NACWA
A Clear Commitment to America's Waters

Written Statement for the Record

National Association of Clean Water Agencies (NACWA)

Nutrient Trading and Water Quality

Committee on Environment and Public Works
Subcommittee on Water and Wildlife
U.S. Senate
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The National Association of Clean Water Agencies (NACWA) is pleased to have the opportunity to submit for the record this written statement to the Senate Subcommittee on Water and Wildlife on the occasion of the Subcommittee's hearing entitled, "Nutrient Trading and Water Quality" held on May 22, 2013.

NACWA represents the interests of more than 350 municipally-owned wastewater treatment and stormwater management agencies and organizations. Our members are dedicated environmental stewards who treat and reclaim more than 18 billion gallons of wastewater each day while working to carry out the goals of the Clean Water Act.

America's wastewater sector is in need of serious attention. The U.S. Environmental Protection Agency (EPA) estimates repairing, replacing, and upgrading aging wastewater infrastructure will cost between $300 billion to $1 trillion over the next 20 years[1]. Municipalities currently shoulder approximately 97% of the cost of clean water infrastructure projects, and face an immediate backlog of over $40 billion. To meet their current clean water challenges and existing debt obligations, clean water utilities have raised rates by more than double the rate of inflation over the last decade. Today, 40% of households across America are already paying more out of their disposable incomes for wastewater management than EPA says is affordable.

In addition to this growing investment need, EPA regulations on wet weather-related discharges, biosolids management, and nutrients under the 1972 Clean Water Act (CWA) have expanded, leading to more expensive levels of wastewater treatment. Given the current economic environment and federal budget shortfall, publicly owned treatment works (POTWs) are struggling to make the necessary upgrades to protect public health and the environment without going bankrupt or increasing rates to unsustainable levels.

For over 40 years, members of NACWA have been at the crux of this challenge, pursuing national policies and approaches that seek to stretch every ratepayer dollar as far as possible in order to ensure that the nation's waters are clean and safe, and meet the strict requirements of the CWA. Water quality trading is one such approach, and in 2012, NACWA formed a Water Quality Trading Working Group to provide a utility perspective on whether trading can achieve more efficient water quality improvements than traditional regulatory approaches.

The Nutrient Challenge

Excessive amounts of nutrients, primarily nitrogen and phosphorous, in waterways now represents the single largest pollution problem facing our nation's waters. More than 60 percent of the rivers and bays in every coastal state are moderately to severely degraded by nutrient pollution, and nutrients are contributing to some of the largest algal blooms, fish kills, shellfish poisonings, and aquatic deadzones in the country.[2]

Effluent discharges from POTWs are a significant source of nutrient pollution in surface waters. As a result, EPA has increased its focus on controlling nutrient discharges from these sources. Yet

[1] EPA, "2008 Clean Water Needs Assessment Survey".
http://water.epa.gov/scitech/datait/databases/cwns/2008reportdata.cfm
[2] "Nutrient Pollution of Coastal Rivers, Bays, and Seas." Issues in Ecology. 2000.
http://cfpub.epa.gov/watertrain/pdf/issue7.pdf

POTWs are not the only nor the greatest source of nutrient pollution in many waterways. Runoff from agricultural land, rich in nutrients from fertilizer and livestock manure, is responsible for more nutrient pollution than any other source. Despite this, most agricultural producers are exempt from the water pollution control requirements of the CWA.

This leaves the brunt of the work to mitigate nutrient pollution to the POTWs, who rely on expensive technology controls and upgrades to reduce their nutrient loadings. While these utilities strive for compliance, there are two problems with this model. First, nutrient removal technology is extremely expensive. In the Chesapeake Bay for example, EPA recently issued a permit to the Blue Plains Wastewater Treatment Plant in Washington, D.C., requiring a further reduction in effluent nitrogen from just over 5 million to 4.7 million pounds per year. This nitrogen removal project will incur a capital cost of $900 million to ratepayers yet only result in a 0.4% reduction of total nitrogen flowing into the Chesapeake Bay.[3]

And second, even if a utility is able to completely remove the nutrients from its discharge, it may not lead to sizable reductions in overall nutrient loads in waterways and improvements in water quality. In the Midwest, nutrient pollution in the Mississippi River is responsible for a deadzone in the Gulf of Mexico that measures almost 3,000 square miles. Yet, POTWs are only responsible for 12 percent of the phosphorous and 9 percent of the nitrogen delivered to the Gulf, compared to agricultural and range land, which is responsible for 80 percent and 71 percent respectively.[4]

Clearly, there is a disconnect between current water quality management and implementation practices and what is needed to improve water quality. Instead, a more holistic approach to watershed management should be adopted to collectively engage and address all sources and activities contributing to nutrient pollution.

Water Quality Trading to Address Nutrient Pollution

Water quality trading continues to gain interest among municipal clean water agencies, industry and agricultural producers as a viable market-based alternative to control water pollution. This approach is based on the idea that pollution sources in a watershed face very different costs to control the same pollutant. Therefore, permitted emitters like POTWs and municipal stormwater dischargers with high abatement costs could purchase equivalent nutrient reductions from a cheaper source, like agriculture, to help meet their regulatory requirements.

