Trading Structure
Options

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Outline

• Trading structure
  – What is it?
  – What is it made of?
  – Why does it matter?

• Permit systems

• Potential trading structures for the Passaic
Trading Structures

• What is a trading structure?
  – The overall process for executing trades
    • How does a discharger buy or sell credits?
    • What is the role of the regulator in permitting or rejecting trades? How does the regulator evaluate compliance?

• Poorly planned structure is common pitfall in other trading programs

• Structure should have flexibility, accountability, enforceability
Components of a Trading Structure

Permit system

- Define compliance for PS
- Maintain ability for Regulator to enforce against noncompliance
- Define trading area boundaries
- Define credits
- Enable communication among credit buyers and sellers
- Clear approval process for trades
- Monitoring and reporting

- Ensure accountability and define liability for pollutant reductions
- Ensure avoidance of hotspots
- Track trades and progress towards WQ goals
- Manage risk among parties to trades
- Provide information to the public and other stakeholders
- NGO support
Importance of Permit system

- Permit system $\rightarrow$ structure $\rightarrow$ likelihood of success
- Different permit systems $\rightarrow$ Different structures
  - Individual point source or
  - Watershed-based permitting system
Options for Passaic project

• 3 possible structures
  – Market-like trading
  – Direct trading for water treatment
  – Trading association

• MS4s and WWTPs can have different trading structures
Structure 1: Market-like trading

- Original vision for WQT - market environment for trading
- Permit type
  - Each PS gets individual NJPDES permit for TP
    - TP limit based on TMDL WLA
- Buyers and sellers find each other and negotiate trades
- NJDEP may seek to approve each trade
  - Raises transaction costs; discourages potential traders
- Supposed to stimulate heavy trading, but has not succeeded in practice
  - Cumbersome approval process
  - Lack of regulatory or economic driver
Structure 2: Direct trading for water treatment

- Permit type
  - Each PS gets individual NJPDES permit for TP
    - TP limit based on TMDL WLA
  - PS that exceed TP limits compensate water purveyor for cost of added water treatment
  - Compensation – negotiated or predetermined by unit price for TP load exceedance
  - Which state authority can approve these trades?
Structure 3: Trading associations

• Permit type
  – PS form an association, receive watershed-based permit for TP
  – Permit gives collective cap for association
  – Cap = sum of WLAs from PS

• PS in group permit can trade among themselves to meet collective cap
  – If association violates cap, receive penalty proportional to cap exceedance
Structure 3: Trading associations (contd.)

• Most flexible structure
• NJDEP retains right to inspect individual WWTPs and enforce as needed
• Monitoring and reporting requirements for TP specified in group permit
• PS continue to have NJPDES permits for other parameters
• Structure used successfully in Neuse and Tar-Pamlico (NC), and Long Island Sound trading programs
EPA supports watershed-based permitting (WBP)

- Advantages:
  - Better quality NPDES permits
  - Less contentious permit issuance
  - Mechanism to implement TMDLs
  - Foundation for water quality trading
  - Emphasis on environmental results due to watershed planning
  - Attainment of watershed goals.
Watershed-based permit for the Passaic

• Feasibility of WBP for Passaic watershed
  – WWTP association already in place: Passaic River Basin Alliance
  – EPA guidance: 6 steps to WBP
    • Steps 1-3 already complete
• Passaic WBP requires strong support and advance effort from NJDEP
EPA guidance on WBP

Basic Steps to WBP

1. Select a Watershed
2. Identify and Engage Stakeholders
3. Analyze Watershed Data
4. Develop Permit Conditions
5. Issue Watershed-Based NPDES Permit(s)
6. Measure and Report Progress

Structure 3: Added Benefits

• Protection for low income municipalities
  – As part of an association, not left alone to meet WWTP and MS4 allocations for TP

• MS4 group permit is potential catalyst for stormwater utilities in NJ
Fine tuning Structure 3

• Phase in the target cap
• Use water quality equivalence ratios
• Maintain individual accountability
  – Association member keeps individual TP allocation
  – If association exceeds cap, and member exceeds allocation, then member is noncompliant
• Account for growth
  – New or expanding WWTPs must purchase allocations from other PS, or make offset payments to specified NPS fund (e.g. wetland restoration fund)
Hot spot avoidance

• We need to develop a way of identifying and ranking hot spot or potential hot spot zones
  – Reaches upstream of drinking water reservoir
  – Reaches that are very low flow in summer
  – Severely impaired reaches
  – Reaches that affect low income or minority communities

• Options to restrict or adjust trading in those zones
  – Limit direction of trades (buyer must purchase credits from upstream)
  – PS must treat to certain level before buying
  – Limit number of credits in the hot spot zone

• Another strategy: Incentivize trading within subwatersheds
Environmental Justice

• Provide assistance to low income municipalities that need to buy credits
• Added protection of trading association structure
For more information:

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