invertebrates  
 Blue-Green Algae  
 Biochemical Oxygen Demand  
 Biocriteria  
 Biological Diversity  
 Chlorophyll a  
 Cumulative Effects  
 Dissolved Oxygen  
 Drought  
 Ecological Integrity  
 Ecosystem  
 Environment  
 Environmental Quality  
 Eutrophic  
 Eutrophication  
 Evapotranspiration  
 Fish Habitat  
 Fishery  
 Flood  
 Flood, 100-Year  
 Fluvial  
 Groundwater Recharge  
 Habitat  
 Hydrologic Cycle  
 Hydrophytic  
 Hypereutrophic  
 Indicator  
 Mesotrophic  
 Microorganisms  
 Natural Capital  
 Nutrient  
 Oligotrophic  
 Pathogen  
 Pesticide  
 pH  
 Pollutant  
 Riparian  
 Riparian Health Assessments

Trophic Status  
 Turnover, Fall  
 Turnover, Spring  
 Water Body  
 Water Cycle

### Enforcement & Compliance

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Administrative Penalty  
 Adverse Effect  
 Apportionment Agreement  
 Approval  
 Assurance  
 Code of Practice  
 Command and Control Approach  
 Compliance Assessment  
 Compliance Assurance  
 Designated Director  
 Directly Affected Person  
 Economic Instruments  
 Enforcement  
 Enforcement Order  
 Enforcement Response  
 Environmental Assessment  
 Environmental Protection and Enhancement Act  
 Environmental Protection Order  
 Flexible Regulatory and Non-Regulatory Tools  
 Guideline  
 Legislation  
 Market-Based Instruments  
 Ministerial Order  
 Non-Compliance  
 Non-Regulatory Instruments  
 Preventative Order  
 Prosecution  
 Referral  
 Regulation  
 Regulator  
 Regulatory Instruments  
 Remedial Order  
 Self-Regulation  
 Standard  
 Statement of Concern  
 Threshold  
 Water Act

**Geography**

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Aquifer  
 Confined Aquifer  
 Canadian Heritage River  
 Drainage Basin  
 Erosion  
 Floodplain  
 Flood Fringe  
 Green Area  
 Groundwater  
 Headwaters  
 Hydrology  
 Impervious Surfaces  
 Mainstem  
 Major River Basin  
 Natural Area  
 Navigable Water  
 Potentially Water-Short Area  
 Reach  
 Regime  
 Riparian Area  
 River Basin  
 Shore  
 Slough  
 Sub-Basin  
 Sub-Watershed  
 Surface Water  
 Upland  
 Water Body  
 Water Table  
 Watercourse  
 Watercourse Crossing  
 Watershed  
 Water Quality Management Area  
 Water-Short Area  
 White Area

**Industrial Activity**

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Crude Oil  
 Disposal Water  
 Deep-Well Injection  
 Disposal Well  
 Enhanced Oil Recovery  
 Injectant  
 Injection  
 Irrigation  
 Irrigation District  
 Make-Up Water  
 Offsets  
 Offstream Use

Oilfield Injection  
 Produced Water  
 Reclaimed Water  
 Recycled Water  
 Secondary Recovery  
 Source Water  
 Start-Up Water  
 Steam Injection  
 Tailings  
 Water Flooding  
 Water Power Development

**People and Stakeholders**

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Alberta Water Council  
 Directly Affected Person  
 Ditchrider  
 Drainage District  
 Driller  
 Environmental Appeals Board  
 Irrigation District  
 Local Authority  
 Grassroots  
 Qualified Wetland Aquatic Environment  
 Specialist  
 Stakeholder  
 Water Co-op  
 Watershed Planning and Advisory Council  
 Watershed Stewardship Group