There are three main benefits to water quality trading: First, water quality trading has the potential to meet nutrient load requirements at lower overall costs. The cost to remove a pound of nitrogen or phosphorus from farm runoff and drainage is typically 4 to 5—and sometimes up to 10 to 20—times less than the cost to remove the same amount from municipal wastewater or stormwater.[5] Second, the economic incentive created for farmers who engage in nutrient management activities means that water quality trading can potentially generate environmental benefits beyond those that would be achieved under traditional regulation, like wildlife habitat

[3] George Hawkins, "Testimony on EPA's Integrated Planning Framework before the House Transportation and Infrastructure Committee, Subcommittee on Water Resources and the Environment". July 25, 2012.
[4] U.S. Geological Survey, "Sources of Nutrients Delivered to the Gulf of Mexico". Jan. 2008. http://water.usgs.gov/nawqa/sparrow/gulf_findings/primary_sources.html
[5] NACWA, "Controlling Nutrient Loadings to U.S. Waterways: An Urban Perspective". Oct. 2011. http://www.nacwa.org/images/stories/public/2012-03-06wp.pdf

and floodwater control. Finally, water quality trading helps move water quality control efforts towards a watershed-based approach, collectively addressing all sources and activities contributing to watershed degradation. Many NACWA utility members are already engaged in water quality trading programs to achieve better water quality improvement in more cost-effective ways.

Many POTWs and stormwater utilities who are stretched beyond the brink of their financial capacity find water quality trading appealing. The approach addresses the lowest-hanging fruit in terms of nutrient reduction, saving utilities money, engaging sectors that may not otherwise participate in nutrient reduction activities, and encouraging water quality improvements that go above and beyond minimum pollution control requirements.

Updating EPA's Water Quality Trading Policy

According to EPA, there are currently 49 water quality trading programs active or under development in the U.S.[6] Of those, less than half include trading between utilities and agricultural and fewer still are geared specifically towards addressing nutrients. If the environmental and economic benefits of adopting a market-based approach to meet nutrient requirements are overwhelmingly positive, why haven't these markets been more readily adopted?

Successful water quality trading programs depend on quite a few factors. These include the ability to establish and enforce a pollution cap, handle the complexity associated with establishing verifiable agricultural credits, and avoid the creation of hot spots, or localized areas with high levels of nutrients within a watershed. Equally important is the need for more consistent support and greater promotion of water quality trading from the federal government.

In 2003, EPA released its Water Quality Trading Policy to provide states and interstate agencies with guidance in developing and implementing water quality trading programs. This Policy is the first time EPA has recognized water quality trading as a viable approach to reducing certain types of water pollution. Its release signified a broader shift in environmental policymaking from top-down strategies to one that fosters commodification and local ownership.

While it is certainly positive to see EPA endorse a market-based approach to nutrient management, NACWA has urged EPA to update the Policy and clarify language the Association fears could in fact limit trading and the broader establishment of regional water quality trading programs.

First, NACWA is concerned with how the Policy defines the areas under which trading may occur. According to EPA's Policy, "all water quality trading should occur within a watershed or a defined area for which a Total Maximum Daily Load (TMDL) has been approved." Under the CWA, a waterbody that fails to meet one or more of its designated uses is declared 'impaired' and a TMDL is developed, which allots a maximum amount of a pollutant the waterbody can receive and still safely meet water quality standards. TMDLs can certainly help facilitate trading as they define a trading area and establish a pollution cap for each pollution source. Nevertheless, NACWA fears EPA's Policy could be interpreted as only endorsing trading where a TMDL has been established.

[6] EPA, "State and Regional Trading Programs". http://water.epa.gov/type/watersheds/trading/tradingmap.cfm

Around the country, many segments of streams and rivers, lakes, and coastal waterbodies are facing enormous nutrient problems despite not being declared impaired or having a TMDL. Furthermore, implementing a TMDL is a cumbersome and, at times, contentious process. It requires setting a controversial pollution limit to be recognized by pollution control mandates on some or all pollution sources. In cases where agriculture is involved, translating broad mandates to individual producers and ensuring long-term compliance is especially difficult.

It is critical EPA recognize that trading can be just as effective, if not more so, in the absence of a TMDL. The Electrical Power Research Institute's (EPRI) Ohio River Basin Trading Project is one example of a voluntary nitrogen and phosphorous trading program not linked to a TMDL. In August 2012, EPRI launched the pilot phase of the Project, which covers parts of Ohio, Kentucky, and Indiana. It is the only active interstate trading program in the country and on its way to being one of the largest and most sophisticated water quality trading programs ever developed. To see the implementation of more programs like EPRI's, EPA should be receptive to water quality trading programs under a wide variety of circumstances.

And second, NACWA is concerned that setting rigorous baseline requirements for agriculture may hinder trades in water quality trading programs. According to EPA, farmers must first comply with baseline, or pollutant control requirements, before they can be eligible to generate and sell credits. Baseline requirements take the form of best management practices (BMPs) that are consistent with the water quality goal.

Under the CWA, there are no requirements for agriculture to adopt BMPs even in the presence of a TMDL. By requiring a demanding minimum practice standard to participate in a trading program, EPA is disqualifying the least costly reductions from being offered as scientifically-based and verified offsets. Farmers who have not voluntarily adopted the minimum set of practices prior to the start of a trading program may not find it in their interest to enter the market because of the entry cost associated with meeting a baseline. NACWA fears this competitive disadvantage could ultimately limit participation, hampering credit supply and adversely affecting market efficiency.

Conclusion

Forty years after the passage of the CWA, municipal clean water leaders around the country are transforming the way they deliver clean water services. At the heart of this transformation is the emergence of innovative approaches, like water quality trading, that can stretch ratepayer dollars, improve the environment, create jobs, and stimulate the economy.

But utilities cannot master this transformation alone. They need the support of Congress, who should promote greater adoption of watershed-based solutions by explicitly encouraging trading in the CWA. Similarly, EPA should work with delegated states to promote viable and flexible trading programs. Doing so will give utilities the green light to engage in more nutrient transactions that can yield tangible water quality improvements while addressing the affordability concerns of POTWs and stormwater utilities around the country.

If you have any questions regarding this statement or NACWA's efforts in the water quality trading arena, please contact Hannah Mellman at hmellman@nacwa.org.