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Water Pollutant Trading Program: Seeds of a New Water-Quality Regime

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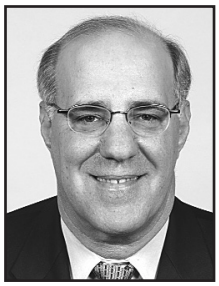
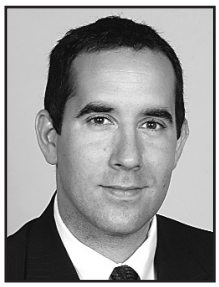
Special to the Legal

On Oct. 1, the Pennsylvania Department of Environmental Protection (PADEP) issued the *Nutrient and Sediment Reduction Credit Trading Interim Final Policy and Guidelines* that were formulated to help PADEP reach short term goals related to its Chesapeake Bay Tributary Strategy and long-term goals of addressing the impairment of existing waterways; producing positive water quality effects locally and downstream; and enhancing aquatic habitats and protecting natural resources.

The trading policy outlines the initial nutrient- and sediment-trading program for the Chesapeake Bay watershed in Pennsylvania but all indications are that the trading policy is being viewed as a platform for a broader trading program. Understanding the features of the trading policy will provide a meaningful perspective on water quality trading programs more generally.

Trading involves two basic steps: setting a goal for the total amount of a pollutant (in this case, nutrients) that enters waters in a watershed, and allowing sources to trade in ways that meet local and watershed-wide water quality goals. Once pollutant allowances are allocated, sources with low-cost pollution reduction options have an incentive to reduce pollutant loadings beyond what is otherwise required and to sell the excess credits to sources with higher control costs. Through a series of trades, pollution reduction efforts can be re-allocated to the sources that have the lowest-cost opportunities to reduce pollution. This flexibility is intended to reduce the total cost of improving water quality and provide financial incentives to achieve further reductions.





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According to the trading policy, pollutant reductions for trading purposes will be calculated within a defined watershed. For example, trading of nutrient and sediment credits is intended to occur within the Pennsylvania portion of the Chesapeake Bay watershed and more specifically the Susquehanna and Potomac watersheds. The trading policy defines the process for the creation and trading of nutrient and/or sediment reduction credits. It requires "like-to-like" trades that can be made between the following parties:

- Point sources such as wastewater treatment plants,
- Nonpoint sources such as agriculture activities and farms,
- Third parties such as developers, or
- Any combination of the above.

The trading process involves a number of important steps. These steps include the determination if a threshold of eligibility has been reached and the determination whether there is a need for credits or if credits have been generated. PADEP will determine the thresholds of eligibility or the baseline from which pollution credits are generated. Credits may be created when actual environmental performance levels achieve pollutant reductions in excess of those required by state or local regulations.

In calculating trade credits for point sources (i.e., wastewater treatment plants), this process involves a comparison of projected loads with loads assigned in a source's discharge permit. PADEP plans to issue annual mass pollutant loading limits in addition to a three year compliance schedule to all permitted wastewater treatment plants that discharge to a tributary of the Chesapeake Bay. This is designed to ensure that nutrient reduction goals are met by 2010. The point source then calculates the number of credits it needs or those that have been generated. Calculating credits for point sources involves the use of monitoring methods specified in the point source discharge permit.

For nonpoint sources (i.e., farms), this process involves the maintenance of an approved and implemented nutrient management budget and the presence of specific on-site best management practices (BMPs). Reduction credits would be for activities

beyond the specified requirements. If the nonpoint source wants to go above and beyond compliance, BMPs may be utilized to generate credits.

PADEP is interested in promoting the use of credit generation by the use of BMPs such as forested riparian buffers, cover crops and advanced nutrient management practices. The calculation of credits is generated using the total amount of pounds reduced from the land when a BMP is installed. In order to calculate the credits, the farm owners or other sources must define the excess reductions its activities will generate.

The process of calculating nonpoint source credits must also take into account the notion of trading ratios. Unlike point sources, there is no precise way to quantify the reduction achieved from a stream side buffer or similar BMP. There are four types of trading ratios that may be used when calculating credits: uncertainty, delivery, retirement and special needs. Uncertainty ratios are used to account for variation in the expected reliability and efficiency of the source or type of reduction being applied and to offer a margin of safety. Delivery ratios apply discounts factors to account for a pollutants travel over land or water. This generally accounts for attenuation of the pollutant and works to equalize the trade between a source at headwaters versus a source near the mainstream.

Retirement ratios apply to policy driven program decisions that require buyers or sellers to donate part or all credit purchases or sales to the state. These retirement ratios may increase over the life of the trading program. Special needs ratios account for issues not addressed in other trading ratios and may include areas needing additional protection. In sum, projecting pollutant reduction credits from non-point sources can become quite complex.

Once credits are generated by point or nonpoint sources, the process of finding a trading partner may take several paths including: independently finding a trading partner and negotiating a trade to be approved by PADEP, contacting your PADEP permit writer to help facilitate a trade, contacting a PADEP approved entity (i.e., conservation district) for a list of nonpoint sources that have expressed a willingness to implement BMPs to generate excess credits, or visiting the PADEP approved website to view what sources have posted interest in purchasing credits or selling generated credits. Initially, PADEP will maintain a database of credits generated and traded under the trading policy.

As the trade process develops, a contract for the trade of credits needs to be negotiated using the model agreement developed by PADEP. Once a contract has been established, the credits are to be registered on the future PADEP approved Web site for proper tracking. This will also enable PADEP to monitor and audit the performance of the program and its effectiveness in the reduction of nutrients and sediment pollution into the Chesapeake Bay watershed.

A combination of recordkeeping, monitoring, reporting, inspections and compliance audits will be conducted frequently to ensure that projected reduction credits are achieved. At a minimum, PADEP expects that all land-based or nonpoint source credits generated will be monitored by one or a more of the following:

- Site inspections,
- Annual on-site assessments by qualified inspectors to ensure proper functionality,
- Annual credit account balancing analyses, and
- Development and implementation of maintenance plans.

PADEP has shown considerable enthusiasm for a market-based trading program and recently announced its intention to seek guidance from Wall Street experts about structuring and running a trading program. While only time will tell if the trading policy will be effective, PADEP's initiative is a positive step forward in adding a potentially flexible, cost-effective tool in attaining water quality standards. •