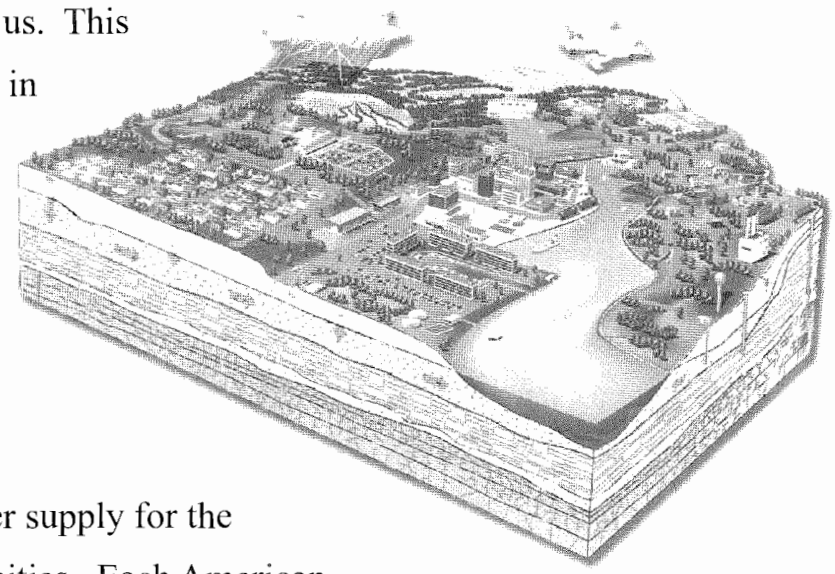
The Need To Protect America's Precious Resource
DRINKING WATER

If all existing water could be spread evenly over a smooth sphere the size of the Earth, it would cover the globe to a depth of almost two miles—but more than 97 percent of it is salty ocean water and unusable as a source of drinking water. Less than three percent is fresh water, and most of that is captured in ice caps and glaciers. That leaves less than one percent of all the water on Earth readily available to us. This precious and limited resource is stored in different bodies of water, including streams, rivers, lakes, reservoirs, wells, and springs. In America, we draw our drinking water from all of these sources.



We rely on a safe and abundant water supply for the health of our families and our communities. Each American household uses in excess of 94,000 gallons of fresh water a year. We drink an average of one billion glasses of tap water per day. We are an expanding population, and our need for more food, shelter, clothing, electricity, and recreation, places more demands on our water supply, or source water. The industries that produce these goods and services use billions of gallons of fresh water a day. As the number of households and businesses increase, so does the amount of natural resources that we consume and the amount of waste we produce. If we do not manage these activities effectively, what we do at home, at work, or at leisure, may contaminate the watershed and threaten the quality of our drinking water. What exactly are the threats?

> Each of us lives in a watershed. A watershed is the total land area and water bodies that drain into a single river or lake system, and/or is the source of groundwater recharge to the river or lake system.

THREATS TO THE QUALITY OF DRINKING WATER

We tend to worry about threats only after our water becomes contaminated. When drinking water becomes contaminated, one or more things may happen. You may not be able to drink your tap water for short periods of time. You may become ill and need to seek medical assistance. You may be required to pay more for your drinking water for additional treatment and monitoring. You may lose the resource altogether, making it necessary to find an alternate source.

How do contaminants get into our watersheds and drinking water? Below are some of the major threats that occur every year. The threat may be a byproduct of something that we do, or a natural condition or event. One or more may exist in your neighborhood or occur many miles away:

- Stormwater runoff is the single biggest threat to the health of our waterways. As this water washes over driveways, streets, and yards, it picks up nutrients, pollutants and litter and deposits them in surface waters or introduces them into ground water.

- We apply 67 million pounds of pesticides to lawns every year, some of which, leaches into ground water or pollutes rivers, lakes and streams.

- We produce more than 230 million tons of municipal solid waste annually—approximately 4.6 pounds of trash or garbage per person per day—that contains bacteria, nitrates, viruses, synthetic detergents, and household chemicals.

- We begin new construction that consumes more than two million acres of open space every year—increasing paved and impervious surfaces (roads, sidewalks, parking lots, driveways and roofs); these surfaces prevent rain and snow melt from soaking into the ground and returning to the water table; paved surfaces create more runoff, make runoff move faster and with greater force, and reduce infiltration to the ground water.

- Do-it-yourselfers drain about 220 million gallons of used oil from their cars, but less than 33 million gallons of this used oil is recycled.

- We drive more than 200 million passenger cars and light trucks almost 2 trillion miles every year that account for about 50 percent of air pollution nationwide, and produce acid rain that pollutes surface water and leaches into ground water.

- At least one-third of the U.S. population uses septic systems that discharge more than 1 trillion gallons of household wastewater containing bacteria, viruses, nitrates, drugs, and hormones, below the ground's surface directly or indirectly into ground water resources every year.

- Nearly half a million animal factory farms produce 130 times the amount of waste of the human population every year and are a potential source of bacteria, viruses, nitrates, and animal steroids.

