Necessary Elements for Water Quality Trading

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Necessary Elements for Water QualityTrading

- Foundation
  - Principles
  - Conditions that favor trading
- Structure
  - Key components of a trading program
- Examples
- Recommendations from other programs

Foundation: Principles

- Water quality trading is a tool to help meet water quality goals
  - At lower cost
  - Sooner than might otherwise occur
  - Multiple benefits
- Water quality trading is **not**
  - A way to evade responsibility for water quality goals
  - A way to dismantle the CWA
- Key functions for all trading programs
  - CWA compliance, public information, connecting buyers/sellers

Foundation: Conditions that favor trading

- Water quality problem and pollutant sources are characterized
- Desired water quality target is in place, e.g., consensus cap or TMDL → Driver
- Multiple point sources face more stringent permit limits, i.e., water quality-based limits
- Significant pollutant control cost differences exist among PS

Foundation: Conditions that favor trading (2)

- Sufficient modeling, data available to assess relative water quality impact of trades
- States, stakeholders willing to take nontraditional approach

* Rutgers/Cornell developing project
  - Research based
  - Neutral party

Structure: Key Components

- Define compliance for PS
- Maintain ability for Regulator to enforce against noncompliance
- Define trading area boundaries
- Define credits
  - Define credit and/or credit value
  - Trading ratios / water quality equivalence?
  - Timing: When are credits generated? When can credits be traded?
- Enable communication among credit buyers and sellers
- Clear approval process for trades
- Monitoring and reporting

Structure: Key Components (2)

- 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

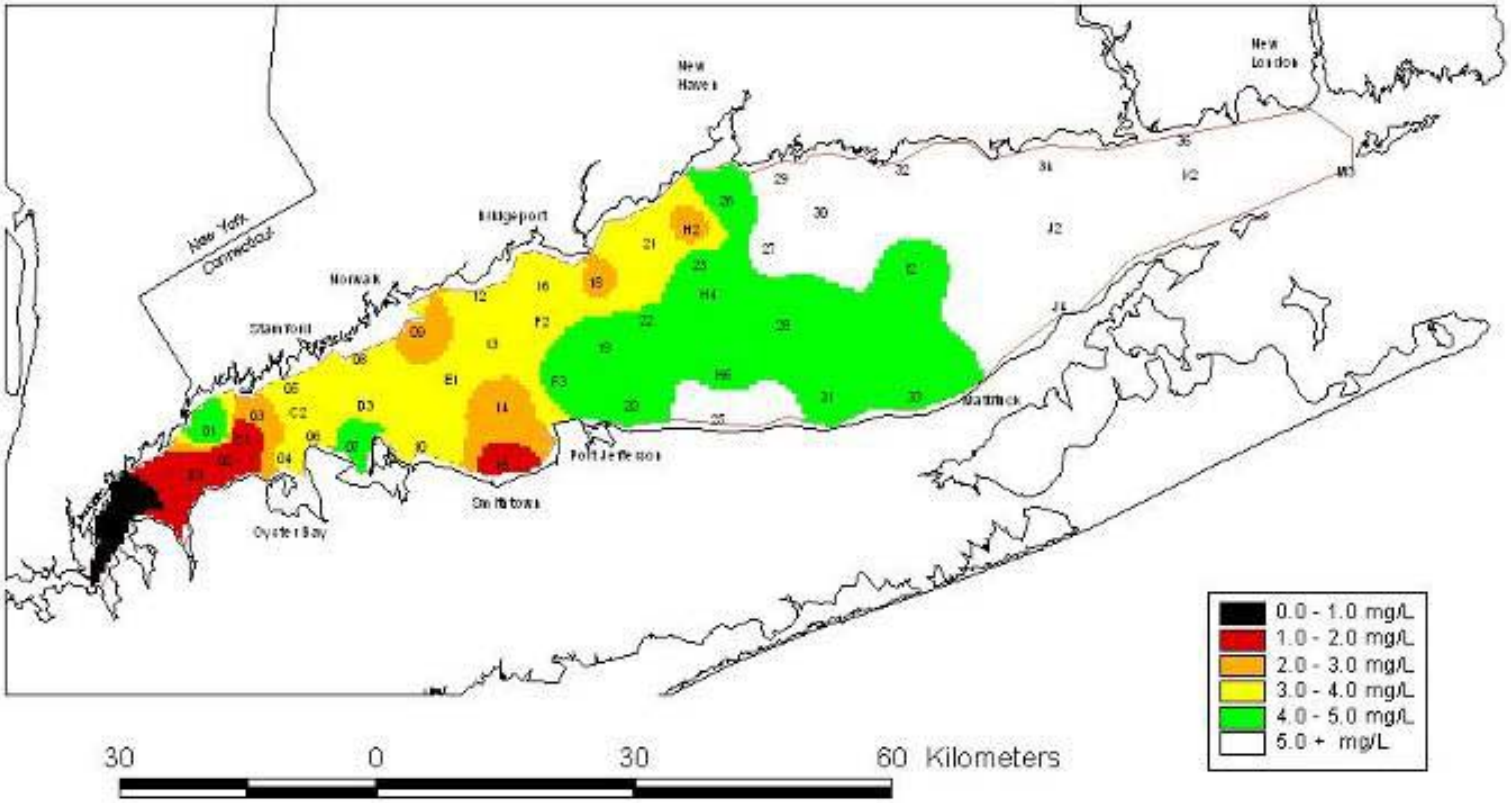
➢ **Permit type**– selection of individual point source or watershed based permitting system

