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# WATER QUALITY TRADING ASSESSMENT HANDBOOK

## Can Water Quality Trading Advance Your Watershed’s Goals?

November 2004

# V. Stakeholder Readiness

## Purpose

The preceding chapters of this Handbook suggested how to assess your watershed's potential to create a viable water quality trading market based on pollutant suitability, watershed and discharger characteristics, the financial attractiveness of likely trades, and an understanding of the infrastructure required to enable trading. As you pursue further consideration of trading opportunities in your watershed, you will need to reach out to other potential participants and stakeholders to assess their interest and potential participation in trading. This chapter will help answer the following questions:

- Which participants will be needed to create a viable water quality trading market in your watershed?
- Do key participants have a reasonable level of interest in considering trading as a water quality management option?

After completing this section and reflecting on the information in the other chapters, you should have a better understanding of how to engage other stakeholders to discuss water quality trading opportunities. Because each situation will present unique circumstances, this chapter does not prescribe a specific path but offers suggestions to assist you in identifying and engaging the necessary participants.

## Approach

This chapter recognizes that water quality trading requires the participation of certain parties. In addition to dischargers, there are other watershed stakeholders that must be engaged in development of a viable water quality trading system. Each watershed will have a unique set of potential participants. The first step in this chapter involves identifying potential participants by using tools such as a checklist of possible participants, a description of roles they may play, and a series of questions that can help evaluate how watershed conditions will influence the choice of essential participants (e.g., if agricultural reductions would be needed to generate credits, farming groups and extension agents might be essential participants). The next section of the chapter summarizes some of the likely interests of various participants so that you will be better prepared to engage them. It includes a review of benefits that trading can provide where it is suited to the water quality conditions at hand, as well as several likely stakeholder needs and interests. Finally, this chapter gives three examples of how trading programs have provided for stakeholder participation.

## *Identifying Potential Participants*

A wide range of parties may have an interest in participating in discussions about water quality trading in your watershed. To begin the process of identifying key parties, you should focus on the water quality problem that is being addressed. Looking at potential solutions to the problem will help you identify those parties that can contribute to the solution through various roles.

**Discharge sources in the watershed.** Dischargers include municipal and industrial point sources, and nonpoint sources located in relevant urban and rural areas. You should focus especially on any sources that need to achieve substantial reductions for water quality goals to be met and those that may be capable of overcontrolling their loadings. These sources make up the pool of potential trading partners. As discussed in Chapter II, it will be important to engage point source dischargers and other sources to gather information for evaluating financial attractiveness. It will also be important to build an understanding of the water quality challenges individual dischargers face to help identify those that will be essential parties to viable water quality trades. For example, at an early decision point in the Lower Boise River trading discussions, the group recognized that a viable program could not be developed without the involvement of nonpoint sources from the agricultural community. Other watersheds may need the participation of a major point source facing imminent and stringent permit limitations.

Some sources, however, may be reluctant to participate in discussions, particularly if trading is not well understood. Techniques to encourage engagement include utilizing existing, trusted channels of communication. For example, if the agricultural community has a strong relationship with a local soil conservation commission, you could direct communication through the commission. If a group of discharging industries has a local business association, you could approach them through the association.

An important component of engaging stakeholders involves building trust, both among the trading partners and in the trading process itself. In some cases, various stakeholders may enter the process with a history of competition or distrust. The process of establishing a marketplace can be a lengthy endeavor that requires strong working relationships among stakeholders based on trust. It is important to be cognizant of the trust building process for all stakeholders.

Another potential challenge to engaging stakeholders could be disparate benefits from trading among the potential participants. Since participation in trading is voluntary, stakeholders will be judging whether it's worthwhile for them to participate. Some stakeholders may have a significant financial incentive to participate (such as a large point source discharger), while others may be more focused on the water quality benefits (such as the local environmental organization). On the other hand, some stakeholders may not see any value in participating. In engaging stakeholders, it is important to identify and evaluate the benefits that may appeal to each stakeholder to determine their potential willingness to participate.