**Water and Wastewater Treatment**

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Biosolids  
 Cistern  
 Combined Sewer  
 Domestic Wastewater  
 Domestic Water Use  
 Drain  
 Drinking Water  
 Dry Pond  
 Effluent  
 Effluent Plume  
 Grey Water  
 Household Purposes  
 In-situ Surface Water Treatment  
 Inactive Water Well  
 Industrial Runoff  
 Industrial Wastewater  
 Lagoon  
 Leachate  
 Leaching  
 Long Term Yield

|                                |                                       |
|--------------------------------|---------------------------------------|
| Mixing Zone                    | Consumptive Use                       |
| Multi-Barrier Approach         | Crown Reservation                     |
| Municipal Water Use            | Cubic Feet Per Second                 |
| Non-saline Water               | Dam <sup>3</sup>                      |
| Outfall                        | Designated Director                   |
| Potable Water                  | Diversion of Water                    |
| Primary Wastewater Treatment   | Domestic Water Use                    |
| Raw Water                      | First-in-Time, First-in-Right         |
| Recycled Water                 | Groundwater                           |
| Relief Stormwater Trunk        | Household Purposes                    |
| Saline Groundwater             | In-stream Flow                        |
| Saline Water                   | In-stream Flow Needs                  |
| Sanitary Sewer Overflow        | In-stream Objectives                  |
| Secondary Wastewater Treatment | Inter-Basin Transfer                  |
| Septage                        | Intra-Basin Transfer                  |
| Septic System                  | Major River Basin                     |
| Settling Pond                  | Master Agreement on Apportionment     |
| Sewage                         | Municipal Water                       |
| Sewage Treatment               | Naturalized Flow                      |
| Sewer                          | Net Diversion of Water                |
| Sludge                         | Non-Consumptive Use                   |
| Stormwater                     | Non-Point Source Pollution            |
| Stormwater Drainage System     | Non-Saline Water                      |
| Surface Water                  | Off-Stream Use                        |
| Tertiary Wastewater Treatment  | Outfall                               |
| Treat                          | Permanent Water Licence               |
| Treated Wastewater             | Point Source Pollution                |
| Waste                          | Potable Water                         |
| Wastewater                     | Potentially Water Short Area          |
| Wastewater Collection System   | Preliminary Certificates              |
| Wastewater Lagoon              | Prior Appropriation                   |
| Wastewater System              | Priority                              |
| Wastewater Treatment           | Priority Number                       |
| Wastewater Treatment Plant     | Registration                          |
| Water Co-op                    | Regulator                             |
| Water Distribution System      | Release                               |
| Water Meter                    | Retrofit Provision                    |
| Water Pricing                  | Return Flow                           |
| Water Re-Use                   | Riparian Owner                        |
| Water Treatment Plant          | Riparian Rights                       |
| Water Well                     | Runoff                                |
| Watering Point                 | Temporary Diversion License           |
| Waterworks System              | Term Water Licence                    |
| Wet Pond                       | Tradable Water Rights                 |
|                                | Traditional Agricultural Registration |
| <b>Water Licensing</b>         | Water Allocation                      |
| Apportionment Agreement        | Water Allocation Transfer             |
| Approval                       | Water Conservation                    |
| Approvals Manager              | Water Conservation Holdback           |
| Approved Water Management Plan | Water Conservation Objective          |
| Conjunctive Use                | Water Co-op                           |

Water Efficiency  
 Water Licence  
 Water Licence Conditions  
 Water Licence in Good Standing  
 Water Licence Renewal  
 Water Licence Term  
 Water Licence Transfer  
 Water Management  
 Water Management Plan  
 Water Marketing  
 Water Mastering  
 Water Productivity  
 Water Quantity  
 Water Right  
 Water Well  
 Water Withdrawal Licensing Process  
 Watershed Management  
 Watershed Management Plan  
 Wetland Banking  
 Works

**Water/Watershed Management**

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Adaptive Management  
 Baseflow  
 Bench Marking  
 Best/Beneficial Management Practices  
 Collaboration  
 Consensus  
 Conservation  
 Continuous Improvement  
 Demand Management  
 Endorsement  
 Environmental Indicator  
 Environmental Outcome  
 Framework  
 Governance  
 Grassroots  
 Indicator  
 Outcomes  
 Partnership  
 Performance Assessment  
 Performance Measure  
 Place-Based Approach  
 Policy  
 Policy Analysis  
 Policy Development  
 Policy Instruments  
 Public and Stakeholder Involvement  
 Resource Trade-Off  
 Risk  
 Risk Analysis

