

2015 EPA-USDA National Workshop on Water Quality Markets



Photo courtesy of USDA Natural Resources Conservation Service

Prepared by

U.S. Department of Agriculture (USDA) Office of Environmental Markets and the
Environmental Protection Agency (EPA) Office of Water

In support of the 2013 EPA-USDA Partnership Agreement to Support Water Quality Trading, the EPA and USDA co-sponsored a national workshop on water quality trading that took place September 15-17, 2015, in Lincoln, Nebraska.

This report is a summary of the discussions among workshop participants on a broad variety of issues related to the development and operation of water quality markets and actions that the EPA and USDA are pursuing to advance market-based approaches to improving water quality. This summary is offered for public discussion and consideration. Information presented herein does not necessarily represent the views of either the EPA or USDA.

Overview

In September 2015, the EPA's Office of Water and USDA's Office of Environmental Markets and its Natural Resources and Environment Mission Area sponsored a 3-day workshop on water quality markets at the University of Nebraska - Lincoln. The workshop brought together more than 200 attendees including water resource professionals, third-party environmental market makers, academics, representatives of Federal, State and local governments, non-governmental organizations (NGOs), and agricultural and environmental stakeholders to discuss the current state of water quality markets in the United States and to identify opportunities for greater coordination and collaboration.

The workshop included a combination of plenary presentations and breakout discussions intended to provide participants with:

- A foundation in the relevant policy and regulations supporting the establishment and operation of water quality markets;
- An introduction to the tools and resources available to support market development;
- Region-specific forums;
- Highlights of recent progress in water quality trading programs; and
- A forward-looking, coordinated vision of how water quality markets can advance water quality goals.

See Appendix A for the workshop agenda.

Introduction

Water quality trading and other market-based approaches are examples of programs and activities that States and tribes may wish to pursue as a potentially powerful and effective means to attain water quality improvements. Such approaches are capable of encouraging private investment capital, providing additional resources for conservation, and serving as a catalyst for developing innovative, practical solutions for improving water quality at a lower cost.

The EPA is supportive of the use of water quality trading to meet water quality goals. In 2003, the EPA developed a Water Quality Trading Policy, which identifies general elements and provisions that the EPA recognized as important for creating credible (i.e., legal and enforceable) watershed-based trading programs. The policy relies on States, interstate agencies, and tribes to develop their own trading programs that meet Clean Water Act (CWA) as well as State and local requirements.

The EPA's Water Quality Trading Policy affirms that the CWA provides authority for the EPA, States, and tribes to develop a variety of programs and activities to address water quality, including trading programs. One of the EPA's roles under its CWA oversight provisions is to ensure that such programs and activities, including water quality trading, are consistent with the CWA and its implementing regulations. Where the EPA, States, and tribes develop water quality trading programs that involve National Pollutant Discharge Elimination System (NPDES) permitted point sources, they should also consider how the EPA or the State would evaluate compliance and take enforcement action if necessary.

USDA has a long history of supporting conservation programs that promote environmental stewardship, encourage soil retention, and facilitate the reduction of pollutants. The Food, Conservation, and Energy Act of 2008, often referred to as the 2008 Farm Bill, directed USDA to establish technical guidelines that outline science-based methods to measure the environmental services benefits from conservation and land management activities in order to facilitate the participation of farmers, ranchers, and forest landowners in emerging environmental services markets. Since 2008, USDA has worked with the EPA and others to encourage market development.

In 2013, USDA and the EPA signed a partnership agreement to support the development of environmental markets. The agreement reaffirms that the EPA and USDA are committed to advancing voluntary, market-based solutions to cost-effectively improve water quality. The agencies are also committed to establishing transparent, scientifically rigorous guidelines that will ensure the integrity of the evolving market-based programs. This workshop is one of the products that came out of the partnership agreement.

Discussions and Perspectives

Highlights of the discussions and perspectives expressed at the workshop are grouped into major topic areas in the sections below.

■ Authority for Water Quality Trading Under the Clean Water Act

Many participants expressed interest in having more explicit authority for trading than that articulated in the EPA's 2003 Water Quality Trading Policy. In particular, they felt more explicit authority would be helpful in increasing market confidence and participation. Others discussed how States and tribes can and should use their own legal mechanisms including legislation, rulemaking, incorporation into National Pollutant Discharge Elimination System (NPDES) permits, and provisions for trading in Total Maximum Daily Loads (TMDLs), as appropriate, provided that such mechanisms meet the requirements of the CWA and its implementing regulations.

It was also suggested that, as a start, States and tribes may want to design water quality trading programs that borrow features from other environmental markets widely regarded as successful, such as air emissions trading and wetland banking.

■ Baselines for Water Quality Trading

Several participants identified the need for further clarification of baseline requirements for trading programs. It was also noted that sellers may not enter the market if they will have a hard time meeting baselines.

■ Increasing Credit Demand

Despite several efforts to establish water quality trading programs, many workshop participants felt that comparatively few of these efforts have led to robust markets. The lack of robust markets can be explained by many factors ranging from limited credit supply, need for greater market confidence in credits, need for program design innovation, and need for greater regulatory clarity on behalf of buyers. The most commonly proposed explanation, however, was the lack of credit demand.

As permit limits for tradeable pollutants (e.g., nutrients, sediment, and temperature) become more widespread and/or stringent due to water quality concerns, demand for credits might increase depending on how States and tribes address the attainment of water quality standards.

There were several specific suggestions for government agencies on how to increase credit demand. They included:

- Clarify how trading may be applied for permitted urban landscapes such as stormwater trading in Municipal Separate Storm Sewer System (MS4) Permits (EPA) as well as within more stringent State and local programs (States);
- Clarify or expand State authorities for trading (States);

- Synchronize permit issuance so that permitted entities enter into the market at the same time or use general permits as a means to synchronize those pollutants under water quality trading (States);
- Increase the use of general permits that incorporate multiple facilities and explicitly allow for trading. (EPA supports the use of watershed general permits, where appropriate, to establish pollutant specific limitations for a group of sources in the same or similar categories to achieve net pollutant reductions or water quality goals through trading.) (States);
- Develop policies that support multi-year certification of credits (i.e., each credit might be valid for 1 year, but the underlying practices are “certified” for more than 1 year) (States);
- Provide additional training and support materials for States interested in pursuing trading (EPA, States, USDA);
- Promote consistency across State policies (EPA, States).

■ **Credit Demand in Non-Total Maximum Daily Load (TMDL) Trading**

There was widespread agreement that water quality trading can and does occur in the absence of a TMDL and can be successful so long as there is some type of demand driver present. Identifying additional demand drivers may facilitate the recruitment of new types of buyers, including members of the private sector, utilities, and others. For example:

- In waterbodies that are in attainment with water quality standards, trading can spur reductions in pollutant loads and reduce the risk of future impairment by considering local water quality impacts associated with such trades.
- In impaired waters where a TMDL has not yet been developed, pre-TMDL trading can help to make progress towards or realize the attainment of water quality standards. This may be accomplished by individual trades that achieve a net reduction of the pollutant traded or by watershed-scale trading programs that reduce loadings to meet an enumerated water quality goal supported by initial information on pollutant sources and loadings.

Other drivers not directly related to water quality could include the following:

- Credit purchases by Federal agencies to stimulate market development. Examples from other sectors include brownfield redevelopment and Leadership in Energy and Environmental Design (LEED) certification;
- Corporate sustainability programs;
- Demand for associated services (flood control, water supply, fire protection, etc.).

■ **Increasing Credit Supply and Voluntary Conservation on Private Lands**

In instances where credit supply limits market development, government agencies can:

- Promote certainty and safe harbor agreements for landowners undertaking voluntary conservation activities;
- Develop credit estimation tools and planning resources for potential credit generators;
- Support credit aggregation to reduce market uncertainty and transaction costs;
- Consider opportunities for third-party certification and verification.

■ **Market Design and Public Confidence**

Participants also acknowledged the importance of public support for trading and provided several recommendations to increase public confidence in trading programs. Recommendations included:

- Design trading programs that are simple and easy to understand;
- Design trading programs that are science-based and cost-effective;
- Promote public involvement and comment on program rules;
- Balance the need for rigorous verification of projects with the associated costs and additional environmental benefit;
- Make information on credits used for regulatory compliance publicly available;
- Evaluate program successes and failures honestly.

■ **Program Innovation**

These examples of program innovation were mentioned as ways to further advance market development:

- Reduce start-up costs through greater program design standardization and shared program resources, such as using one credit registry that serves multiple programs and markets;
- Increase opportunities for private investment and financing;
- Support trading multiple pollutant credit types from a single project, sometimes referred to as 'stacking', or simply as selling multiple pollutant credit types from one project;
- Coordinate modeling, monitoring, and assessment to support what Wisconsin refers to as adaptive management.

■ **Research and Policy Issues to Address**

The issues listed below were identified as needing additional research and policy development.