**Federal, tribal, state, and local government.** The participation of federal, tribal, state, and local regulatory agencies in the watershed will be essential to assess whether and how trading might fit within current regulatory requirements. EPA has federal oversight responsibilities under the Clean Water Act (CWA) and also implements the NPDES program in some states. Most states and some tribes have delegated CWA authorities. Participation of NPDES permitting and TMDL development authorities will be needed to interpret CWA and state/tribal requirements, formulate new rules or guidance if necessary, and perhaps to provide technical and scientific expertise.

Depending on the market's design, it is also likely that these agencies will need to approve elements of the trading program. Other governmental agencies may need to be involved because of their responsibilities for protecting fish and wildlife, regulating water supply, managing irrigation projects, land management, or other activities affecting the watershed. These agencies may also be able to provide valuable technical assistance. Tribal governments may be interested for a variety of reasons, including potential impacts on businesses they operate and their treaty rights to harvest fish and shellfish in the watershed.

Municipal government agencies often operate wastewater treatment plants that are NPDES permittees. Other agencies may operate water or power utilities that impact water quality in the watershed or need to be involved because their activities contribute to nonpoint source runoff or storm water discharges related to transportation, construction, or urban drainage systems.

**Local businesses.** Some local businesses will have a direct interest in water quality trading because they are permitted dischargers subject to more stringent discharge limits. Certain businesses may utilize public water treatment facilities. As indirect dischargers, these businesses may face rate increases resulting from investment in control technologies and will have an interest in trading. Affected businesses may include significant industrial water users, land owners, developers, recreation, and tourism interests in the watershed, commercial fishermen, and others.

**Citizen and Interest groups.** Groups or associations representing affected citizens, businesses, and local governments will have an interest in discussions about trading in the watershed. Examples of these groups include Farm Bureau chapters, water users associations, and associations of local county officials or wastewater treatment authorities. Of critical importance are active citizen environmental groups in the watershed, many of which are very knowledgeable about watershed conditions and challenges. In addition, some watersheds have councils or watershed management organizations with various planning and implementation responsibilities. It is important to include these groups in trading program design.

**College and university resources.** Local colleges and universities may be good sources of information and technical assistance to support trading development efforts.

The checklist below may assist you in identifying the range of potential participants in your watershed's trading effort.

### ***Checklist of Potential Participants***

#### *Dischargers in the Watershed*

- > *Individual Point Sources (including wastewater and storm water dischargers)*
  - *Municipal*
  - *Industrial (Direct and Indirect)*
- > *Individual Nonpoint sources*
  - *Urban entities*
  - *Farmland owners/operators*
  - *Irrigation or drainage districts*
  - *Forest land managers*
  - *Range land managers*

#### Federal agencies

- > *The Regional U.S. EPA Office*
- > *U.S. Department of Agriculture*
  - *Natural Resource Conservation Service (NRCS)*
  - *Cooperative State Research, Education and Extension Service*
- > *U.S. Bureau of Reclamation (USBR) (related to irrigation activity)*
- > *U.S. Fish and Wildlife Service*
- > *National Marine Fisheries Service*

#### State/Tribal Government

- > *Department of Environmental Protection, Dept. of Environmental Quality, or similar agencies*
- > *Agriculture Departments*
- > *Department of Fish and Game*
- > *Department of Water Resources*
- > *Court-appointed water master*
- > *Tribal Councils*

#### Local Government

- > *Municipal utilities*
  - *Wastewater treatment*
  - *Water suppliers*
- > *City or county government*
  - *Public Power Utilities*
  - *Resource Conservation and Development Councils*
  - *Soil and Water Conservation Districts*

#### Local Businesses

- > *Significant industrial users (dischargers to POTW treatment systems)*
- > *Agricultural service providers*
- > *Certified Crop Advisors*
- > *Certified Professional Crop Consultant*
- > *Developers*
- > *Conservation bankers, e.g., wetlands mitigation bankers*
- > *Power companies*

#### Interest Groups

- > *Associations of Water users and local business (e.g., Farm Bureau)*
- > *Environmental and conservation groups*
- > *Watershed councils or associations*

#### Colleges and Universities (and other water quality research facilities in the area)

Although all of these groups may have an interest in water quality trading, not all of them necessarily need to be included in a stakeholder dialog about trading in the watershed. To assess the importance of each potential participant, it may be helpful to ask the following questions.

