

## **selected glossary for fresh water and desalination**

**adapted from** <http://www.westbasin.org/education/water-glossary>

**acre-foot** (acre-ft)--the volume of water required to cover 1 acre of land (43,560 square feet) to a depth of 1 foot. Equal to 325,851 gallons or 1,233 cubic meters.

**aquifer**--a geologic formation(s) that is water bearing. A geological formation or structure that stores and/or transmits water, such as to wells and springs. Use of the term is usually restricted to those water-bearing formations capable of yielding water in sufficient quantity to constitute a usable supply for people's uses.

**Clean Water Act (1972)** - the primary legislation in the United States that addresses water pollution. The goal of the Clean Water Act is to limit the release of high volumes of toxic chemicals into the nation's water and ensure that surface waters met standards for sports and recreational use.

**cubic feet per second** (cfs)--a rate of the flow, in streams and rivers, for example. It is equal to a volume of water one foot high and one foot wide flowing a distance of one foot in one second. One "cfs" is equal to 7.48 gallons of water flowing each second.

**desalination** - the removal of salts from saline water (salty or brackish water) to provide freshwater. This method is becoming a more popular way of providing freshwater to populations.

**effluent**--water that flows from a sewage treatment plant after it has been treated.

**filtration:** a process that separates small particles from water by using a porous barrier to trap the particles and allowing the water through.

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

**greywater**--wastewater from clothes washing machines, showers, bathtubs, hand washing, lavatories and sinks.

**groundwater**- water that flows or seeps downward and saturates soil or rock, supplying springs and wells. The upper surface of the saturate zone is called the water table. Water stored underground in rock crevices and in the pores of geologic materials that make up the Earth's crust.

**groundwater recharge** -an process where water is put back into ground-water storage from surface-water supplies such as irrigation, or induced infiltration from streams or wells.

**hydrologic cycle**--the cyclic transfer of water vapor from the Earth's surface via evapotranspiration into the atmosphere, from the atmosphere via precipitation back to earth, and through runoff into streams, rivers, and lakes, and ultimately into the oceans.

**impingement:** is the entrapment of all life stages of fish and shellfish on the outer part of an intake structure or against a screening device during periods of intake water withdrawal.

**micro-filtration:** is a membrane filtration process in which water passes through small pores of the micro-filtration membrane, accumulating particles on its surface. Periodically, flow is reversed to remove the debris. In ocean-water desalination, it is designed to remove particulate matter from seawater to allow the downstream reverse osmosis desalination process to efficiently remove dissolved salts. (.1 – 10 micrometers in size)

**outfall**--the place where a sewer, drain, or stream discharges; the outlet or structure through which reclaimed water or treated effluent is finally discharged to a receiving

**reclaimed wastewater**--treated wastewater that can be used for beneficial purposes, such as irrigating certain plants.

**recycled water**--water that is used more than one time before it passes back into the natural hydrologic system.

**reverse osmosis** - a filtration process that forces water through membranes that contain microscopic holes, removing microorganisms, organic chemicals and inorganic chemicals, producing very pure water.

**saline water**--water that contains significant amounts of dissolved solids.

Here are our parameters for saline water:

Fresh water - Less than 1,000 parts per million (ppm)

Slightly saline water - From 1,000 ppm to 3,000 ppm

Moderately saline water - From 3,000 ppm to 10,000 ppm

Highly saline water - From 10,000 ppm to 35,000 ppm

**water conservation:** the best tool for stretching water supplies without making unnecessary investments in infrastructure, shifting available water resources or negatively impacting the environment.

**water purification** – the process of removing undesirable chemicals, biological contaminants, and materials from water so that it becomes safe to use.

**water quality**--a term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose.