Watershed-based NPDES Permitting

Danielle Stephan
Water Permits Division
US EPA – Washington, DC

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Outline

- Introduce the concept of watershed-based permitting (WBP)
- Overview of EPA's Watershed-based NPDES Permitting Technical Guidance
- Highlight real-world examples

What Is Watershed-Based Permitting (WBP)?

- An approach to NPDES permitting that results in permits:
  - Issued on a watershed basis
  - Focused on multiple pollutant sources
  - Targeted to achieve watershed goals
  - Integrate permit development among monitoring, water quality standards, TMDL, nonpoint sources, source water protection and other programs

Who Initiates a Watershed-Based Permitting Approach?

- Leadership can come from any level
  - Permitting authority
  - Point sources
  - Watershed organization
- Requires support of Permitting Authority and EPA Regional Office

The Danger of Not Having the Permitting Authority On-Board!

Basic Steps to WBP

Step 1: Define the Watershed Boundaries

Step 2: Identify and Engage Stakeholders

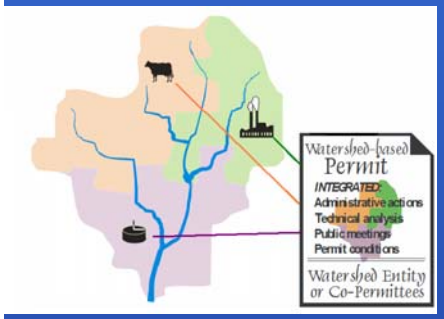
Step 3: Analyze Watershed Data

Step 4: Develop Permit Conditions

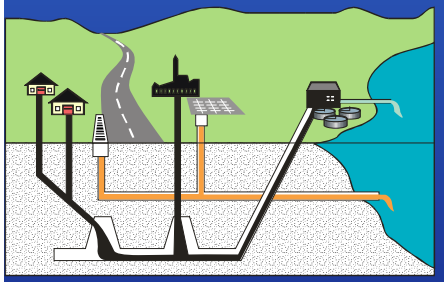
Step 5: Issue Watershed-Based NPDES Permit(s)

Step 6: Measure and Report Progress

Types of Watershed-based Permits

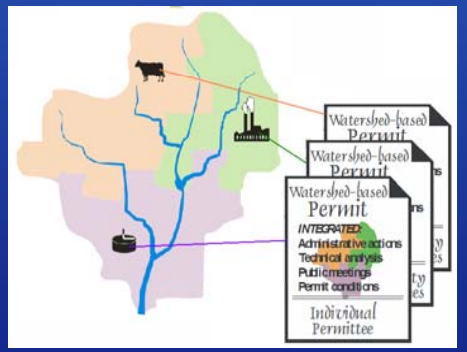


Individual Permit for Multiple Permitees

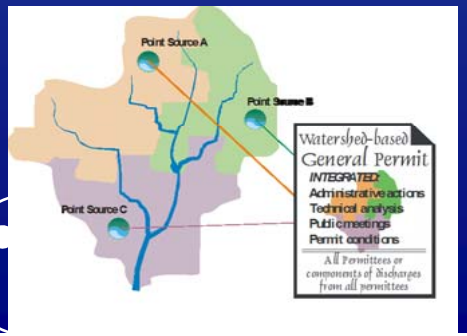


Integrated Individual Permit

Coordinated Individual Permits
(Synchronized Permits)



Watershed-based General Permits



What is Included in the Watershed-based Permitting Technical Guidance?

- NPDES Watershed Decision Framework
  - Decision making tool to analyze data and help the permitting authority decide whether a WBP is appropriate.
  - Designed to help the permitting authority determine how to implement the NPDES program so permits consider the entire watershed.
- Multisource Watershed-based NPDES Permitting Guide
  - Provides permitting authorities the technical assistance necessary to develop watershed-based permits, including example permit language.
- Watershed-based Permitting Case Studies

Case Studies

- Individual permits for multiple permittees
  - Virginia Chesapeake Bay
  - Neuse River, NC
  - Long Island Sound Watershed, CT
- Integrated Individual Permits
  - Clean Water Services, OR
- Coordinated Individual Permits
  - Lower Boise River watershed, ID
- Watershed-based General Permit
  - Big Darby Creek Watershed, OH
  - Michigan Statewide Watershed-based MS4 Stormwater General Permit
- Statewide approaches
  - North Carolina Statewide Approach