- Which dischargers will need to achieve substantial reductions that will contribute to solving the water quality problem?
- Which dischargers appear capable of overcontrolling their discharge?
- Which agencies must be involved to assure regulatory compliance?
- Which groups might be able to assist with trading transactions?

- What type of expertise or technical assistance is needed and where is it likely to be located?
- Which groups were involved in the development of the TMDL?
- Which groups are a trusted voice on environmental issues in the community and thus have the ability to influence adoption and implementation of a new program?

Based on the answers to these questions, you should be able to create a list of essential participants in the design and/or implementation of the trading program.

## *Engaging Essential Participants*

Before attempting to engage essential participants, begin by assessing their interests in water quality trading and try to view the issues from their perspective. Why might water quality trading be attractive to them? Why might it seem unappealing? What information might help encourage their participation in discussions? As with any unfamiliar program, participants may need more information about the potential benefits of trading for the watershed and may have questions or concerns.

## *Positive Features of Water Quality Trading*

If you have progressed to this chapter of the handbook in your consideration of trading, it is assumed that trading is a potentially good fit for the water quality challenge in your watershed. Given that, when discussing trading opportunities with potential participants, it may be helpful to keep in mind the following benefits that can accrue where trading is a good fit with the water quality problems and financial profile in the watershed.

**Water quality trading may result in significant cost savings.** Typically, a party facing relatively high pollutant reduction costs compensates another party to achieve an equivalent, though less costly, pollutant reduction. In the right circumstances, trading markets can help participants achieve needed water quality improvements at the lowest cost to society. Cost savings for a municipality could result in lower sewage treatment costs for citizens. For an industry, trading may translate into lower operating costs and/or more capital available for productive investment enabling a stronger competitive position. For some sources, trading may be a source of revenue.

**Water quality trading provides flexibility to dischargers in meeting pollutant load reductions.** Trading might help identify additional options for meeting more restrictive water quality-based NPDES permit limits and may provide greater flexibility in implementation schedules for individual facilities.

**Water quality trading is voluntary and does not impose CWA requirements on federally unregulated sources.** Successful trades will occur only if both parties perceive they will gain benefits from the trade. Some parties, especially nonpoint sources, are more likely to come to the table to discuss pollutant reductions in a voluntary context. Some nonpoint sources may be concerned that trading or other water quality initiatives represent an attempt to extend new regulatory controls. Because most trading systems are designed to fit within existing regulatory

frameworks, trading typically will not create new regulatory control obligations. However, all sources that choose to participate in trading will have to adhere to accountability mechanisms established by the trading program to ensure that promised pollutant reductions are generated.

**Water quality trading provides incentives for overcontrol beyond current limits.** For point sources, trading provides financial incentives for installing pollutant control technology beyond TMDL wasteload allocations because increments of pollutant reduction beyond TMDL allocations can be sold to other dischargers. Nonpoint sources can be compensated for installation of best management practices that result in pollutant reductions beyond meeting their allocations. Trading provides additional incentives to create reductions where the incentives and disincentives (such as enforceable requirements for nonpoint source management) are relatively weak or nonexistent. These additional incentives can accelerate the rate of water quality improvements.

**Water quality trading can result in other ancillary environmental benefits.** Trading provides incentives to use control options such as wetland restoration, floodplain protection, or other management practices that both improve water quality and provide additional benefits such as improved fish and wildlife habitat and co-control of other pollutants.

## *Frequently Raised Issues About Trading*

Even if participants understand the positive aspects of trading, they will likely have questions or concerns that must be addressed. The following is a list of issues and concerns that often arise in discussions of trading programs and includes suggestions for responding to them.

**Issue: Lack of a Market Driver.** Permitted dischargers may be interested in exploring alternative pollutant reduction options only if they are facing an imminent change to their permit limits.

