

THE UNIVERSITY OF TENNESSEE
AGRICULTURAL EXTENSION SERVICE

WATER QUALITY AND YOU

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Water supports our existence. It is essential for our health, our industry, our commerce and our agriculture. We are completely dependent on good quality water.

Tennessee is a water-rich state. On the average we receive about 50 inches of precipitation a year. The state contains 34 major reservoirs, 19,000 miles of cold and warm water streams and thousands of smaller lakes and ponds. In addition, parts of Tennessee are underlain by large and productive groundwater aquifers.

In spite of this abundance we face critical challenges. Our water resources are vulnerable to contamination, which can make them useless.

Pollution: The Challenge

Contaminants come from many sources. Some occur naturally but many stem from our everyday activities.

Scientists classify pollutants as point source and nonpoint source (often called NPS pollution). You may have read these terms in newspapers or heard them in news reports.

A point source is a confined and discrete conveyance which discharges a pollutant. For example, a ditch or pipe carrying pollutants which empties into a river is a point source of water pollution. A nonpoint source, in contrast, does not come from a discrete point or conveyance. For example, rain running over a field carrying eroded soil and chemicals to a river is a nonpoint source of water pollution.

During the 1970s a number of comprehensive actions to restore and maintain water quality were initiated. Efforts were first directed at point sources of pollution. While some point source pollution problems still remain, these efforts have been fairly successful. However, the overall quality of the nation's water resources remains a problem. Further improvements in water quality must be made by reducing NPS pollution.

NPS Pollutants

NPS pollutants are more difficult to control because they don't come from a discrete, identifiable point. Also, NPS pollution results from many of our daily activities. In fact, we often cause it without being aware of what we're doing.

The major NPS pollutants and their sources are:

- * Sediment from improperly managed construction sites, farm and forest lands, road cuts and eroding stream banks.
- * Nitrogen and other nutrients from agricultural lands, forests, residential areas, septic systems, golf courses and other public lands.
- * Bacteria from livestock and pet wastes, wildlife and faulty septic and sewage systems.
- * Salt from irrigation, highway treatment and acid drainage from mine sites.
- * Pesticides from farms, forests, residential areas, parks and other public lands.
- * Oil, grease and toxic chemicals from urban runoff, energy production and improper disposal of used motor oil.

Controlling Pollutants

As you can see from this list, there is a direct connection between our everyday lives, our land use practices and water contamination. By the same token, we can also take action to protect and improve water quality. Things we can do that will make a difference include:

At Home

- * Apply lawn and garden fertilizers and pesticides only when needed and according to directions.
- * Dispose of used motor oil, antifreeze, paint and other household chemicals properly.
- * Keep motor oil, grease, antifreeze, litter, pet waste and debris out of storm drains and gutters. These often empty directly into streams, lakes or other water bodies.
- * Control soil erosion on your property with practices like planting ground covers and stabilizing critical areas.
- * Maintain your septic system. Have sludge removed regularly.

On the Farm

- * Reduce soil erosion by using recommended best management practices.

- * Establish and maintain filter strips on field edges along streams or drainage ways.
- * Apply fertilizers according to soil tests using best management practices.
- * Manage animal wastes properly.
- * Protect critical areas like sinkholes, wellheads and groundwater recharge areas.
- * Apply pesticides only when needed using recommended practices.
- * Dispose of pesticide containers, tank rinsate and excess materials using approved procedures.
- * Maintain fuel storage tanks to prevent leaks and spills.

In Your Community

- * Support local efforts to control NPS pollution.
- * Encourage local government officials to develop erosion and sediment control methods for construction and other activities.
- * Work with your neighbors to establish recycling programs.
- * Encourage protection of critical areas on public lands like sinkholes, wellheads and stream banks.
- * Get involved. Voice your concerns.

Be A Water Quality Volunteer

Tennessee has a long, proud history as the Volunteer State. Voluntary control of pollutants is less costly and more productive than government regulations and enforcement. No attempt to protect and improve water quality can be successful without the commitment of each one of us.

Become a volunteer for water quality. It's in the best interest of every Tennessean. Your efforts will make a difference.

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