

# 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 Berks County shows Nitrogen Credits = Dollars for Farmers

A number of Pennsylvania's conservation districts, including Berks 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. Susquehanna or Potomac), are expressed as pounds/year, and have a shelf life of one



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### PROJECT FACTS

#### Project:

Berks County  
Nutrient Credit Generation

#### Anticipated Results:

Reduced nutrient load in the Chesapeake Bay.

#### Project Impacts:

- 23 farm operators planted 1,086 acres winter cover crops and 964 acres of no-till crops, resulting in 8,703 nitrogen credits
- Installation of 4,759 feet of perimeter fencing, 4,361 feet of stream bank fencing, 815 feet of grassed waterway fencing, and 2 cattle crossings.

#### Background:

The United States Environmental Protection Agency (US EPA) has mandated that the water quality of the Chesapeake Bay be significantly improved by 2010. US EPA remediation efforts focus on the Susquehanna and Potomac watersheds, which contribute the highest nutrient loads.

Pennsylvania's Chesapeake Bay Tributary Strategy provides the framework to develop innovative programs, such as Nutrient Trading, that will be needed to meet these goals.

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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:**

Berks County Conservation District successfully accomplished a no-till/winter cover crop program over a two year period to generate nutrient trading credits. Recognizing that a year-round stand of vegetation on crop fields would reduce nutrient runoff into waterways contributing to the Chesapeake Bay Watershed,



the conservation district promoted planting cover crops in the fall and using no-till practices to plant crops in the spring.

After advertising the new program in local media, the

conservation district chose farm operators who had not historically planted cover crops. Six farmers participated and collectively planted 160 acres of winter cover crops in the fall and followed up with over 100 acres of no-till planting in the spring. These practices generated 2,056 nitrogen credits.

Berks County Conservation District opened the second year program by allowing any operator to participate, regardless of past cover crop usage. Seventeen farm operators enrolled in the program and planted 926 acres of winter crops in the fall and 864 acres of no-till planting in the spring of the following year generating 8,900 nitrogen credits.

#### **Results:**

The Berks County Conservation District project demonstrated that protecting bare soils during the non-growing season is one of the most efficient and cost-effective ways of reducing nutrient losses from agricultural crop lands. A large number of nutrient trading credits were generated by implementing these BMPs, significantly reducing nutrients entering the Chesapeake Bay Watershed.



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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.*