Long Island Sound: Nitrogen Cap & Trade

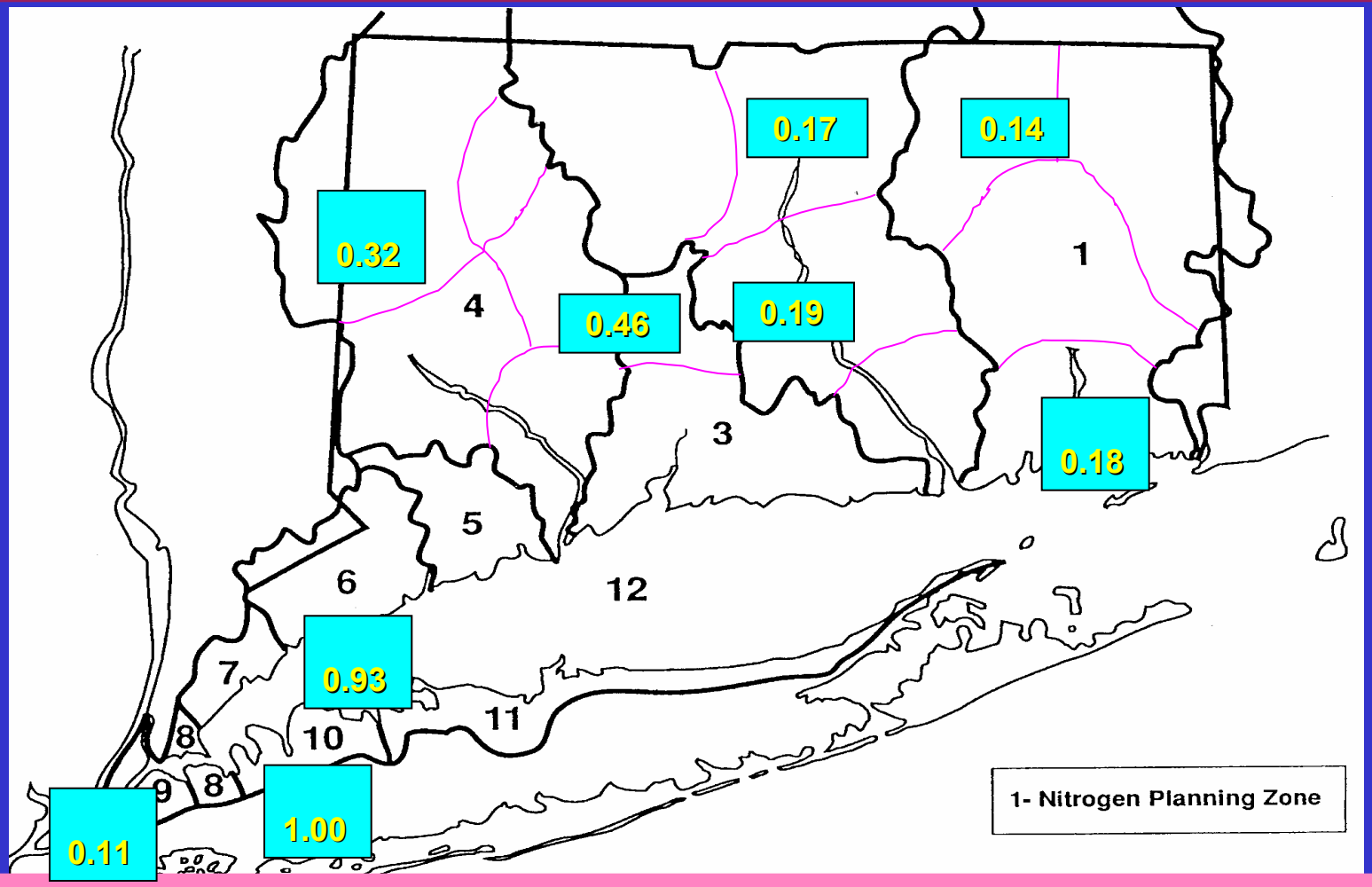
- Excessive nutrient loadings contribute to hypoxic zone in Long Island Sound each summer
- To eliminate hypoxia, Connecticut TMDL calls for 64% nitrogen reduction among 79 wastewater treatment plants by 2014
- Challenging goal, potential price tag $1 billion
- CT established a Nitrogen Exchange allowing WWTPs to
  - reduce nitrogen *or*
  - buy nitrogen reductions from the Exchange *or*
  - over-control nitrogen and sell reductions
- 79 WWTPs covered by one NPDES permit
- Permit has aggregate cap that declines every two years to meet 2014 goal

Long Island Sound Water Quality Monitoring Program
Summer Hypoxia Survey
Cruise: WQAUG99

August 2-5, 1999



LIS: Water quality equivalence ratios



LIS TMDL IMPLEMENTATION

LIS Foundation

- ✓ Water quality problem and pollutant sources are characterized
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- ✓ Significant pollutant control cost differences exist among PS
- ✓ Sufficient modeling, data available to assess relative water quality impact of trades
- ✓ States, stakeholders willing to take nontraditional approach

LIS Structure

- ✓ 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
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- ➢ **Permit type**– selection of individual point source or *watershed based permitting system*

Expect to reach nitrogen goal 5 to 6 years earlier than more traditional approach and save $200 million

Common trading obstacles

- TMDL not in place
  - Rock River (WI)
- Uncertain trading guidelines and transaction costs
  - Fox Wolf (WI)
- Difficulty identifying participants
  - Kalamazoo (MI)
- Not economically favorable to trade
  - Blue Plains (VA), Red Cedar River (WI), Boulder Creek (CO)
- Complicated approval process
  - Chatfield Reservoir (CO), Cherry Creek (CO), Lake Dillon (CO), Kalamazoo (MI)
- Lack of political acceptance
  - Rock River (WI)

Recommendations from other programs

- Know your constituents
- Make environmental data available and understandable
- Make policy based on scientific data
- A fiscal impact statement is a valuable tool to demonstrate value of WQT
- Trading process has to be simple, flexible, accountable, enforceable
- What is purpose of trading – interim fix or long term solution?

For more information:

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