***Possible Response:** In the watersheds being evaluated for trading viability, the market driver is usually the TMDL (or similar framework). The TMDL provides wasteload allocations for point sources and load allocations for nonpoint sources. Wasteload allocations often drive more stringent NPDES permit limitations that require pollutant reductions. Watersheds with completed TMDLs generally have a sufficient incentive to explore trading.*

**Issue: Monitoring or assessment of nonpoint source loadings could be intrusive and lead to increased regulation.** Some nonpoint stakeholders may be concerned that trading will require on-site monitoring to measure pollutant reductions. Monitoring by regulatory agencies may be perceived by these stakeholders as intrusive, costly, unreliable, and a precursor to additional regulatory requirements.

***Possible Response:** Effective assessment of nonpoint source management actions for trading purposes is designed to determine the value of the pollutant reduction credits being generated. These credits, when confirmed through assessment, become a commodity that can be sold to willing buyers. Confirmation can be achieved in various ways including using trusted and competent professionals such as Certified Crop Advisors to make onsite verifications. Trading program documentation can include*

*explicit language explaining that the regulatory burden remains solely with existing permitted sources.*

**Issue: Trading reduces the degree of certainty in meeting water pollutant reduction targets.** With point/nonpoint source trading, some may be concerned that trading could forego almost guaranteed, enforceable reductions from point sources in return for uncertain, unenforceable (under the CWA) nonpoint source reductions elsewhere.

**Possible Response:** *As discussed earlier in the Handbook, there is greater variability and uncertainty in pollutant reductions from land-based management practices compared to point sources due to site-specific variables and impacts of weather. Accounting and compensating for this greater uncertainty is essential to the environmental results and eventual acceptance of any point/nonpoint trading program. Various means are available for addressing this uncertainty including using nonpoint source screening criteria, conservative BMP performance assumptions, and uncertainty discounts for nonpoint source credits. As with any water quality management program, monitoring at the point of intended impact will be important for assessing overall program performance.*

**Issue: Trading can create “hotspots” or localized areas with high levels of pollution within a watershed.** Concerns may be raised that a trading program may improve the watershed’s overall water quality but leave certain areas with highly degraded water quality.

**Possible Response:** *Trading programs can and must be designed to avoid unacceptable localized impacts. As discussed in Chapter II, this can be achieved by considering the characteristics of the pollutant, watershed conditions, location of potential trading partners, and type of trades, and by incorporating specific mechanisms to prevent hot spots. Options include limiting the direction of trades, e.g., upstream versus downstream, imposing discharger-specific limits for pollutant(s) that are likely to cause localized concerns, and imposing limits on the number of credits that may be used by a particular discharger.*

**Issue: Trading may provide less opportunity for public participation in pollutant reduction activities.** There is rising public interest in watershed related activities. Citizen groups are often actively involved in decisions that affect local watersheds. Some may be concerned about whether trading will change existing public participation opportunities such as public notice and comment for NPDES permit modifications.

**Possible Response:** *All required public participation opportunities that apply to TMDLs and NPDES permits remain in place, without trading or with a trading program. In addition to these traditional mechanisms, it is valuable to solicit and consider public input during the development of a trading program and provide meaningful opportunities for input on issues of interest or concern. Early participation will help all parties better understand the information and assumptions used in the market’s development, and what to expect as the program is implemented.*

## ***Stakeholder Participation in Market Infrastructure***

Each of the trading programs described in the Market Infrastructure chapter provided for stakeholder involvement during the development stage. This section briefly describes, for two programs, the range of stakeholder participants, the function of the stakeholder group, and any key opportunities for stakeholder involvement that were provided.

### **Lower Boise River Effluent Trading Demonstration Project**

As described in the Market Infrastructure section, participants in the Lower Boise River project worked together to develop a trading program framework. The project was launched with a state workshop to educate all attendees about the trading concept and to solicit participation in the Lower Boise. Participants included wide representation from federal, state, and local agencies with water quality responsibilities, agriculture, municipalities, industry, and the environmental community. Participants included: the Idaho Water Users Association; the Idaho Farm Bureau; Pioneer Irrigation District; the Payette River Water Master; the Canyon Soil Conservation District; the Idaho Soil Conservation Commission; the Natural Resources Conservation Service; Idaho Rivers United; the Ada County Highway District; the Association of Idaho Cities; the Cities of Boise, Meridian, Nampa, and Middleton; the U.S. Bureau of Reclamation; the Southwest Idaho Resource Conservation and Development Council; Micron; Simplot; American Wetlands; Idaho Power Company; Idaho Division of Environmental Quality; US EPA; and the Boise State University Environmental Finance Center.

