

Understanding Ground Water

By WellOwner.org

Fresh water is an increasingly precious resource around the world. As global leaders work to ensure that humans have safe and sufficient water to drink, to promote agriculture, and for other vital activities, the importance of understanding groundwater grows.

Groundwater is the water that soaks into the soil from rain or other precipitation and moves downward to fill cracks and other openings in beds of rocks and sand. It is, therefore, a renewable resource, although renewal rates vary greatly according to environmental conditions.

It also is an abundant natural resource. Of all the fresh water in the world (excluding polar ice caps), 95 percent is groundwater. Surface water (lakes and rivers) only make up three percent of our fresh water.

Groundwater is naturally filtered by the earth that holds it. It can, however, be contaminated by pollutants that come into contact with the earth's surface. Care should be taken at the household, local, national, and global levels to protect ground water from pollutants.

The Making of Groundwater

Water from precipitation follows three main paths:

1. Some water evaporates from the earth's surface into the air or is breathed out by vegetation and returns to the earth's atmosphere. Some water runs off into streams, lakes, or oceans.
2. Some infiltrates into the ground. There, it follows various flow paths and can travel to the surface as springs, move into surface water, or recharge ground water deeper in the earth.
3. Groundwater can move into large underground natural storage areas known as aquifers and/or artesian wells.

See more information on the hydrologic cycle.

As groundwater moves through the ground, it dissolves some of the minerals that it comes in contact with. Those dissolved minerals give ground water its chemical character or quality. In many cultures throughout the world, that specific character is appreciated by thirsty consumers as much as the taste and character of a favourite cola, beer, or wine. Many bottled waters come from groundwater reserves.

Groundwater and Private Water Wells

Frequently, private water wells tapping groundwater resources can provide the highest quality water available to homeowners and businesses. Deep drilled wells recharge themselves, and can provide a constant, steady supply of water that is not easily impacted by dry weather conditions.

Private water wells allow consumers to take more control of their water. Well owners can take steps to protect their groundwater from contaminants and can hire trained professionals to conduct regular maintenance checks and water quality tests.