Risk Management  
 Shared Governance  
 Shared Outcome  
 Shared Responsibility  
 Source Water Protection  
 State of the Watershed Report  
 Stewardship  
 Strategy  
 Supply Management  
 Sustainability  
 Target  
 Threshold  
 Triple Bottom Line  
 Water Balance  
 Water for Life  
 Water Harvesting  
 Water Management  
 Water Management Plan  
 Water Quality Indicators  
 Water Quality Management Area  
 Watershed  
 Watershed Approach  
 Watershed Management  
 Watershed Management Plan  
 Watershed Management Planning  
 Water Mastering

**Water Operations**

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Berm  
 Check Dam  
 Control Dam  
 Dam  
 Dam<sup>3</sup>  
 Dike  
 Drawdown  
 Emergency Spillway  
 Fish Ladder  
 Flood  
 Flood, 100-Year  
 Floodway  
 Freeboard  
 Full Supply Level  
 Headworks  
 Height of Dam  
 Impoundment  
 Intake  
 Low Level Outlet  
 Outlet  
 Outlet Gate  
 Probable Maximum Flood  
 Reservoir

Reservoir Area  
 Reservoir Capacity  
 Riparian Outlet  
 Riprap  
 Seepage  
 Service Spillway  
 Spillway  
 Spillway Capacity  
 Stilling Basin  
 Top of Dam  
 Weir

### **Water Quality**

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Acute Effects  
 Alkalinity  
 Ambient  
 Assimilative Capacity  
 Bacteria  
 Biochemical Oxygen Demand  
 Biocriteria  
 Case-Specific Technology Limit  
 Chlorophyll a  
 Chronic Effects  
 Coliform Bacteria  
 Concentration  
 Contaminant  
 Deleterious Substance  
 Discharge  
 Effluent Plume  
 End-of-Pipe Limit  
 Erosion  
 Guideline  
 Hardness  
 Leachate  
 Leaching  
 Load Discharge  
 Major Ions  
 Maximum Daily Limit  
 Mixing Zone  
 Organic Contaminants  
 Pesticide  
 pH  
 Point Source Pollution  
 Pollutant  
 Pollutant Load  
 Polycyclic Aromatic Hydrocarbons  
 Release  
 Runoff  
 Sector-Specific Technology Agreement  
 Sediment  
 Sedimentation

Siltation  
 Specific Conductance  
 Suspended Solids  
 Threshold  
 Total Dissolved Solids  
 Total Maximum Daily Load  
 Total Suspended Solids  
 Turbidity  
 Water Quality  
 Water Quality Based Effluent Limits  
 Water Quality Guidelines  
 Water Quality Indicators  
 Water Quality Management Area  
 Water Quality Standard  
 Water Quantity

### **Wetlands**

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Aquifer  
 Artificial Wetland  
 Bog  
 Ephemeral Wetland  
 Fen  
 Groundwater Recharge  
 Marsh  
 Naturally Occurring Wetland  
 Peatland  
 Qualified Wetland Aquatic Environment  
 Specialist  
 Riparian Area  
 Shallow Open Water  
 Slough  
 Wet Pond  
 Wetland  
 Wetland Banking  
 Wetland Compensation  
 Wetland Loss  
 Wetland Margins  
 Wetland Mitigation  
 Wetland Restoration  
 Wetland Restoration Agency



