

Community-based Water Quality Trading

SUMMARY

International concern over the water pollution causing hypoxic zones in ocean and freshwater lakes has increased the focus on how to lower nitrogen and phosphorus pollution in the nation's waterways. In 2003 the USEPA created a Water Quality Trading Policy aimed at promoting the Clean Water Act through incentive-based trading between point source (factories or waste water treatment plants) and nonpoint sources (such as farms) of pollution in watersheds. Ohio has 3303 major and minor point source (NPDES) permits with the likelihood that numeric nutrient criteria will soon lead to more stringent phosphorus and nitrogen standards. This will force most of these point sources to either upgrade their facilities or engage in water quality trading. For a typical small town with a population of 5000 people, a WWTP upgrade is likely to cost between \$2-5 million dollars, placing a burden on the taxpayers during a time when county budgets are tight. Trading credits with the farmers who put in conservation measures is an inexpensive solution and improves water quality more because credits are traded at a 3:1 ratio.

SITUATION

Wastewater treatment upgrades are a tax burden on all towns, cities, and industries in Ohio. The upgrade costs for small towns can be anywhere between 4-8 times as much per gallon as large metropolitan areas. The Gulf of Mexico hypoxic zone, also known as the "dead zone," affected by nutrient loadings of nitrogen and phosphorus mainly coming from agriculture, threatens valuable commercial and recreational Gulf fisheries, which generate about \$2.8 billion annually.

RESPONSE

The Alpine Nutrient Trading Program was started in 2007 as part of the five year NPDES permit of the Alpine Cheese Company in Winesburg, Ohio which produces Jarlsberg cheese. Formed as a partnership between the cheese company, OSU Sugar Creek Project, and the Holmes County Soil and Water Conservation District, the project created 91 conservation measures on 25 farms in Holmes County. The goal was to promote economic development and improve water quality at the same time through intra-county trading.

IMPACT

The project surpassed the goal by 20% in three years and the factory NPDES permit expired December 31, 2011. Most of the conservation measures have a life of 15 to 20 years so they generate both phosphorus and nitrogen credits that are sold over that period making the local SWCD sustainable. Equally important, the project fenced cows out of the stream, improving milk quality and farmer income by lowering the somatic cell count of the milk and mastitis rates. Twelve new jobs were created by the factory expansion which in turn created a demand for 250,000 pounds of new milk per day. Owing to the success of the Alpine model, the county-based project is in the process of expanding into the Muskingum and Scioto Watersheds where county taxpayers can save 1/3 of their WWTP upgrade costs.

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