



How Good is Good Enough?
The Complex Legal World of Water Quality Issues

Water Quality Trading

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Topics

- Water Quality Trading – Overview
- The Wisconsin Experience
 - 1997 statute directs pilot projects (Wis. Stat. § 283.84)
 - July 11, 2011 – “A Water Quality Trading Framework for Wisconsin,” a Report to the Natural Resources Board
- Key Trading Issues

Water Quality Trading – Overview

- Market-based mechanism that allows one pollution source to meet regulatory obligations by using pollutant reductions generated by another source
- Benefits
 - Cost-effective TMDL implementation through increased flexibility and use of efficient market-based incentives
 - Progress toward meeting broad watershed goals through incorporation of point/nonpoint source reductions within watershed
 - Potential to create secondary environmental benefits – restoration of wetland, wildlife habitat, floodplains
 - Reduces overall compliance costs

U.S. EPA Guidance

- Water Quality Trading Policy (2003)
- Water Quality Trading Assessment Handbook (2004), with errata sheet issued in October 2005
- Water Quality Trading Toolkit for Permit Writers (2007)
- <http://water.epa.gov/type/watersheds/trading.cfm>
- Framework
 - Trades should not result in violations of water quality criteria
 - Trades must result in overall improvement in water quality, not just maintain status quo

U.S. EPA Water Quality Trading Policy (2003)

- Need for point sources to obtain NPDES permit
- Protection of designated uses
- Compliance with anti-backsliding and antidegradation requirements
- TMDLs tend to be most common economic “driver” for trading schemes

The Wisconsin Experience

- In 1997, Wisconsin Legislature enacted Wis. Stat. § 283.84, instructing WDNR to “administer at least one pilot project to evaluate the trading of water pollution credits”
- Limited to impaired waters that include combination of point/nonpoint sources as well as agricultural/municipal dischargers

Water Quality Trading Pilot Programs in Wisconsin

- Three water quality trading study areas – only one resulted in actual trading
- Between 1998-2003
 - Rock River Basin
 - Fox-Wolf River Basin
 - Red Cedar River
- Wisconsin's technology-based 1 mg/L phosphorus limit was motivation for permitted sources to invest in trading

Rock River Basin

- Cost of removing phosphorus at public-owned treatment works (POTW) overestimated
- Cost of nonpoint best management practices underestimated
- Administrative costs and complexity of installing nonpoint best management practices significantly greater than anticipated
- 10 permitted sources originally interested in trade
 - no trades ever took place

Fox-Wolf River Basin

- Nonprofit watershed alliance (Fox-Wolf Basin 2000)
- Significant number of point sources already achieved compliance with 1 mg/L phosphorus limit
- No further incentive for point sources to invest in trading
- No tool for pulling nonpoint sources into process
- Trading may increase with development of TMDL for phosphorus

Red Cedar River

- City of Cumberland traded phosphorus credits with area farmers
- Barron County LCD implemented trade program alongside existing incentive program for soil conservation practices
- Installed best management practices that offset city's phosphorus loading from POTW
- Same process as participation in county program they were already familiar with
- Traded with landowners at 2:1 ratio – 21 farmers installed best management practices
- Each incentive agreement for best management practices expired after 3 years

Water Quality Trading – Impediments and Drivers

- WDNR findings
 - Most wastewater treatment plants can more economically meet effluent limit of 1 mg/L phosphorus through plant upgrades than through trading
 - For trading to be effective, a broker should assume administrative costs (broker will need source of funds to function in this capacity)
 - Trading is more likely to be economical if phosphorus load to be traded is relatively small
 - Effluent limit of 1 mg/L phosphorus is not adequate driver to support trading in most instances – TMDL, performance standard or water quality based limit needed to elicit interest based primarily on cost considerations
 - An agreed-upon set of tools is needed to quantify phosphorus reduction loads from nonpoint sources
- Change in phosphorus regulations will impact the economics

“A Water Quality Trading Framework for Wisconsin,” a Report to the Natural Resources Board

Wisconsin Department of Natural Resources
July 11, 2011

Recommendation to Natural Resources Board

- Purpose of water quality trading program
 - Optimize costs to improve water quality
 - Create economic incentives for nonpoint source reductions and implementation of TMDLs
 - Provide greater flexibility

Recommendation to Natural Resources Board

- Pollutant parameters acceptable for water quality trading
 - Any pollutant parameter except bioaccumulative chemicals of concern
 - Cross pollutant trading where there is sufficient information to correlate impacts

Recommendation to Natural Resources Board

- Appropriate circumstances for water quality trading
 - Trading shall not result in exceedances of water quality criteria or water quality based effluent limits for acute toxicity
 - Cannot use to meet technology based effluent limits

Recommendation to Natural Resources Board

- Location and geographic extent of trade
 - Avoid “hot spots”
 - Consider delivery issues

Recommendation to Natural Resources Board

- Credit threshold
 - For nonpoint sources, the lower of:
 - The applicable statewide performance threshold, or
 - TMDL load allocation
 - For point sources, the lower of:
 - Technology based effluent limitation, or
 - Water quality based effluent limitation

Recommendation to Natural Resources Board

■ Delivery

- To account for distance between pollutant credit generator and credit user and impact on fate and transport
 - TMDL – use same delivery factors
 - Non-TMDL – USGS Sparrow Model

Recommendation to Natural Resources Board

■ Equivalency

- Two sources discharge same pollutant but composition differs
 - Depends on whether water quality criteria or TMDL differentiates
 - For example, Wis. Admin. Code § NR 102 regulates total phosphorus, so no equivalency factor is required

Recommendation to Natural Resources Board

■ Retirement

- Apply if goal of program is to accelerate achievement of water quality standards
 - Allowed in limited instances where interim credits are used to bring agricultural sources into compliance with performance standards

Recommendation to Natural Resources Board

- Uncertainty

- Ratio to account for uncertainty that occurs in nonpoint source generation of pollutant credits
 - Climate
 - Field testing
 - Modeling
 - Reliability of management practices

Recommendation to Natural Resources Board

- Timing of credit generation and use
 - Cannot use credits before they are generated
 - Point sources – controls, process modifications in place
 - Nonpoint sources – conservation or management practices in place and effective
 - Credits can be generated using monitoring or modeling
 - Can only use credits generated during time period used to demonstrate compliance (e.g., month, year)

Recommendation to Natural Resources Board

- Trade duration
 - Not limited to five years
 - Will require statutory change

Recommendation to Natural Resources Board

- Compliance and enforcement
 - Effluent limits remain in NPDES permits
 - For nonpoint source credits, permittee must certify management practices of trading partner
 - For point source credits, credit generator will verify credit generation on monthly discharge monitoring reports
 - Risk to permittee – WDNR suggests:
 - Strong contracts
 - Trade ratio

Recommendation to Natural Resources Board

- Trade administration
 - Allows for WDNR tracking, as well as use of brokers or credit exchanges

Recommendation to Natural Resources Board

- WDNR recommendation – next steps
 - Pending before Natural Resources Board
 - Requires some statutory changes
 - Requires U.S. EPA approval
 - Requires rulemaking and guidance development
- Significant stakeholders prepared to respond and implement, including the Southeastern Wisconsin Watersheds Trust, Inc. (Sweet Water) –
www.swwtwater.org/home/tmdlstakeholderkickoff.cfm

Water Quality Trading – Key Necessary Elements

- Need drivers for pollutant reductions
- Address risks to permittees
- Develop standard nonpoint source estimations of emissions and reductions
- Minimize transaction costs
- Need buy in

Questions?

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