## REFERENCES

- AARDWeb** Alberta Agriculture and Rural Development Website, *Water Quality Terms and Definitions*  
Alberta Agriculture and Rural Development, 2001  
[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/wat2451](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/wat2451)
- ADR** *Activities Designation Regulation*  
Government of Alberta, 2003  
[http://www.qp.gov.ab.ca/documents/Regs/2003\\_276.cfm?frm\\_isbn=0779750616](http://www.qp.gov.ab.ca/documents/Regs/2003_276.cfm?frm_isbn=0779750616)
- ADWP** *Alberta's Drinking Water Program: A 'Source to Tap, Multi-barrier' Approach*  
Alberta Environment, 2008  
Unpublished
- AENVWeb** AENV Website, *Getting Involved: Initiatives*  
Alberta Environment  
<http://www.environment.gov.ab.ca/stakeholder/search.aspx?region=Provincewide>
- AOPA** *Agricultural Operation Practices Act*  
Government of Alberta, 2000  
[http://www.qp.gov.ab.ca/documents/Acts/A07.cfm?frm\\_isbn=0779742621](http://www.qp.gov.ab.ca/documents/Acts/A07.cfm?frm_isbn=0779742621)
- BRBC** *Guidebook to Water Management: Background Information on Organizations, Policies, Legislation, Programs, and Projects in the Bow River Basin*  
Bow River Basin Council, 2002  
<http://www.brbc.ab.ca/pdfs/Guidebook.pdf>
- CFA** Canada Fisheries Act  
Government of Canada, 1985  
<http://laws.justice.gc.ca/en/ShowFullDoc/cs/F-14///en>
- CHRS** Canadian Heritage River Society  
[http://www.chrs.ca/Main\\_e.htm](http://www.chrs.ca/Main_e.htm)
- EPEA** *Environmental Protection and Enhancement Act*  
Government of Alberta, 2000  
[http://www.qp.gov.ab.ca/documents/Acts/E12.cfm?frm\\_isbn=0779717287](http://www.qp.gov.ab.ca/documents/Acts/E12.cfm?frm_isbn=0779717287)
- FFFAQ** Flow Forecasting Frequently Asked Questions – Definitions/Terminology  
Alberta Environment  
<http://environment.alberta.ca/forecasting/FAQ/definitions.html>
- Focus On** Focus on: Watershed Management Planning  
Alberta Environment, 2008  
Unpublished
- FWMP** *Framework for Water Management Planning*  
Alberta Environment, 1999  
<http://environment.gov.ab.ca/info/library/6367.pdf>
- G&Gglossary** *Glossary of Terms Relating to Governing and Governance and the Tools Associated with Each.* (DRAFT).  
Alberta Environment, 2002  
Unpublished

- GWMT** *Glossary of Water Management Terminology*  
Alberta Environment  
Unpublished
- HWUC** *Handbook of Water Use and Conservation*  
Amy Vickers, 2001  
WaterPlow Press. Amherst, MA.
- IHCR** *The Water Management Framework for the Industrial Heartland and Capital Region*  
Alberta Environment, 2008.  
<http://environment.gov.ab.ca/info/library/7864.pdf>
- ISDG** *Inspection of Small Dams*  
Alberta Environment, 1998  
<http://environment.gov.ab.ca/info/posting.asp?assetid=6209&categoryid=5>
- PSSSPH** *Alberta Private Sewage Systems Standard of Practice Handbook*  
Alberta Municipal Affairs, 2000  
[http://www.municipalaffairs.gov.ab.ca/Handbook\\_index.cfm](http://www.municipalaffairs.gov.ab.ca/Handbook_index.cfm)
- McGee** Personal communication with Dave McGee (Senior Water Policy and Implementation Manager, Alberta Environment), 2008
- NALMS** *Water Words Glossary*  
North American Lake Management Society  
<http://www.nalms.org/Resources/Glossary.aspx>
- NSWA** *Municipal Guide: Planning for a Healthy and Sustainable North Saskatchewan Watershed*  
North Saskatchewan Watershed Alliance, Date Unknown.  
[http://www.nswa.ab.ca/pdfs/muni\\_guide\\_glossary.pdf](http://www.nswa.ab.ca/pdfs/muni_guide_glossary.pdf)
- Partnerships** *Enabling Partnerships: A framework in support of Alberta's Water for Life Strategy for Sustainability.*  
Government of Alberta, 2005  
<http://www.waterforlife.gov.ab.ca/docs/EnablingPartnerships.pdf>
- SEM** *Glossary of Terms Related to Shared Environment Management*  
Alberta Environment, 2007  
<http://environment.gov.ab.ca/info/library/7712.pdf>
- SGMW** *Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems*  
Alberta Environment, 2006  
<http://environment.gov.ab.ca/info/library/6979.pdf>
- SMAC** *Recommendations for Septage Management in Alberta*  
Alberta Environment – Septage Management Advisory Committee, 2004  
<http://environment.alberta.ca/documents/FinalReport.pdf>
- SP** *Strengthening Partnerships: A Shared Governance Framework for Water for Life Collaborative Partnerships.*  
Alberta Water Council, 2008  
[www.awchome.ca](http://www.awchome.ca)