- There are more than 12 million recreational and house boats and 10,000 boat marinas that may release pollutants such as solvents, gasoline, detergents and raw sewage directly into waterways.

MULTIPLE RISKS REQUIRE MULTIPLE BARRIERS

Because we know that the human activities and natural events have the potential to contaminate our drinking water, we have built four kinds of barriers to protect our drinking water—the Risk Prevention, Risk Management, Risk Monitoring & Compliance, and the Individual Action Barriers. The first three rely on government and treatment plant activities and the support of the public, for the most part. The Individual Action Barrier relies on us—what each of us does at home and in our communities. The four barriers are explained in the following table.

Type of Barrier	Purpose and Benefits of Barrier
Risk Prevention Barrier	• Protection of Drinking Water Sources: Drinking water is only as safe as its source. While water suppliers can treat water to remove contaminants, it is more cost effective and everyone is better off if we prevent the contaminants from entering the water in the first place. Prevention keeps water treatment costs low and avoids expensive source water clean-up costs. • Federal, tribal, state, and local governments provide laws and regulations, and voluntary programs for your community to prevent the potential threats from getting into your source of drinking water. Find out what they are and how well they are working. • Your state has completed, or is in the process of conducting an assessment of the potential threats to your source water. Is your community moving toward prevention by taking action against the potential threats that have been identified?
Risk Management Barrier	Treatment and System Operation: When contaminants do get into the watershed and your source water, the water treatment plant is the first line of defense. Treatment is only as effective as the operator and the facility. The treatment plant collects, treats, tests, and distributes water, hires trained and qualified operators, alerts your community to water problems, and carries out an emergency response plan in case of a natural disaster, vandalism or terrorist attack.
Risk Monitoring & Compliance Barrier	Detecting and Fixing Problems: Federal law (the Safe Drinking Water Act) has established a series of checkpoints for monitoring water quality and detecting and solving problems before water reaches your tap. The first checkpoint is your water system that monitors water quality before and after treatment, and in the distribution system. The system reports its findings and activities to the state. The next checkpoint is your state's Public Water Supply System program that monitors the operations of all its water systems and reports to the U.S. Environmental Protection Agency (EPA). At this checkpoint, the EPA evaluates all state and tribal programs and reports to Congress. And Congress reports to you.
Individual Action Barrier	Consumer Awareness and Participation: Contamination occurs at the local level and can best be prevented at the local level. The more that you know about drinking water, the better equipped you are to help protect it. Be informed! Be observant! Be involved! Don't contaminate! Read the next section, titled, "What You Can Do to Protect Your Drinking Water."

WHAT YOU CAN DO TO PROTECT YOUR DRINKING WATER

Be Informed

- Read the annual Consumer Confidence Report provided by your public water system, sometimes referred to as a Water Quality Report.
- Use information from your state's Source Water Assessment to learn about potential threats to your water source. Has your state identified all shallow disposal wells?
- Does your state have total maximum daily loads for those contaminants that may pose risks to drinking water?
- Find out whether Clean Water Act water quality standards for your drinking water source are intended to protect water for drinking, in addition to fishing and swimming.
- If you are one of the 15 percent of Americans who have their own sources of drinking water, such as wells, cisterns, and springs, you are responsible for protecting your water supply. Find out what activities are taking place in your watershed that may impact your drinking water; talk with local experts, test your water periodically, maintain your well, close it properly.

Be Observant

- Look around your watershed and be alert to announcements in the local media for activities that may pollute your source water.
- If you see any suspicious activities in or around your water supply, please notify the local authorities or call 9-1-1 immediately and report the incident.

Be Involved

- Attend public hearings on new construction, storm water permitting, and town planning.
- Keep your public officials accountable.
- Ask to see their environmental impact statement.
- Ask questions on any issue that may impact your water source. What specific plans have been made to prevent the contamination of your water source? Notices about hearings often appear in the newspaper or in government office buildings.
- Participate with your state, or tribal and water system as they make funding decisions.
- Volunteer or help recruit volunteers: participate in your community's contaminant monitoring activities, and encourage testing water upstream of your drinking water supply.
- Help ensure that local utilities that protect your water have adequate resources to do their job.

Don't Contaminate

- Reduce paved areas: Use permeable surfaces that allow rain to soak in, not run off, like wood, brick and gravel for decks, patios and walkways.
- Reduce or eliminate pesticide application: Test your soil before applying chemicals, and design your lawn and garden with hardy plants that require little or no watering, fertilizers or pesticides.
- Reduce the amount of trash you create: Reuse containers, recycle plastics, aluminum, and glass.
- Recycle used oil: A single quart of motor oil can contaminate up to 2 million gallons of drinking water; take used oil or antifreeze to a service station or recycling center.
- Take the bus instead of your car one day a week: On average, you will prevent 33 pounds of carbon dioxide emissions per day.
- Be careful what you put into your septic system: Harmful chemicals may end up in your drinking water.
- Keep pollutants away from boat marinas and the waterways: Keep boat motors well-tuned to prevent fuel and lubricant leaks; select nontoxic cleaning products and use a drop cloth, and clean and maintain boats away from the water.

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