

Assessing Outcomes of Water Quality Trading Programs

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Water Quality Trading Programs Overview

- Many Programs, Many Differences
 - Nearly 20 Years Experience
 - Renewed Interest
 - Still Learning
 - Uncertainty
 - Specific Conditions
 - Heterogeneity of Environment
 - Heterogeneity of Issues
 - Heterogeneity of Institutions



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Water Quality Trading Programs Overview

- Varying Degrees of “Success”
 - Number of Trades
 - Cost Savings
 - Stakeholder Support



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Water Quality Trading Programs Evaluation

- Newness of Water Quality Trading Implies We Should:
 - Incorporate Evaluation Into Program Structure
 - Provide Flexibility in Programs to Adjust to Learning



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Water Quality Trading Programs Evaluation

- Goals
- Outcomes
- Actions
- Constraints



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Water Quality Trading Programs

Primary Goals

- Water Quality Improvements
 - Location/Proximity
 - Timeliness
- Cost Effectiveness
- Future Urban Growth



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Water Quality Trading Programs

Secondary Goals

- Reduce Future Uncertainty
- Complimentary Benefits
- Decision Making Flexibility
 - Management Innovations
 - Technological Innovations



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Water Quality Trading Programs Barriers

- Transaction Costs
- Regulatory Costs

Water Quality Trading Programs Actions

- Elements of Program Can Advance Goals
- Elements of Program Can Impede Goals



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Water Quality Trading Programs Choices in Policy Design

- Point Source / Nonpoint Source Trades
- Pollution Equivalence Ratio
- Uncertainty Ratio
- Pre-Existing BMPs
 - With or Without Maintenance
 - With or Without Cost Share



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Water Quality Trading Programs

Choices of Institutional Elements

- State Nonpoint Source Banks
- Broker / Clearinghouse
- New BMPs
 - With or Without Cost Share
 - With or Without Targeting



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Elements of Program	Primary Goals			
	Water Quality Improvements		Cost Effectiveness	Future Urban Growth
	Location/Proximity	Timeliness		
PS/NPS Trades	+/-	+/-	+	+
Pollution Equivalence Ratio	+	+	+	0
Uncertainty Ratio	+ / 0	+ / 0	-	-
Pre-Existing BMPs	-	-	-	+
State NPS Bank	+ / -	+ / -	-	+ / 0
Broker/Clearing House	+	+	+	+
New BMPs with Cost Share, with Targeting	+	+	+	+
New BMPs with Cost Share, without Targeting	-	-	-	+



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Elements of Program	Secondary Goals		
	Reduce Future Uncertainty	Decision Making Flexibility	Complimentary Benefits
PS/NPS Trades	+	+	+
Pollution Equivalence Ratio	0	0	+/-
Uncertainty Ratio	0	-	+/-
Pre-Existing BMPs	0	0	-
State NPS Bank	+	+/-	+/-
Broker/Clearing House	+	+/-	+/-
New BMPs with Cost Share, with Targeting	+	+	+
New BMPs with Cost Share, without Targeting	0	0	0



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Elements of Program	Barriers	
	Transaction Costs	Regulatory Costs
PS/NPS Trades	+	+
Pollution Equivalence Ratio	+	+
Uncertainty Ratio	+	0
Pre-Existing BMPs	0	0
State NPS Bank	-	-
Broker/Clearing House	-	-
New BMPs with Cost Share, with Targeting	+	+
New BMPs with Cost Share, without Targeting	+	+



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Water Quality Trading Programs Key Considerations

- 3rd Party Impacts
- Localized Water Quality Degradation



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Water Quality Trading Programs

Perceptions of Fairness

- Citizens
- Taxpayers
- Nonpoint Sources
- Point Sources



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Water Quality Trading Programs Design

- Goals
 - Need for Program
 - Stakeholders
- Outcomes
 - Measurable
 - Timeliness
- Actions
 - Program Elements
 - Adjustable
 - Flexible
- Constraints



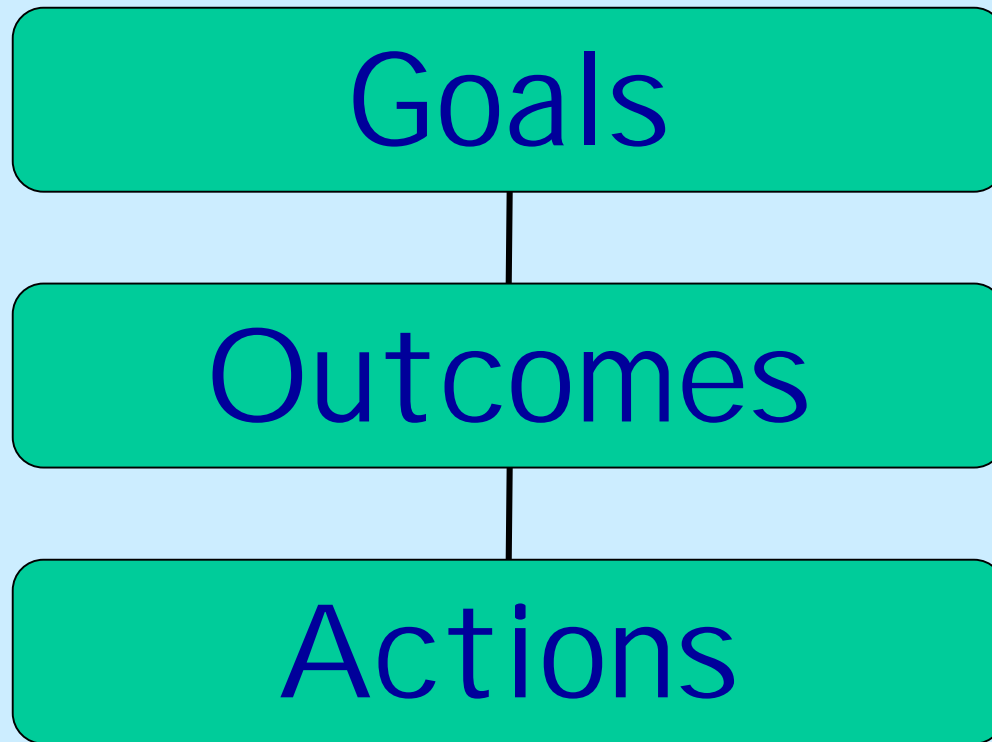
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Water Quality Trading Programs Conclusions



Constraints



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