Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY
West Virginia

North Fork Potomac Watershed Farmers Improve Water Quality

Waterbody Improved

The North Fork of the South Branch of the Potomac River is a scenic trout stream in the headwaters of the Potomac River in northeastern West Virginia. Water in the North Fork had high levels of fecal coliform bacteria, primarily from agricultural runoff from beef and poultry farms. Over 85 percent of farmers in the watershed worked together to construct animal waste storage facilities, establish riparian buffers, and implement a range of other best management practices (BMPs) at the farms. As a result, the stream now meets its designated use and is no longer impaired by fecal coliform bacteria.

Problem

In the early 1990s signs of poor animal waste management practices became evident in the North Fork Potomac watershed. Algae blooms appeared in streams, and high bacteria counts were common. These changes corresponded to a significant increase in the poultry industry. Between 1993 and 1996 alone, the number of poultry farms doubled. A U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) study found that farmers were improperly storing litter from chicken houses and overapplying manure to fertilize their soils. A test program by the U.S. Geological Survey (USGS) confirmed that several streams were being polluted by fecal bacteria and also found that the highest levels of pollution were in areas with the highest number of feedlots and poultry houses. In 1996 several streams of the South Branch watershed, including the North Fork, were listed on West Virginia's 303(d) list for impairments due to fecal coliform bacteria, and it was determined that a 36 percent reduction from agricultural land was necessary in the North Fork watershed for the stream to achieve water quality standards.

Project Highlights

Cleanup activities first began in the watershed in 1993 when it became a part of the USDA Water Quality Initiative to address water pollution from farms. Section 319 grants supported the funding of Conservation Agency staff for the Initiative, and NRCS supported a number of projects in the watershed throughout the 1990s and in 1998 began working with the North Fork Watershed Association to develop a watershed management plan that identified practices to lessen damage from flooding and improve water quality.

Before
An animal feedlot that allowed runoff of contaminants into the nearby stream.

After
A new animal feedlot that is covered and has a concrete pad and adequate buffer has been installed.

Since then, a range of BMPs have been established to help control runoff from feedlots and eliminate or reduce cattle access to the streams. To keep cattle out of the streams, farmers installed streambank fencing and developed alternative livestock watering facilities. Farmers also constructed roofs over feeding areas, as well as new animal waste storage facilities to provide shelter and prevent runoff. Other efforts focused on streambank restoration through stabilizing critically eroding areas and

planting vegetation along the stream banks. In addition to supporting the implementation of many of these activities, section 319 grants funded a project coordinator for the West Virginia Conservation Agency, who conducted outreach activities and leveraged support from partners, which was critical to the overall success of the project.

Several other major initiatives in the watershed also contributed significantly to nutrient reductions. One is a nutrient management initiative funded by special USDA appropriations between 1993 and 2001. As a result of technical support, including soil testing, litter/manure analysis, and manure spreader calibration, nutrient management plans were developed for all poultry and most of the livestock farms in the watershed, which have helped to prevent over-application of manure and commercial fertilizers to crop and pasture land.

Initiatives focusing on poultry litter are also contributing to nutrient reductions in the watershed. Several actions have focused on transporting excess poultry litter either outside the region or to other farms that could utilize the litter as fertilizer to help prevent over-application. A poultry litter composting project also demonstrated how the production of high-quality, value-added compost from poultry waste can make it more valuable to outside markets.

Results

As a result of the combined efforts of the agricultural community, with over 85 percent of the farmers implementing BMPs, thousands of tons of poultry litter and cow manure are now being properly managed. Water quality monitoring shows significant declines in fecal coliform levels in the North Fork. As a result, the stream now meets its designated use and is no longer impaired by fecal coliform bacteria.

Partners and Funding

Twenty organizations worked together to improve the water quality in the North Fork Potomac watershed. In addition to individual farmers and landowners, partners included the North Fork Watershed Association; Pilgrim's Pride/Wampler-Longacre Foods; Potomac Headwaters Resource Conservation and Development Council; Potomac Valley Conservation District; Trout Unlimited; USDA's NRCS and Farm Service Agency; EPA; USGS; state agencies and departments of Conservation, Agriculture, Highways, Environmental Protection, and Forestry; West Virginia Farm Bureau; West Virginia Poultry Water Quality Advisory Committee; West Virginia Poultry Association; West Virginia University College of Agriculture and Forestry; and West Virginia University Extension Service.

Almost $1 million in section 319 funding supported a range of best management practices, as well as outreach and educational programs in the watershed. USDA contributed almost $550,000 to improve management practices, with the state providing additional funds. Other funding sources included a $250,000 appropriation from the West Virginia legislature to support initial project activities; Clean Water Act State Revolving Funds (as a source of low-interest loans to finance BMPs); and $45,000 from the Governor's office and a $30,000 grant from Wampler Foods to support the poultry litter transfer program.

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