



United States
Environmental Protection
Agency

SOURCE WATER PROTECTION



IT'S IN OUR HANDS

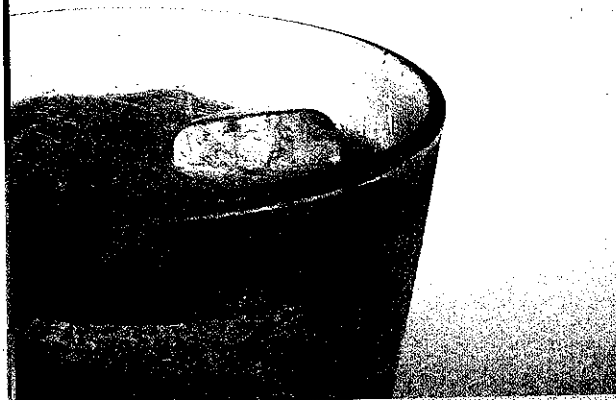
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"All the water that will ever be is right now."

— National Geographic, October 1993

Source water — the natural origin of the water we use on a daily basis — is limited to only one percent of all the world's water. There is no "new" water. Whether our source water is a stream, river, lake, spring or well, we are using the same water the dinosaurs used millions of years ago. Nearly 97 percent of the world's water is salty or otherwise undrinkable, and the other two percent is locked in ice caps and glaciers:

- If five gallons represented all the water in the world — 34 tablespoons would represent water that was not ocean;
- Of the 34 tablespoons, 26 tablespoons would represent ice caps and glaciers;
- The remaining 8 tablespoons would represent water we can use for agricultural, residential, manufacturing, community, and personal needs.



"We forget that the water cycle and the life cycle are one." — Jacques Cousteau

Water makes up almost two-thirds of the human body and 70 percent of the brain. The average daily requirement for water in the United States is about 341 billion gallons. We use one percent (3.4 billion gallons) in our homes and yards each day. On average, each of us uses almost 100 gallons of water a day.

including bathing, toiletry, cooking, cleaning, laundry and other non-drinking purposes. **Americans drink more than one billion glasses of tap water per day.** Protecting our sources of drinking water means protecting our health.

"Understanding the interaction of ground water and surface water is essential to water managers and water scientists. Management of one component of the hydrologic system, such as a stream or an aquifer, commonly is only partly effective ..." — USGS Circular 1139

The hydrologic cycle describes the continuous movement and exchange of water above, on, and below the Earth's surface. Water quality managers recognize that surface water and ground water are essentially one resource. Starting with precipitation, water usually moves through the subsurface before entering stream channels and flowing out of the watershed. The quality and quantity of one affects the other. This is problematic in the U.S., where much of the ground water contamination is in shallow aquifers that are directly connected to surface water.

What We, as Individuals Can Do to Protect Source Water

"When the well's dry, we know the worth of water." — Benjamin Franklin,

Poor Richard's Almanac, 1746

First and foremost, source water protection is in our hands. All of us must learn the facts about drinking water in our communities. Where does it come from? How is it delivered to us? How often is it tested? How does contaminated water affect our economy and public health? Here are some actions we can take:

- Read our water utility's annual water quality report
- Repair leaking faucets and toilets

- Support and volunteer for local water protection projects
- Be alert for suspicious activities at the sources, at the plant, in the distribution system
- Look for drainage wells and other potential sources of contamination in our neighborhoods



What Our Water Utilities Can Do

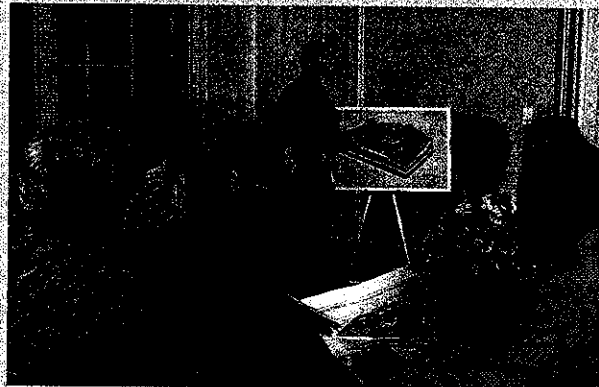
Water utilities are gatekeepers of public information and safety monitoring within our communities, and they offer some of the following expertise:

