UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF WATER

MEMORANDUM

SUBJECT: Updating the Environmental Protection Agency's (EPA) Water Quality Trading Policy to Promote Market-Based Mechanisms for Improving Water Quality

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TO: Regional Administrators, Region 1-10

In recent years, the EPA has worked closely with states and tribes to encourage the development of numeric water quality criteria and Total Maximum Daily Loads (TMDLs) in an effort to reduce pollution in our Nation's waterways. These and other Clean Water Act regulatory tools remain available to states, tribes, and stakeholders; however, the EPA believes that market-based programs, including water quality trading, as well as incentive- and community-based programs can be used more effectively than they have to date to achieve water quality improvements. These types of programs can operate independent of or in coordination with the EPA's traditional regulatory programs to maximize environmental outcomes. The EPA is issuing this memorandum to provide additional flexibility to states and tribes to encourage states, tribes, and stakeholders to consider how market-, incentive- and community-based programs may supplement their water quality improvement efforts.[1] The Agency's expectation is that states and tribes will develop robust and defensible water quality trading programs that comply with the Clean Water Act and result in water quality improvements.

Purposes of this Memorandum

1) To reiterate the EPA's strong support for water quality trading and other market-based programs to maximize pollutant reduction efforts and improve water quality.
2) To accelerate the adoption of market-based programs that will incentivize implementation of technologies and land use practices that reduce nonpoint pollution in our Nation's waters.
3) To provide additional guidance to states, tribes, and stakeholders regarding the use of market-based programs to reduce water pollution at lower overall cost.
4) To promote increased investment in conservation actions.

[1] The terms "water quality trading" and "market-based" are used throughout this memorandum, but states, tribes, and stakeholders should consider incorporating the principles outlined below into other types of incentive- and community-based programs, as well as other collaborative approaches to achieving water quality improvements, including, for example, pay-for success programs, coordinated point/nonpoint pollution reduction or offset projects, and environmental bonding efforts.

Background

The EPA strongly supports water quality trading and other market-based programs that can promote water quality improvements at a lower cost.[2] The EPA has long interpreted the Clean Water Act to allow pollutant reductions from water quality trading, offsets and other similar programs to be used for ensuring compliance with regulatory requirements.[3] These mechanisms, however, have not been used to their fullest potential in part because the EPA's existing policy may limit that potential.

In 2003, for example, the EPA issued its Water Quality Trading Policy (2003 Policy),[4] which included options for states, tribes, and stakeholders to consider when developing water quality trading programs. Contrary to the Agency's intent and expectations, the 2003 Policy has not facilitated the widespread adoption of water quality trading. Based upon a detailed review of the 2003 Policy, as well as information and data received through informal stakeholder outreach, the Agency now believes that the 2003 Policy may be too prescriptive to be widely effective and implementable.

A detailed and prescriptive set of recommendations may have been preferred when the EPA issued the 2003 Policy. However, in the intervening fifteen years nonpoint pollution reduction technologies and practices have improved, research has helped inform the effectiveness and performance of many nonpoint practices, technical mapping and robust modeling programs have become capable of evaluating resources at the edge-of-field and at the landscape scale, and in-stream and other monitoring approaches have expanded our understanding of the resources we are working to protect. These significant advances in resource management tools have created an opportunity for the Agency to modernize its water quality trading policies. The EPA acknowledges that some small-scale market-based projects have successfully implemented recommendations from the 2003 Policy and supports the continued application of the 2003 Policy for those projects. The Agency may consider future stakeholder engagement to determine the continued utility of the 2003 Policy. To facilitate broader adoption of market-based programs in the near-term, the Agency is now announcing some "Market-Based Principles" that are designed to encourage creativity and innovation in the development and implementation of market-based pollutant reduction programs.

