

Economic Considerations of Water Pollution Trading

45% of assessed waters don't support designated uses

40,000 TMDLs need to be developed

TMDL implementation cost estimated between \$1 and \$4 billion

Trading offers potential to optimize resources within a watershed to achieve water quality goals at least cost with ancillary environmental, economic and community benefits



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Benefits

- Increases flexibility and expands range of watershed improvement options
- Reduces cost by taking advantage of differences in control costs among sources and economies of scale
- Can engage participants who either have no regulatory requirement to reduce pollution, or who have already met their regulatory requirements
- Creates market demand for innovative technologies
- Provides additional benefits, including: reducing other pollutants, providing habitat, increasing economic activity associated with improved water resource quality



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Types of trading approaches

- Load allocation across a class of regulated facilities
- Regulated facility establishes a fund that is used to finance an array of nonpoint source control and environmental restoration projects throughout watershed
- Market-base trading between regulated and unregulated (nonpoint) sources
 - Bilateral contractual arrangements
 - Tradable credits and banking



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Challenges

- Finding sufficient drivers (incentives for participation)
- Facilitating trades that make economic sense (substantial differences in control costs among trading partners)
- Developing economic instruments (e.g. contracts) that include measurable performance standards tied to water quality results, and that establish equitable contractual arrangements
- Reducing transaction costs (utilizing efficient administrative procedures and sufficient transparency and stakeholder engagement)

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- Trading Project Examples
 - Long Island Sound Nitrogen Trading
 - Piasa Creek Watershed Trading Project
 - Tualatin River Trading Project





USDA Cooperative State Research, Education and Extension Service, Regional Water Quality Program

Objectives

- Coordinate the Land Grant Universities within US EPA Region 2
- Integrate research, education and extension
- Build partnerships with US EPA, other federal, state and local agencies and other academic institutions

Partners

- Cornell University (New York)
- Rutgers University (New Jersey)
- University of Puerto Rico
- University of the Virgin Islands (USVI)

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Regional Trading Initiative

- Exploring trading opportunities in region (dialogue with states, EPA)
- Identifying potential roles for the Land Grant Universities
 - Engaging faculty, agencies, utilities and other potential project participants
 - Facilitating collaboration
 - Assessing trading feasibility
 - Trading program design, implementation, evaluation
- Feasibility assessment for Raritan Basin in New Jersey

