

NUTRIENT TRADING IN THE CHESAPEAKE BAY WATERSHED

WHAT IS YOUR ROLE AS A CONSERVATION DISTRICT?

Conservation districts have the unique opportunity to work with the local agricultural community in nutrient credit generation. Conservation districts can deliver technical assistance to landowners by providing education and outreach, planning Best Management Practices (BMPs), completing credit calculations, assisting with proposal submissions to the PA Department of Environmental Protection (DEP), acting as a verifier, an aggregator or broker for credits.

What is Nutrient Trading?

Nutrient trading is a market-driven program where generators (either point-source or non-point source) can reduce the nutrient loading to the watershed more cost-effectively than the buyers (mainly point-sources). Credits are generated when a source reduces nutrient loadings to a greater extent than is required. For instance, a non-point source such as a farm can implement BMPs to decrease its nutrient loading and can sell credits to a point-source such as a wastewater treatment plant (WWTP) at a lower price than the cost of plant upgrades through capital improvements and technology. The end result is improved water quality in local waterways and the Chesapeake Bay.

How can a conservation district help a credit generator (non-point source) get started?

All farms are regulated to some degree according to the size of the farm and the commodities/livestock grown on the farm. All farms are required to have a Conservation Plan (Agriculture Erosion and Sedimentation Plan) and a Manure Management Plan. Some farms are regulated at the state level to include compliance with the Act 38 Nutrient Management Plan. Some farms are also regulated by the federal government, including compliance with Chapter 92 (CAFOs) of the Clean Water Act.

The first step to generate nutrient trading credits is that the farm meets all regulatory requirements to meet baseline compliance. In order to meet this requirement, the conservation district could be involved in writing plans to implement BMPs.

What other requirements are necessary to generate credits?

The PA DEP developed “threshold requirements”, which is a step above baseline compliance. These threshold requirements must be met before the non-point source can generate credits for excess reduction of nutrient loading. The threshold requirements are as follows:

- 100 foot setback
 - Manure is not applied within 100 feet of surface water;
 - commercial fertilizer can be applied at or below PSU recommended rates;OR
- 35 foot buffer
 - A minimum of 35 feet of permanent vegetation is established between the field and surface water;OR
- 20% Reduction of Nutrient Loading
 - A reduction of 20% in the overall nutrient balance beyond baseline compliance.

How can a conservation district assist the farmer with BMP Implementation?

The conservation district can work with the farm in implementation of BMPs listed in the farm's Conservation Plan. This includes an inventory and evaluation survey(s), design, construction checks, operation and maintenance (O&M) and possible cost-share or cost-incentive assistance. Conservation districts can also assist farmers in calculating the number of credits that could be generated after baseline, threshold, and BMP implementation is accomplished.

Pennsylvania DEP has approved methods of calculating nutrient load reductions. One credit is equal to one pound reduction of nitrogen, phosphorus, or sediment. Excel spreadsheets for nitrogen and phosphorus calculations are available on the DEP website. Also, NutrientNet, the online tool is available via <http://nutrientnet.org> for calculation assistance. In addition to the calculation of pounds, the edge of segment factor, delivery ratio, and reserve ratio must be applied for quantification of results. The outcome of these calculations will determine the total credits available to sell.

More information can be found at <http://www.dep.state.pa.us/river/Nutrient%20Trading.htm>

What does a credit generator have to submit to DEP?

A credit generator must submit an application to the PA DEP for certification and approval of all credits. On behalf of the farmer, the conservation district could submit the nutrient trading proposal to DEP for certification. PA DEP will then publish public notice in the Pennsylvania Bulletin of receipt of proposals for credit generation, approvals, and registrations. This proposal submission is very similar to submission of Act 38 Nutrient Management Plans.

Can conservation districts validate, aggregate, and broker nutrient credits?

There are three different ways a conservation district can be involved in the buying and selling of nutrient credits.

- First, the conservation district could act as a third-party verifier, involved in the calculation and validation of nutrient reduction loads, and perhaps the submission of the proposal to the DEP. The farmer would be responsible for selling the credits.
- Second, a conservation districts could act as an aggregator validating the credits for several farms and grouping these credits into one proposal to be submitted to DEP. The farmers would be responsible for selling the credits.
- Or, the third option is that a conservation district could also act as a broker, validating the credits, submitting the trading proposal, and implementing the sale of the credits. This could either be a sale to an exchange such as PENNVEST or a sale to individual or multiple buyers.