The EPA further understands the 2003 Policy has been interpreted by many states, tribes, and stakeholders as having the force and effect of law, mandating certain actions or outcomes, and containing standards or requirements with which a market-based program must comply. Like all agency guidance documents, the 2003 Policy provides recommendations to states, tribes, and stakeholders, but the Agency cannot mandate any specific regulatory action, outcome or requirement without first going through the rulemaking process. This memorandum is intended to provide ideas and opportunities for

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[2] For further information regarding Clean Water Act water quality trading, including examples of prior trading efforts, see: https://www.epa.gov/npdes/water-quality-trading.

[3] Water quality trading was recognized for its potential to reduce pollutant discharges into waterways at least as far back as the 1960s. J.H. Dales, 1968. *Land, Water, and Ownership*, Canadian Journal of Economics, vol1(4), pages 791-804, November. In the 1980s, based on air emissions trading models, several water quality trading pioneering efforts were initiated, such as such as Fox River, Wisconsin and Lake Dillon, Colorado, though formal trades were not undertaken until the 1990s.

[4] U.S. EPA. *Water Quality Trading Policy*, January 13, 2003, https://www.epa.gov/sites/production/files/2016-04/documents/wqtradingtoolkit_app_b_trading_policy.pdf.

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states, tribes, and stakeholders to consider as they develop market-based water quality improvement policies.

Market-based programs intended to facilitate compliance with effluent limits and other legal requirements must comply with the Clean Water Act. Consistent with the cooperative federalism foundation of the Clean Water Act, states and tribes should work with stakeholders to understand what types of market-based programs may work best for their resource needs. Today's memorandum identifies six broad market-based principles that the EPA supports to reduce pollutants in our Nation's waters. These principles do not represent the universe of policy options available to states, tribes, and stakeholders; rather, they are intended to encourage creativity and innovation in state and local policy development.

The EPA acknowledges that some principles in this memorandum may differ from the 2003 Policy and other guidance or technical memoranda the Agency previously issued concerning water quality trading. The intent of this memorandum is to clarify and expand the range of policy options available for states, tribes, and stakeholders to consider. States and tribes should adopt policy principles that will be most effective for their communities and resources. The EPA is committed to assisting states, tribes, and stakeholders with developing new market-based programs, refining existing programs that have not been widely implemented, engaging in problem solving, and facilitating flexible approaches to achieving meaningful pollutant reductions. The Agency may also consider mechanisms to provide greater long term regulatory certainty, including modernizing its regulatory programs.

Market-Based Principles

States, tribes, and stakeholders should consider implementing water quality trading and other market-based programs on a watershed scale.

- Focusing on a watershed boundary for planning and achieving water quality improvements is often more appropriate than using a municipal or jurisdictional boundary.
- Working within a larger geographic area may facilitate greater market opportunities and participation, resulting in larger scale resource improvements over time.
- The EPA encourages states and tribes to work together to achieve resource improvements through interstate market-based programs and other collaborative approaches.

The EPA encourages the use of adaptive management strategies for implementing market-based programs.

- Demanding too much precision in measuring or predicting pollutant reductions from certain types of discharges, e.g., point source stormwater and nonpoint source runoff, can be an impediment to market-based programs. Stormwater and nonpoint source discharges and related reductions can be subject to confounding natural variability not typically seen with traditional point sources which can make them difficult to estimate. Similarly, though the environmental benefits of stormwater and nonpoint reductions may be significant, they may not be immediately or precisely measurable in the

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- resource. Accordingly, the EPA encourages states, tribes, and stakeholders to consider allowing credits to be generated and verified based on scientifically defensible estimates of pollutant reductions from applicable technologies and land-based practices.
- States, tribes, and stakeholders should consider whether third-party credit verification, aggregation, or audit service providers may add value to market-based programs without being overly burdensome or cost prohibitive to participants.
- Market-based programs should include adaptive management concepts to allow improvement and refinement over time without sacrificing regulatory certainty for existing market participants.
- Policy makers and stakeholders pursuing a small market-based program should consider structuring the program so it can be integrated into a larger regional program in the future.
- Regulators should consider identifying, recommending, or endorsing current models that can provide accountability and near-term regulatory and market certainty for generating and verifying credits. In the alternative, regulators should consider whether models used for this purpose should be designed with certain characteristics to promote, for example, transparency and regulatory certainty. In either case, a program should allow modeling and measurement strategies to evolve and improve over time, without sacrificing certainty for market participants. The use of appropriate models and verification practices may reduce or eliminate the need for trade ratios which ultimately reduce the value of a water quality credit and increase the cost of participation.

