

Clean Water and Agriculture

A little over 30 years ago, our nation was facing an environmental crisis. Garbage floated in our lakes and streams, dead fish washed up on our shores, and rivers actually caught fire. Swimming beaches were closed and public water supplies were declared unfit for human consumption. By the early 1970s, public awareness regarding the quality of our water resources reached an all-time high, and people demanded action. The government responded.

On October 18, 1972, Congress passed the Federal Water Pollution Control Act Amendments, better known as the Clean Water Act. It set the goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Although government agencies had been attempting to respond to water quality problems before the act's passage, they lacked the direction provided by a law that took into account the social, legal, economic, and environmental factors associated with water management.

For 30 years, USDA and many other federal departments and agencies have been working under the Clean Water Act to protect our most important natural resource, and we have achieved some measurable successes. Lakes that were once declared "dead" have been resurrected and once again support fish and other aquatic populations. Rivers that once caught fire are now free of large amounts of flammable pollutants. Almost all drinking water meets the minimal criteria for health and safety, and sewage and industrial waste from municipal and industrial sources are now being monitored and controlled.

During the past 30 years, USDA has focused specifically on helping farmers and other agricultural interests protect water resources on and off the farm. The establishment of the USDA Water Quality Initiative in 1989 helped the various USDA agencies coordinate their efforts to protect and restore water from contamination by agricultural pollutants. The Agricultural Research Service has been in a prime position for contributing to this effort because of the broad geographic coverage of our research facilities and watersheds, which are strategically located throughout the United States.

ARS scientists have found ways to reduce pollution by modifying or combining chemical application rates, tillage systems, irrigation techniques, both natural and manmade drainage, and wetland restoration. We have helped devise computer modeling systems that inform users of how to provide optimal water to their crops while minimizing the amount of pesticides and fertilizers that move into groundwater or off-farm surface waters. We have worked with other USDA agencies to teach farmers, ranchers, and foresters how to put these improved agrichemical, waste-management, and agricultural production practices to good use.

But even with these improvements, much remains to be done. Pollution from diffuse rural and urban sources—so-called nonpoint source pollution—continues to threaten water quality.

New environmental regulations, such as the Environmental Protection Agency's proposed total maximum daily load requirements, present additional challenges that farmers must meet.

Burning rivers and raw sewage no longer dominate nightly news stories, but the public has become acquainted with new menaces: *Cryptosporidium*, hypoxia, and *Pfiesteria*. Increasingly, the media and public are shifting their focus from industrial plants and waste facilities to what has been deemed a more subtle, yet still harmful, environmental threat—agriculture.

The public needs to be reassured. They need to understand that USDA is committed to maintaining the efficiency and productivity of American agriculture without compromising the quality of our water resources or the safety of our environment. USDA is co-sponsoring several forums and conferences to commemorate the 30th anniversary of the Clean Water Act, which is this month. For more information on these activities, visit the web site at <http://www.yearofcleanwater.org>.

We must continue looking at new ways of planting, tilling, grazing, fertilizing, draining, and irrigating the land. We need to better understand and use nature's tools, such as wetlands, riparian areas, stream corridors, and small watershed structures. Doing so will help us build on our past environmental successes and continue them into the future. We must also listen to our constituents and respond to new and emerging environmental concerns. And we must remain open to collaboration with other federal, state, tribal, and nongovernment agencies.

Finally, we need to design and adopt a "diversified portfolio" approach to conservation policies. Currently, 92 cents of every dollar spent on conservation payments to farmers is for their retiring environmentally sensitive land from production. But many emerging environmental problems can be addressed only by changing management practices on agricultural land that is in use.

The recently enacted Farm Security and Rural Investment Act of 2002 supports a continued policy of land retirement, but it also includes a portfolio of stewardship incentives, conservation compliance requirements, and regulatory assistance. It outlines a program of environmental quality incentives that promotes agricultural production and environmental quality as compatible goals. By placing a strong emphasis on the conservation of working lands, we ensure the land remains both healthy and productive. ARS, in close collaboration with the Natural Resources Conservation Service; Cooperative State Research, Education, and Extension Service; Farm Service Agency; and others, is poised to provide the research that will keep our farms bountiful and our waters and land clean.

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