- Treat and distribute drinking water to diminish or avoid potential risks
- Advocate source water protection
- Provide annual drinking water quality (consumer confidence) reports
- Create opportunities for public participation, such as water board meetings and public forums
- Notify non-English speaking residents in their native language on important information
- Educate consumers about the risks posed by dangerous levels of contaminants in their drinking water, such as nitrates and lead
- Identify potential sources of contamination near water intakes

What Our Local Governments Can Do

Local governments are where the action is, because most contamination is local. One of the most important things they can do is to raise public awareness and involve consumers in promoting and practicing safe drinking water habits. They can also:

- Work with other communities in the watershed to protect and conserve source water
- Administer land use controls
- Restrict use and disposal of hazardous chemicals
- Conduct public information campaigns about water contamination
- Require operating standards for industrial and commercial activities
- Adopt local wellhead protection plans and maximum setback zone ordinances
- Restrict use of drainage wells
- Promote and support active public involvement in source protection
- Conduct ground water protection needs assessments
- Identify potential sources of contamination in the watershed



What Our State Governments Can Do

State governments carry out environmental protection programs:

- Assess the vulnerability of water resources for community water systems
- Establish ground and surface water quality standards and minimum setback zones for public and private water supply wells
- Provide technical and financial assistance to communities and utilities

- Conduct research
- Promote education about water standards and pollution
- Compile and maintain public records of environmental releases
- Identify and protect state ground water reserves as a natural and public resource
- Work with other states on cross-jurisdictional water issues
- Promote and support active public involvement in source protection
- Compile and make information readily available about the current level of susceptibility of source waters and the potential sources of contamination.



What the U.S. Environmental Protection Agency (EPA) Can Do

EPA carries out the Congressional mandate to protect drinking water (The Safe Drinking Water Act) in a number of ways:

- Develops national standards for drinking water quality
- Establishes a regulatory program to protect underground sources of drinking water
- Produces information on contaminants that can adversely affect human health and that may

occur in drinking water, but which EPA does not currently regulate in drinking water

- Partners with other federal agencies, like the USDA, USGS, and DOD to ensure that environmental quality issues are addressed in all programs within our federal government
- Distributes financial assistance sources (grants, loans, cost-sharing) available to fund a variety of watershed protection projects
- Compiles and maintains a public record that tracks the progress of our environmental protection efforts
- Monitors and rewards industries that make efforts to improve our environment through conservation and best management practices

"An ounce of prevention is worth a pound of cure" — Benjamin Franklin

Finally, many of our communities have found out that contamination and loss of water resources can cost millions of dollars:

- Long-term treatment and clean-up
- Emergency replacement water (with bottled water as an alternative source)
- Abandoning a contaminated drinking water source
- Finding and developing new supplies
- Engineering and consulting fees
- Litigation against utilities, local and state government, corporations
- Loss of property value or tax revenue
- Loss of revenue from boating and fishing
- Public health monitoring related costs from exposure to contaminated water
- Loss of production time for individuals and businesses
- Interruption of fire and other insurance protection
- Loss of economic development opportunities

"The way we live now will affect the state of the world in the future. The world I envision for you and your children is one where ... all people have ... clean, safe drinking water."

— Rosa Parks with Gregory J. Reed, *Dear Mrs. Parks*, 1996

For More Information

Contact: EPA's Safe Drinking Water Hotline at
1-800-426-4791 Visit www.epa.gov/safewater

Find the Catalog of Federal Funding Sources
for Watershed Protection at
www.epa.gov/watershedfunding

You may also contact:

U.S. Environmental Protection Agency
Office of Ground Water and Drinking Water
1200 Pennsylvania Avenue, NW (4606-M)
Washington, D.C. 20460



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