Water Quality Trading: Is it Realistic for the Mississippi River?

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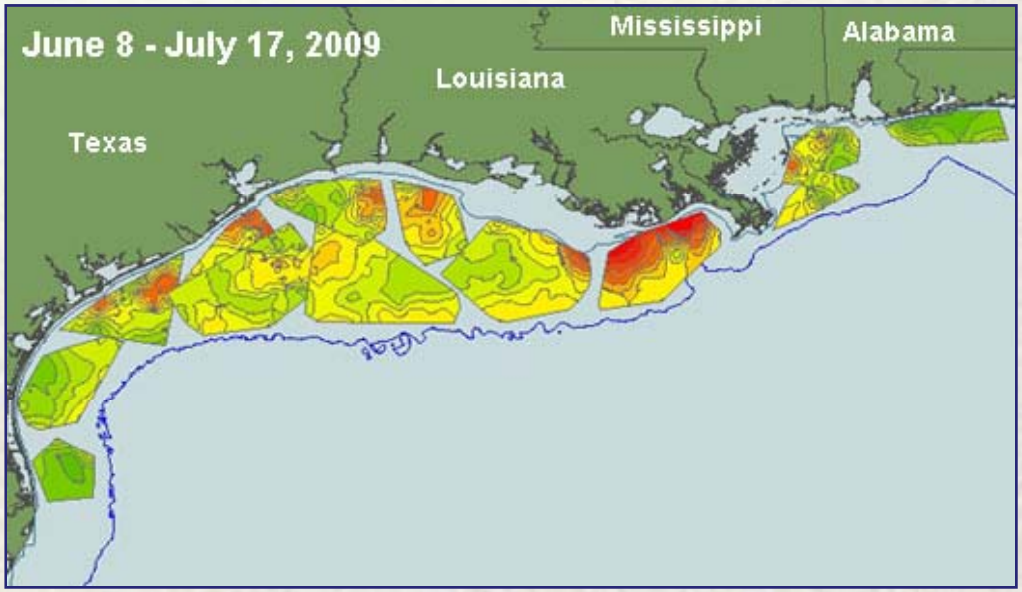
Water Quality Trading 101

- Market-based instrument that creates a market for the buying and selling of pollution credits.
  - Sources with lower abatement costs generate "credits" for sale by reducing pollution discharges beyond regulated or permitted levels.
- Two primary types of trading:
  - Point source to point source

Policy Driver - Gulf Hypoxia



Dissolved oxygen measurements made during the annual summer Gulf of Mexico Southeast Area Monitoring and Assessment Program. Areas with lowest levels of dissolved oxygen are shown in red.

Examples in MS Basin

- Great Miami River Water Quality Trading Program, Ohio
  - Credits generated through reverse auctions.
  - 50 projects funded for 324 tons in phosphorus reductions.
- Southern Minnesota Beet Sugar Cooperative
  - Cooperative obtained NPDES permit after agreeing to offset discharges with non-point source reductions.

Prerequisites for Trading

- TMDL or the equivalent
  - For example, trading in Chesapeake Bay was stimulated by the development and implementation of state Tributary Strategies to achieve N and P reduction goals.
- Numeric water quality standards for nutrients.
  - Lacking in majority of MS River Basin states.
  - Environmental groups filed petition for rulemaking on July 30, 2008.

Clean Water Act Basics

- CWA goal is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”
- Discharge of pollutant from a point source into waters of the U.S without a permit is prohibited.
- Points sources are required to met:
  - Technology-based effluent limitations
  - Water quality-based effluent limitations, where necessary to achieve water quality standards.

Does CWA Permit Offsets?

- 44 C.F.R. 122.4(i) prohibits the issuance of a permit "to a new source or a new discharger, if the discharge from its construction or operation *will cause or contribute to the violation of water quality standards*."
- Further prohibits discharges into waters not meeting WQS (impaired waters) unless:
  - There are sufficient remaining pollutant load allocations to allow for the discharge; and
  - The existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality

In re: City of Annandale

- Minnesota Supreme Court upheld permit allowing new discharge into impaired water.
  - Minnesota Pollution Control Authority allowed discharge because another plant in in area would be upgrading facility and reducing its discharge.
- Court deferred to agency's finding that new discharge would not "contribute" to violation of WQS.
  - "Nothing in the language of the regulation or the structure of the CWA prohibits the MPCA from considering offsets in this situation."

Friends of Pinto Creek v. EPA

- EPA issued permit authorizing discharges of copper into an impaired water.
- Ninth Circuit vacated permit.
  - "Nothing in the CWA or the regulation [ ] provides an exception for an offset when the waters remain impaired and the new source is discharging pollution into that impaired water."
  - 122.4(i)(2) exception does not apply unless new source can demonstrate how water quality standard will be meet if discharge is allowed.
- U.S. Supreme Court denied cert Jan. 12, 2009.

Anti-backsliding

- EPA prohibited from reissuing NPDES permits with effluent limitations that are less stringent than the final limits established in the previous permit.
  - Exception: Material or substantial change in circumstances.
- Is participation in trading program a valid basis for relaxing water quality-based effluent limitation?
  - If a facility is given a specific pollutant load limit in its permit, but is allowed to meet that limit by purchasing credits, has it been allowed to "backslide" to a less

Additional Concerns

- Uncertainty Ratios
  - Trading ratios used to address uncertainty.
    - For example, a wastewater treatment plant would be required to buy two pounds of P reduction for each pound discharged.
- BMP Effectiveness
  - Estimates of nutrient reductions achieved through BMP implementation based on computer models.
- Enforcement and Compliance
  - Point Sources remain responsible for achieving reductions.

Questions

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