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|----------------|--|
| <b>SREM</b>    | <i>Sustainable Resource and Environmental Management Glossary</i><br>SREM Office, 2006<br>Unpublished  |
| <b>SSRB</b>    | <i>Approved Water Management Plan for the South Saskatchewan River Basin (Alberta)</i><br>Alberta Environment, 2006<br><a href="http://environment.alberta.ca/documents/SSRB_Plan_Phase2.pdf">http://environment.alberta.ca/documents/SSRB_Plan_Phase2.pdf</a>   |
| <b>SWQG</b>    | Surface Water Quality Guidelines for Use in Alberta<br>Alberta Environment, 1999<br><a href="http://environment.gov.ab.ca/info/library/5713.pdf">http://environment.gov.ab.ca/info/library/5713.pdf</a>  |
| <b>US-EPA</b>  | Handbook for Developing Watershed Plans to Restore and Protect Our Waters, Glossary<br>United States Environmental Protection Agency, 2008<br><a href="http://www.epa.gov/nps/watershed_handbook/pdf/glossary.pdf">http://www.epa.gov/nps/watershed_handbook/pdf/glossary.pdf</a>  |
| <b>WA</b>      | <i>Water Act</i><br>Government of Alberta, 1999<br><a href="http://www.qp.gov.ab.ca/documents/Acts/W03.cfm?frm_isbn=0779711424">http://www.qp.gov.ab.ca/documents/Acts/W03.cfm?frm_isbn=0779711424</a>   |
| <b>WCAG</b>    | <i>Water Conservation and Allocation Guideline for the Oilfield Industry</i><br>Government of Alberta, 2006<br><a href="http://www.waterforlife.gov.ab.ca/docs/Oilfield_Injection_GUIDELINE.pdf">http://www.waterforlife.gov.ab.ca/docs/Oilfield_Injection_GUIDELINE.pdf</a>   |
| <b>WCAP</b>    | Water Conservation and Allocation Policy for Oilfield Injection<br>Government of Alberta, 2006<br><a href="http://www.waterforlife.gov.ab.ca/docs/Oilfield_Injection_Policy.pdf">http://www.waterforlife.gov.ab.ca/docs/Oilfield_Injection_Policy.pdf</a>  |
| <b>WCEP</b>    | <i>Water Conservation, Efficiency, and Productivity: Principles, Definitions, Performance Measures, and Indicators</i><br>Alberta Water Council, 2007<br><a href="http://www.albertawatercouncil.ca/Portals/0/pdfs/CEP_Definitions_Final_Report.pdf">http://www.albertawatercouncil.ca/Portals/0/pdfs/CEP_Definitions_Final_Report.pdf</a> |
| <b>WCW</b>     | Wetland Consultation Workbook: Talking with Albertans about a new Wetland Policy and Implementation Plan.<br>Alberta Water Council, 2007   |
| <b>WFL</b>     | <i>Water for Life: Alberta's Strategy for Sustainability</i><br>Government of Alberta, 2003<br><a href="http://www.waterforlife.gov.ab.ca">http://www.waterforlife.gov.ab.ca</a>   |
| <b>WFLWeb</b>  | <i>Water for Life Website, Backgrounder - Valuing water: pricing and other economic instruments</i><br>Government of Alberta<br><a href="http://www.waterforlife.gov.ab.ca/html/background4.html">http://www.waterforlife.gov.ab.ca/html/background4.html</a>  |
| <b>Win Tun</b> | Personal communication with Win Tun (Drinking Water Operations Specialist, Alberta Environment), 2008  |
| <b>WQLM</b>    | <i>Water-Quality Based Effluent Limits Procedures Manual</i><br>Alberta Environment, 1995<br><a href="http://environment.gov.ab.ca/info/library/7255.pdf">http://environment.gov.ab.ca/info/library/7255.pdf</a>   |

- WRCG**      *Wetland Restoration/Compensation Guide*  
Alberta NAWMP Partnership & Alberta Environment, 2007  
[http://www.environment.alberta.ca/documents/Provincial\\_Wetland\\_Restoration\\_Compensation\\_Guide\\_Feb\\_2007.pdf](http://www.environment.alberta.ca/documents/Provincial_Wetland_Restoration_Compensation_Guide_Feb_2007.pdf)
- WRPG**      *Wetland Restoration Program Guide*  
Alberta Environment, 2005