

Nutrient Reduction

In the Chesapeake Bay

Pennsylvania's Conservation Districts: Working with the Agricultural Community to Reduce Nutrient Levels in the Chesapeake Bay

Pilot Project in Dauphin County shows Nitrogen Credits = Dollars for Farmers

A number of Pennsylvania's conservation districts, including Dauphin County Conservation District, participated in Pennsylvania Department of Environmental Protection (PA DEP) Nutrient Trading grants. The purpose of the grants was to reduce the amount of nutrients and sediment reaching streams in the Chesapeake Bay Watershed by installing Best Management Practices (BMPs), thus generating nutrient reduction credits which can then be offered for sale. Nutrient Trading is a voluntary, market-driven program that helps to identify and finance the most cost-effective solutions to reduce nutrient loads in a watershed. The program allows one nutrient generating source (i.e. wastewater treatment plant) to meet reduction goals (be in compliance) by acquiring nutrient reduction credits from another source (i.e. farming operation or another wastewater treatment plant).



Credits are generated when a source reduces its nutrient loads to a greater extent than is required. For example, to generate reduction credits, a nonpoint source must first ensure that it is meeting baseline compliance, and then that it is meeting minimum requirements referred to as "threshold". The installation of BMPs, which are above these baseline and "threshold" requirements, can then generate credits. Credits can be generated and traded within the same watershed (i.e.



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PROJECT FACTS

Project:

Dauphin County
Nutrient Credit Generation

Anticipated Results:

Reduced nutrient load in the Chesapeake Bay through installation of Agricultural BMPs.

Project Impacts:

- 2 stream crossings
- 2,500 feet of stream bank fencing
- 2.4 acres of riparian forest buffer
- 1 manure storage/compost facility

Credits Generated:

3,463 nitrogen and 183 phosphorus credits available for 10 years.

Background:

The U.S. Environmental Protection Agency (US EPA) has mandated that the water quality of the Chesapeake Bay must be significantly improved by 2010. US EPA's remediation efforts focus on the Susquehanna and Potomac watersheds, which contribute the highest nutrient loads to the Chesapeake Bay and create impairment of its water quality. Pennsylvania's Chesapeake Bay Tributary Strategy provides the framework to develop new and innovative programs, such as Nutrient Trading, that will be needed as the state strives to meet these 2010 goals.

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Susquehanna or Potomac), are expressed as pounds/year, and have a shelf life of one year (October – September) which can be renewed if the activity continues. Credits must be certified, verified and registered if being used to meet reduction goals (be in compliance) of another nutrient generating source. These credits have a monetary value that may be paid to the farmer. Farm operations are evaluated for existing nutrient credits and are then provided with technical assistance and funding to install BMPs that reduce nitrogen, phosphorus, and sediment discharges to generate credits.

Project:

Dauphin County Conservation District (DCCD) chose to promote and fund long-term nutrient trading credits. To spawn interest, the DCCD first generated a nutrient trading program newsletter, which was sent to every farm operation within Dauphin County intended to announce the program and explain how area



farmers could participate. Additionally, news releases were sent to local media and personal farm visits were made. As a result, 32 farmers expressed interest in the program and three were chosen to participate. These three farmer operations installed BMPs intended to generate long term nutrient trading credits for ten years or more.

Results:

Collectively, the BMPs installed to generate nutrient trading credits in Dauphin County included:

- 2 stream crossings
- 2,500 feet of streambank fencing
- 2.4 acres of Riparian forests buffer
- a manure storage/compost facility.

Streambank fencing proved to be the lowest cost per credit BMP within the project.

A total of 3,463 nitrogen credits and 183 phosphorus credits were certified.

The Dauphin County Conservation District project confirmed that long term nutrient trading credits can be generated cost-effectively if the BMP is carefully chosen.



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For more information on nutrient reduction strategies, please contact your local conservation district (visit <http://pacd.org/your-district/find-your-district/>). Funding for the Nutrient Trading Program is provided through a grant with the Pennsylvania Department of Environmental Protection.