# Project Goals, Objectives, and Schedule

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# Project Goal

- Develop, implement, and evaluate a Water Quality Trading program for Non-tidal Passaic River Watershed that:
  - *Adheres to USEPA policy on Water Quality Trading*
  - *Meets NJDEP requirements*
  - *Implements TMDL*
  - *Reduces cost of compliance with Clean Water Act*
  - *Establishes incentives for voluntary reductions*

# Project Schedule

- Phase 1: Characterization and assessment
  - (Months 1-7)
- Phase 2: Trading Program Development
  - (Months 5-19)
- Phase 3: Implementation and Evaluation
  - (Months 11-36)

# Phase 1: Characterization and Assessment

- Formation of Technical Advisory Committee
- Assemble and review available data; summarize and distribute
- Review literature on:
  - Water quality trading
  - Development of TMDLs for phosphorus
  - TMDL implementation plans
  - Policy and legal issues related to trading
  - Economics
  - Phosphorus removal technologies (PS and NPS)
  - other trading projects
- Summarize findings

# Data

- Data compiled on the NT-Passaic Watershed
  - GIS maps
  - Watershed studies
  - Water quality data and reports
  - TMDL documents
  - Water quality modeling analyses
  - Wanaque South pump station hydraulic model
  - Stormwater ordnances
  - US Census data
- Analysis of other trading projects
- Literature on science, policy, and economics of trading

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# Water Resources Program

- Creating Solutions for Water Resources Issues in New Jersey -

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## Water Quality Trading Program


Passaic Trading Project

Stakeholders

Forum

Water Quality Trading

Point to Point

Point to Nonpoint

Nonpoint to Nonpoint

Science

Economics

Policy

Case Studies

FAQ's

References


***What is water quality trading?***

Water quality trading represents a market based approach to achieving better water quality at lower cost. It is an alternative to traditional command and control regulation. Not only does it hold the potential of reduced costs for point sources (factories, wastewater treatment plants, etc.) to comply with water quality standards, it may be the best way to encourage reduction of rampant non point source pollution such as agriculture and urban land use, which are not regulated by the Clean Water Act. Water quality trading is multi-disciplinary and integrates science, engineering, policy, and economics. Stakeholders in a trading program can include industries, wastewater treatment plants, local businesses, farmers, municipalities, environmental NGOs, government officials, and citizen groups.

Trading is based on the fact that sources in a watershed can face very different costs to control the same pollutant. A trading program allots a certain number of pollution credits to sources collocated in the same watershed. The sources can choose to pollute under their limit and sell their credits, or pollute over their limit and purchase credits. If the limits and credits are properly allocated, such as with a TMDL, the net effect will improve water quality in the watershed, at lower cost than making each individual pollutant source upgrade their equipment to comply. Trading can occur among point sources and nonpoint sources. Depending on the structure of the program, sources can trade directly or indirectly with each other. Several water quality trading programs are underway nationwide, and some have been very successful, including nitrogen trading in Long Island Sound, and nutrient trading in the North Carolina Tar-Pamlico River Basin. These programs are saving hundreds of millions of dollars while significantly reducing water pollution.

These are just some of the key issues which are important to making a successful trading program:

- Presence of a regulatory driver, such as a TMDL
- Presence of market drivers that make trading financially attractive
- Establishing a framework that reduces transaction costs and simplifies the trading process, while still being transparent and compliant with the Clean Water Act and state/local laws
- Avoiding hot spots of higher pollutant concentration and ensuring equity for lower income residents

***Source:*** US EPA Water Quality Trading Assessment Handbook (2004), available at http://www.epa.gov/owow/watershed/trading/handbook/

http://www.water.rutgers.edu/Projects/trading/WQTrading.htm

# Phase 2:
# Trading Program Development

- Identify various trading scenarios, and incorporate into water quality and economic models
- Evaluate and compare trading scenarios
- Compare monitoring strategies for each trading scenario
- Design trading structure to implement and monitor the trading program
- Recommend a trading program and associated monitoring program
- Submit QAPP to DEP and EPA

# Phase 3: Implementation and Evaluation

- Implement trading program
  - Document trades and resulting pounds of phosphorus removed
- Implement monitoring program
  - Quarterly water quality reports
- Continuously evaluate effectiveness of program in meeting water quality standard
- Employ adaptive management to enhance trading program

# Year 1: Tasks and Milestone

**Tasks:**

- Review the available studies to identify potential trading scenarios
- Evaluate the potential trading scenarios from a scientific perspective
- Evaluate the economics associated with the various trading scenarios
- Evaluate the public policy and legal aspects of pollutant trading

**Milestone**: Prepare a report documenting the identification and evaluation of potential trading scenarios and a recommended trading structure for the Passaic River Watershed.

# Year 2: Tasks and Milestone

**Tasks (developing a trading structure):**

- Develop a mechanism to ensure regulatory compliance
- Develop a trading process
- Define pollutant reduction expectations and marketable reductions
- Identify a procedure to ensure water quality equivalence of trades and hotspot avoidance
- Develop a communication network for buyers and sellers
- Develop a tracking mechanism for trades
- Evaluate and manage risk among trading parties
- Develop a program to disseminate information to the public

# Year 2: Tasks and Milestone (cont'd)

**Tasks:**

- Develop a QAPP for the monitoring program
- Incorporate above items into a comprehensive trading program
- Implement the trading program

**Milestone**: Development and implementation of specific trades. This will include amended NJPDES permits for the point sources.

# Year 3: Tasks and Milestone

- Implement the monitoring program to document the success of the trading program
- Report results

**Milestone**: Documentation of the success of the trades through monitoring activities.

# Education and Outreach

- Essential to ensure public participation and acceptance
- NJDEP Division of Watershed Management with Rutgers Cooperative Research & Extension
- Quarterly News coverage
- Annual meetings/symposia