- Addressing legacy pollutants;
- Incorporating lag time into crediting;
- Promoting opportunities for emerging technologies;

- Clarifying of the accounting treatment of water quality credits;
- Exploring policy approaches that better transition pilot programs (absent regulatory drivers) into permit-driven programs.

Recent EPA and USDA Efforts

During the workshop, the EPA and USDA announced the following accomplishments in support of their 2013 partnership agreement. The agencies:

- Incorporated environmental markets data into the EPA's EnviroAtlas, a web-based decision support tool that gives users the ability to view, analyse, and download information;
- Developed a searchable database of water quality trading policies and support materials. The Road Map is available at <http://oem.usda.gov/welcome-usda-epa-water-quality-trading-roadmap> ;
- Awarded \$10 million in 2015 USDA Conservation Innovation Grants to implement market-based approaches to conservation.

Next Steps

The robust discussions at the conference led to a consideration of next steps. Here we outline actions that the EPA and USDA are pursuing or that could be undertaken to further advance the use of water quality trading or other market-based approaches.

1. National “Dialogue Series” on Water Quality Trading

Over the next 3 years, through an agreement with USDA's Natural Resources Conservation Service, the National Network on Water Quality Trading will host approximately eight 2-day dialogues to deepen understanding of water quality program design, implementation, and operation across sectors and communities. Each dialogue in the series is designed to produce a deliverable that fills a strategic gap or advances our collective understanding of the issue. Topics are determined by a steering committee, taking into consideration a series of issues identified by stakeholders at the Nebraska conference such as stormwater offsets, how to evaluate water quality trading programs, and setting and achieving baselines.

2. Increasing State Awareness of Water Quality Trading

The EPA and USDA will promote efforts of the Association of Clean Water Administrators (ACWA) to provide information and outreach and training to State agencies to increase their understanding of the benefits of water quality trading as an economic tool to reduce costs and/or as a watershed tool to achieve greater environmental outcomes. Knowledge transfer will include advances in developing water quality programs and identification of State solutions for filling gaps and overcoming barriers.

3. Lessons Learned for Attracting Private Capital

The EPA and USDA will continue to highlight successful trading programs that have attracted private capital or are otherwise financially sustainable. This includes promoting approaches and ideas developed by other market-based approaches such as wetland mitigation banking.

4. Market-Based Approaches for Conservation Programs

USDA will compile a list of known, voluntary conservation program design frameworks that use market-like approaches. Examples will be highlighted that leverage third parties and private capital, improve public transparency and trust, quantify or at least estimate public benefits, and achieve greater environmental benefits per dollar invested.

5. Shared National Registry for Water Quality Credits

At the workshop, it was discussed how having a national registry platform for water quality credits would remove a large hurdle to market development, increase consistency, and reduce the start-up costs that many of the markets face. The EPA and USDA will pursue efforts to develop a national registry for water quality trading programs.

6. Developing a List of Quantification Tools

Another identified need at the Nebraska workshop was a guide to the tools that exist to calculate the credits associated with certain practices in certain places. While the EPA does not require a specific tool to be used in regulatory circumstances, but rather evaluates their applicability when proposed, having a list of available tools would help those engaged in trading or hoping to enter the market. The EPA and USDA will form a stakeholder group to develop a list of tools that meet the minimum requirements of the federal and state agencies that must verify trades, with the understanding that a given tool might not be appropriate for a given situation.

7. Increase Targeted Stakeholder Engagement

There are several locations where increasing participation in these market-based programs may result in more rapid nutrient decreases to address immediate problems of harmful algal blooms and hypoxia. USDA and the EPA, along with Federal and State partners, will work more actively in such areas, notably the Great Lakes and Mississippi River basins, to encourage the development of these market-based approaches.

Appendix A. Workshop Agenda



AGENDA AT-A-GLANCE

KEY	TRADING FUNDAMENTALS	REGIONAL FORUMS	ECONOMICS	TOOLS FOR TRADING	SCIENCE & TECHNOLOGY	OTHER MARKETS	INNOVATORS
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DAY 1 — TUESDAY

