

Verification and Monitoring Strategies in Water Quality Trading Programs

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May 14, 2013

Introduction

- Nine Technical Memorandums are drafted and under review
- Preliminary ideas are presented today and are for discussion purposes only
- Applies to reductions generated for use as:
 - Offsets for new and increased loads
 - Credits used in the states' trading programs

Monitoring

- For wastewater treatment plants, EPA seeks to ensure that sampling methods and frequency will support load estimates for purposes of a water quality trading program
- For offset and trading programs in the Chesapeake Bay watershed, EPA is preliminarily considering a recommendation of:
 - Three or more samples per week
 - OR
 - Flow-weighted composite weekly sample

Certification and Verification of Offsets or Credits

- Certify projects annually
- Consider prior compliance history
- Verify after implementation and prior to sale
- Verifiers expected to be independent and trained
- Verification should occur on a representative sample

Accounting for Uncertainty

- Verification does not address uncertainty in load calculations, only implementation
- 2:1 Uncertainty ratio expected to be used, unless state can demonstrate another ratio is more appropriate
- Point source loads are monitored. Nonpoint source loads are modeled. There are different assumptions between the two, primarily related to hydrology
- Not a source of uncertainty
 - BMPs—effectiveness values established with conservative assumptions
 - Watershed Model Phase 5.3.2—provides realistic estimates of nitrogen, phosphorus, and sediment loads

Permanence—Improves certainty of market

- Secure offsets or credits for the length of time in a permit
- Credits expected to be generated before or during the time the credits are used (E.g.: annual, monthly, seasonal)
- Presence of a spot market assures that credits are readily available

Baselines

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Baseline Requirements

- **Baseline:** Pollutant control requirements that apply to buyers and sellers in the absence of trades or offsets
 - Sellers must first achieve applicable baselines before entering a market to sell credits.
 - Buyers can purchase credits to achieve baselines once they have met minimum control levels
- **Practice-based or performance-based methods** are suitable for defining baselines and calculating credits generated...
- **As long as reductions to meet allowable loads under either the Bay TMDL or local TMDL, whichever is most stringent.**

Baseline Issues

- Model consistency – watershed v. farm scale:
 - For a trading model to produce loads comparable to those used to develop the Bay TMDL, the model needs to be consistent with the Bay TMDL assumptions and the scale of the allocations.
 - For example: Compare load to basin allocations for specific land uses – Hay, Crop, Pasture, production area
 - If load reductions are not similar between the models, then the states may think they are making progress in meeting TMDL targets, when they may not be.
 - Once loads are traded, those reductions are no longer available for that source, and that source could have difficulty meeting the TMDL allocation. Jurisdictions must report BMPs for the Annual Progress Review, rather than anticipated load reductions.

Evaluating Baseline

● To evaluate if an agricultural load meets the TMDL allocations (baseline), it must be assumed that a certain number of agricultural acres will implement a set of practices. The number of acres and set of practices can be complex.

- For example, it must be determined if the set of practices is the same for the state, or varies spatially.

● Working with jurisdictions to evaluate baseline options