DEQ Kids: Water Quality in Idaho

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

1410 North Hilton
Boise, ID 83706
208/373-0502

www.deq.state.id.us

Do you like swimming? Did you brush your teeth this morning? Have you turned on the faucet to get a drink this today? We must have water for all these activities and many more. In fact, animals, including people, and plants could not survive without water. Just think of your own body—it is nearly 75% water!

It's not enough just to have water available to us—we also need our water to be **clean**. Would you drink a glass of water if the water were dirty or discolored? Ugh! Dirty or polluted water can kill fish and other aquatic life and make animals sick if they drink it. Farmers can lose their crops if the water they use to irrigate is polluted.

Fortunately, Idaho has a vast and clean water supply. The Water Quality Division at the Idaho Department of Environmental Quality is responsible for ensuring that Idaho's water is clean and safe. To achieve this goal, DEQ works closely with citizens, communities, farmers, and businesses to monitor water supplies and systems and to protect the quality of our water.

Types of water—from the ground to the tap

Surface Water Surface water is the water we see everyday. It is the water found on the surface of the earth in lakes, streams, and the oceans. We use surface water for recreational purposes like boating and fishing. This water can very easily be polluted by sediment, litter, chemicals, or anything unnatural that may enter the water.

Ground Water Some water soaks into the ground where it moves through the soil and rock. Sometimes the rock becomes impermeable, and water can no longer move through it. The water then fills in every available space —in between pebbles, soils, in cracks in rocks—to form a saturated layer of rock, much like a wet sponge absorbs water in air pockets. This is called an aquifer, and the water that collects there is called ground water. In Idaho, the average daily consumption of ground water is 9 billion gallons—enough water to cover one square mile of land 43 feet deep. Irrigation consumes most of Idaho's water (60%). Industry consumes about 36%, while 4% of the water we consume is for drinking water.

Drinking Water The water we drink must be especially pure. This same water is used for bathing, cooking and household use. The average person uses 50 gallons of water a day! Two-thirds of the drinking water in the United States comes from surface waters located near cities. The other third comes from ground water that is pumped from a well. Most of Idaho's drinking water (96%) comes from ground water aquifers and is pumped to the surface by wells.

Wastewater Wastewater is created in many different ways. At home, after water is used to fill our pools, wash our dishes or clean our clothes, it goes down the drain and becomes wastewater. Wastewater is also created by industries that use water to make their products. Before wastewater can be returned to the environment, it must be treated and cleaned at a wastewater facility. These facilities make the water safe for the environment once again by filtering it to remove pollutants. When the water is discharged, it is safe for fish, plants and people.

Water quality laws

Because clean water is essential to life, many laws have been enacted to govern its use and quality. For example, some laws control where water may be taken from and the quantity of water that may be used. Other laws limit on the amount of pollutants that can be discharged into water. DEQ works with the federal government and local communities to enforce laws to protect water quality.

How water quality is measured

Pure water is hydrogen and oxygen, yet most water found on earth has some minerals and chemicals in it. Some minerals in water occur naturally like salt in the ocean. Others are human-made. If the wrong chemicals get into water or too many minerals are found in water, they can pollute the water and cause it to become unhealthy. DEQ scientists evaluate water quality throughout Idaho. They measure the temperature of waters, the amount of water, and its chemical composition. They then create reports on water quality which are used to decide what needs to be done to preserve or improve water quality in waterways that have been polluted the past or could be affected in the future.

What can you do to help protect water quality?

One of the best things you can do for our water supply is to be a Water Conservationist. That means finding ways to use less water in your daily life. Here are some ways you and your family can conserve water:

Turn off the faucet!
Never let the water run while you are brushing your teeth. Letting the faucet run for two minutes wastes six gallons of water.

Take a shower.
Short showers use less water than tub baths. Also, turn off the water flow while soaping or shampooing.

Keep drinking water in the fridge.
Want a glass of cold water? Keep a pitcher of drinking water in the refrigerator to avoid having to let the water run until it gets cold.

Practice smart lawn care.
Water your lawn during the cool part of the day (early morning, late evening, or at night). Watering during the hot part of the day loses a lot of water through evaporation. Don't over-water. Too much water will force fertilizers and other lawn treatments down toward the ground water. While beneficial to lawns and plants, chemicals in ground water are considered pollutants.

Repair all leaks.
A leaky toilet can waste 200 gallons of water per day.

Idaho at Work: Total Maximum Daily Loads (TMDL)

Water bodies in Idaho are categorized according to their use. Some waters are used for recreation like swimming or boating, while others are used for drinking and others to support fish and wildlife.

Different waters can sustain different levels of pollution, depending upon how they are used. For example, the ocean has lots of salt. We can swim in it with out it hurting us. But, if we drink that same salty water we can get very sick.

TMDLs, or Total Maximum Daily Loads, set standards for water bodies so that they remain safe for the use or uses for which they are intended. TMDLs are developed by teams of DEQ scientists and people who live and work along the waterways. Each team works with community leaders to identify what and where pollution is entering a water body. The team then discusses how that pollution impacts the water body. The team may decide that the levels of minerals or other chemicals in the water are safe for its intended use. Or they may recommend a plan to reduce or limit certain minerals or pollutants to maintain or improve water quality. The TMDL process is an important way that Idaho protects its water supply.

For more information, visit these Web sites:

U.S. Environmental Protection Agency	www.epa.gov/kids/water.htm
U.S. Geological Service	www.groundwater.org/KidsCorner/activity.htm
	http://capp.water.usgs.gov/GIP/gw_gip/how_a.html