SEPTEMBER 15TH, 2015

TIME	LOCATION: AUDITORIUM
12:00—2:00 PM	CHECK-IN / REGISTRATION <i>(Light Buffet Lunch Provided)</i>
2:00 —2:05 PM	WELCOME & WORKSHOP OVERVIEW <i>Kris Hoellen, Senior Vice President , Sustainable Programs, The Conservation Fund</i>
2:05 –2:35 PM	IMPORTANCE OF WATER <i>Harvey Perlman, Chancellor, University of Nebraska-Lincoln</i>
2:35—3:30 PM	OPENING PLENARY <i>Tom Vilsack, Secretary, U.S. Department of Agriculture (via video)</i> <i>Gina McCarthy, Administrator, U.S. Environmental Protection Agency (via video)</i> <i>Ann Mills, USDA Deputy Under Secretary, Natural Resources & Environment</i> <i>Ellen Gilinsky, EPA Senior Advisor for Water</i> <i>Jason Weller, Chief, USDA Natural Resources Conservation Service</i>
3:30—3:45 PM	BREAK
3:45—4:30 PM	WATER QUALITY TRADING OVERVIEW <i>Ben Grumbles, Maryland Secretary of the Environment</i>
4:30—5:30 PM	STATE OF REGIONAL WATER QUALITY MARKETS <i>Bobby Cochran, Willamette Partnership</i>
5:30—7:00 PM	EVENING RECEPTION: SOUTH HALLWAY <i>(Hors d'Oeuvres, Cash Bar, & Resource Displays)</i>

DAY 2 — WEDNESDAY

SEPTEMBER 16TH, 2015

TIME	AUDITORIUM	ROOM A	ROOM B	BANQUET HALL
8:30—8:45 AM	MORNING ANNOUNCEMENTS			
8:45—9:45 AM	TRADING FUNDAMENTALS: Plenary Panel			
9:45—10:00 AM	BREAK			
10:00—10:55 AM	Setting Baseline & Who Can Trade	Chesapeake Bay Regional Forum		Innovators Presentations: <i>Performance, Cost, & Results</i>
11:05—12:00 PM	Managing Risk & Uncertainty		Credit Pricing & Accounting	Innovators Presentations: <i>Government Resources</i>
12:00—1:30 PM	LUNCH : BANQUET HALL <i>Meeting of the National Network on Water Quality Trading in Room A</i>			
1:30—2:25 PM	How do you know credits are real?	Mississippi River Basin & The Gulf Coast Regional Forum	Uncertainty & Thin Markets	
2:35—3:30 PM	Legal Considerations for Trading		Addressing Risk & Liability	Conservation Practice, Evaluation & Sensors
3:30—3:45 PM	BREAK			
3:45—4:40 PM	Water Quality Trading Program Design & Development	Pacific Northwest & California Regional Forum	Program Cost & Social Conditions	Livestock & Dairy: Digesters
4:50—5:45 PM	Improving Water Quality Trading Programs over Time		EnviroAtlas	
5:45—7:00 PM	EVENING RECEPTION: SOUTH HALLWAY <i>(Hors d'Oeuvres, Cash Bar, & Resource Displays)</i>			
6:00—7:30 PM	EVENING SESSION: Water Quality Market Mock Transaction <i>Banquet Hall</i>			

DAY 3 — THURSDAY

SEPTEMBER 17TH, 2015

TIME	AUDITORIUM	ROOM A	ROOM B	BANQUET HALL
8:30—8:40 AM	MORNING ANNOUNCEMENTS			
8:50—9:45 AM	Building Water Quantity Markets	Great Lakes Regional Forum	Information Resources & Training	Innovators Presentations: <i>Stormwater Tools & Markets</i>
9:45—10:00 AM	BREAK			
10:00—10:55 AM	Linkages to Other Markets & Stacking		Tools for Trading 1	Innovators Presentations: <i>Credits, Practices, & Benefits Assessment</i>
11:05—12:00 PM		Stormwater	Tools for Trading 2	NRCS CIG Showcase
12:00—1:00 PM	LUNCH: BANQUET HALL			
	LOCATION: AUDITORIUM			
1:00—1:55 PM	THE POLITICS & BUSINESS OF WATER QUALITY TRADING <i>Jeff Corbin, EPA (Moderator)</i> <i>Doug Lashley, Chief Executive Officer, Greenvest</i> <i>Jessica Fox, Technical Executive, Electric Power Research Institute</i> <i>Dave Taylor, Chair, National Association of Clean Water Agencies</i>			
1:55—3:15 PM	NEXT STEPS <i>Brent Fewell, Partner, Troutman Sanders, LLC (Moderator)</i> <i>Ellen Gilinsky, EPA Senior Policy Advisor in the Office of Water</i> <i>Ann Mills, USDA Deputy Under Secretary, Natural Resources & Environment</i> <i>Bobby Cochran, Willamette Partnership</i> <i>Brian Brandt, American Farmland Trust</i> <i>Cy Jones, World Resources Institute</i> <i>Nicholas Brozovic, University of Nebraska</i>			
3:15 PM	WORKSHOP CLOSE			