Participants were supported by a contractor providing neutral facilitation, process support, and various forms of analysis. Process support from a neutral facilitator was important for recruiting participation and managing the program development process.

As the participants worked together to pursue the development of a trading system, they recognized that state and federal regulatory agencies would maintain their existing authorities, but the group would develop and provide recommendations for their consideration that would likely carry significant weight. The participants were divided into three main teams: 1) the Framework Team, charged with developing the mechanisms, rules, and procedures for dynamic trading in the watershed; 2) the Point Source-Point Source Model Trade Team, responsible for developing a model trade between two point sources; and 3) the Point Source-Nonpoint source Model Trade Team, tasked with developing a model trade between a point source and a nonpoint source. Smaller workgroups were also formed to work through specific parts of the trading system. These workgroups also provided an opportunity for stakeholder groups to identify and resolve issues specifically related to their interests and needs. These included the Agriculture Workgroup, the Ratios Workgroup, the Trading Framework Workgroup, the Indirect Dischargers Workgroup, and the Association Workgroup. Stakeholder participation was supported by a state-run small grants program, facilitating production of materials for the workgroups. Idaho DEQ also prepared for public comment a state water quality trading guidance, model permit language for point source to point source trading, and the BMP list for the Lower Boise project.

### **Connecticut's Nitrogen Credit Exchange Program**

As described in the Market Infrastructure section, a nitrogen trading program was established in Connecticut as a means for attaining the nitrogen reductions outlined in the TMDL for Long Island Sound. Connecticut's program does not include nonpoint sources of nitrogen discharge and is

limited to the 79 municipal wastewater treatment plants in the region. Because of this limitation to point sources, the range of participating stakeholders was generally more restricted than trading projects that also include nonpoint sources.

Public involvement in the program has been provided through an administrative process of public workshops and hearings, through the legislative process required during the passage of state implementing legislation, and through ongoing meetings of the Nitrogen Credit Advisory Board. In addition, a number of individual meetings were held with affected sources, cities and towns, and other interested parties.

### *Administrative Process*

Prior to the development of the trading program, a series of six informational public workshops were held in the region on the wasteload allocations proposed in the nitrogen TMDL for Long Island Sound. Nitrogen trading was one of the options discussed at the workshops for meeting the TMDL allocations. These workshops were attended by affected point sources, local communities, and local and national environmental groups.

Another series of public workshops was held by the Connecticut Department of Environmental Protection to increase public understanding of the General Permit for Nitrogen Discharges and the Nitrogen Credit Exchange Program. Invitations and public notices were issued for these workshops and they were attended by point sources and other interested parties.

Following the informational meetings, a two-day formal public hearing was held to receive comments on the General Permit for Nitrogen. The agency formally responded to these comments and made several changes to the general permit.

### *Legislative Process*

Legislation was introduced in the Connecticut General Assembly to implement the Nitrogen Credit Exchange Program. Opportunity for stakeholder groups and the general public to comment on the program was provided through the legislative process, which included hearings in relevant legislative committees. As a result of the legislative process, a number of changes were made to the proposed program.

### *Nitrogen Credit Advisory Board*

The legislation established a Nitrogen Credit Advisory Board to assist and advise the Commissioner of Environmental Protection in administering the program. In addition to three representatives of state agencies, the board includes nine public members. The legislation requires that public members reflect a range of interests and experience and that it is balanced with regard to buyers and sellers of credits, large and small municipalities, and representatives from different geographic regions of the state. In addition, members with experience in wastewater treatment, environmental law, or finance are included. The Board conducts regular meetings that are open to the public.

## **Conclusion**

With the right participants engaged, you will be ready to put together the results of your analysis on pollutant suitability and financial attractiveness with an understanding of the basic functions that your WQT market must deliver. From this assessment you should have a good sense of whether watershed conditions do or do not favor large scale trading at this time. If watershed conditions are favorable for WQT, you are now well positioned to engage state and local clean water authorities to commence the design and implementation of a WQT program.