Water quality credits and offsets may be banked for future use.

- Allowing banking and future use of water quality credits encourages early adoption of pollutant reduction practices, reduces risks associated with practice failures, and will likely broaden and strengthen the marketplace for buyers and sellers, resulting in larger scale resource improvements over time.
- To further reward early adopters, states, tribes, and stakeholders should consider whether existing practices could generate credits or offsets on a look-back basis. For example, activities that reduce runoff and nonpoint source discharges may have occurred before a trading program was established. Within a look-back framework, if those activities or pollution controls are sufficiently documented they may have generated credits, even though they occurred before the trading program was established. If a program authorizes credits to be generated on a look-back basis, it may reduce or eliminate the need for investment or "seed money" to finance the first round of credit-generating pollutant reductions because look-back credits may be available for purchase at the time or soon after the market begins operating.

The EPA encourages simplicity and flexibility in implementing baseline concepts.

- Overly rigid and complicated baseline policies and expensive baseline requirements are often a barrier to entry into a market-based program.
- Complicated baseline calculations can create regulatory and market uncertainty.
- Documented current conditions can provide a simple and appropriate baseline; for facilities subject to permit conditions or other legal requirements, a program that uses current conditions as a baseline should require full compliance with legal requirements.

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- In watersheds with approved TMDLs, states, tribes, and stakeholders should consider whether it is appropriate to apply the load allocation baseline uniformly across the watershed, or instead apply it on a geographic basis within the watershed to maximize water quality improvements and minimize the risk of hot spots. For example, a resource manager may determine that reductions of nonpoint pollution at certain locations within the watershed will result in reductions sufficient to meet the TMDL load allocation baseline (e.g., at the headwaters of streams or along the shoreline of the impaired waterbody). In some cases, TMDLs or TMDL implementation plans may need to be modified to provide additional flexibility.

A single project may generate credits for multiple markets.

- Projects that generate multiple types of credits may promote more holistic resource improvements, including habitat and wetland restoration and protection of endangered and threatened species on a local, watershed, or landscape scale.
- For example, if a single project reduces pollutant discharges into waterways, reduces air emissions, and creates wetlands or wildlife habitat in accordance with an established market-based trading or banking program, the project proponent should be able to generate and sell credits within each of those programs or markets.
- The ability to generate multiple types of credits may create additional financial incentives for landowners, conservationists and innovators to participate in market-based environmental improvement projects, and may promote portfolio diversification and increased financial opportunity for existing and future credit providers.

Financing opportunities exist to assist with deployment of nonpoint land use practices.

- The EPA encourages the use of innovative financing mechanisms to promote integrated point and nonpoint pollutant reduction strategies, including the use of environmental and community bonds, Section 319 grants, State Revolving Loan Funds, and Water Infrastructure Finance and Innovation (WIFIA) funds.
- The EPA also offers financial technical support through the Water Finance Center. The Water Finance Center is an information and assistance center, helping communities make informed decisions for drinking water, wastewater, and stormwater infrastructure. The Water Finance Center works with communities, financial institutions and experts to explore leading-edge approaches to procurement and funding solutions, and developing roadmaps that identify and support best practices. This includes new and emerging finance approaches that address water quality and quantity challenges such as: Pay for Success, Pay for Performance, green bonds, energy and water performance contracting, water quality trading, and additional conservation financing strategies.

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