Integrated Municipal: Clean Water Services
Background and Permit Highlights

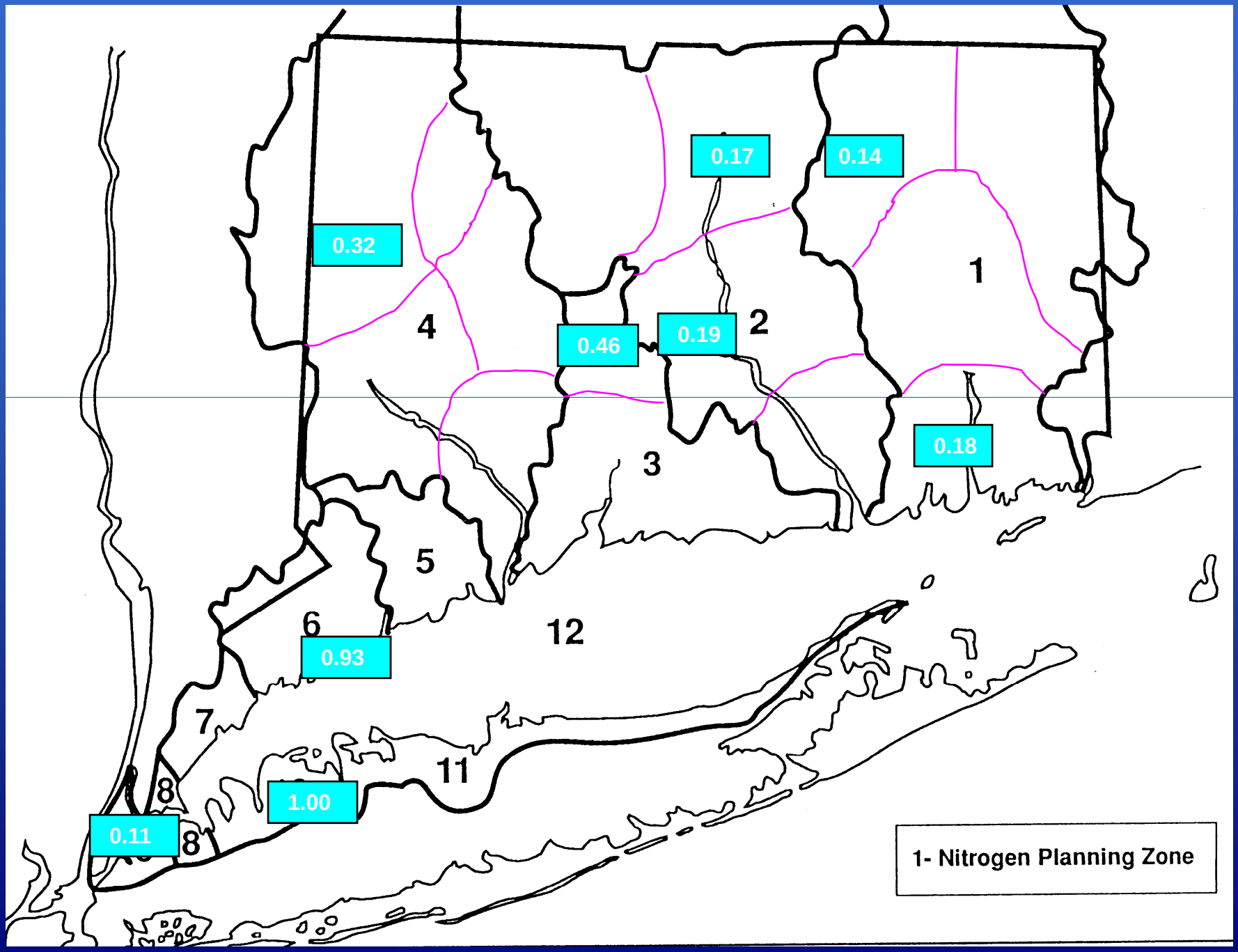
- Background on Clean Water Services
  - located in Hillsboro, Oregon
  - Public Utility covered under several NPDES permits
  - Tualatin River has TMDLs for (Temp, BOD, NH3, P)
- Highlights
  - In 2004, DEQ issued One permit
  - Consolidates permit components
  - Includes provisions for water quality trading
  - Requires approved surface water temp. mngmt. plan
  - Includes a comprehensive watershed monitoring plan

Integrated Municipal: Clean Water Services
Benefits and Lessons Learned

- Benefits
  - Environmental: Re-planted more than 65 miles of stream
  - Permittee: Flexibility to Spend resources to achieve greatest environmental benefit
  - Permitting Authority: Invest resources during first iteration with goal of reduced resources for future permit issuance
- Lesson Learned
  - Stakeholder involvement key early
  - Combining the different permit requirements into a single comprehensive format is challenging.

Overlay Permit: Long Island Sound, CT
Drivers and Program Highlights

- Key Driver
  - 2001 bi-state (CT and NY) nitrogen TMDL addresses seasonal hypoxia
- Key Aspects CT program
  - Nitrogen Credit Exchange Program framework
  - Watershed-based permit for nitrogen
  - Clean Water Fund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1- Nitrogen Planning Zone

Overlay Permit: Long Island Sound, CT
Benefits and Lessons Learned

- Benefits
  - Removed 14,921 equivalent pounds of TN/day from 29 facilities by the end of 2006
  - Anticipated achievement of the TMDL reduction targets on schedule
- Lessons Learned
  - Limited availability of Clean Water Funds to support nitrogen removal projects

Statewide Approach: North Carolina
Basinwide Approach

- The North Carolina Division of Water Quality (DWQ) employs a basinwide approach
  - Clean Water Responsibility Act
- Basinwide plans on a 5-year cycle with an
  - Planning Process
  - Permitting Process
- focus on diverse stakeholder involvement

Statewide Approach: North Carolina
Benefits

- Benefits
  - Improved administrative efficiencies
  - minimize the redundancy of Clean Water Act reporting and survey requirements
  - Consistency and defensibility in Decision Making

Compliance Association: Neuse River, NC
Drivers and Background

- Drivers
  - Nutrient Sensitive Water (NSW)
  - NSW Management Strategy
  - TMDLs for Total Nitrogen
- Neuse River Compliance Association (NRCA) formed as a non-profit in 2002
- Watershed-based Permit issued

Compliance Association: Neuse River, NC
Permit Highlights

- Functions as an overlay permit
- Contains individual and aggregate TN TMDL wasteload allocations for members
- Dischargers have 2 choices
  - Meet permit limit individually
  - Join trading coalition
- Two conditions for compliance:
  - Group at or below group limit
  - If group exceeds group limit, individual facility does not exceed individual limit

Compliance Association: Neuse River, NC
Benefits and Lessons Learned

- Benefits
  - Achieve water quality goals effectively and efficiently
  - Promote collaboration and communication without undue oversight
- Lessons Learned
  - Public relations continues to be challenging despite improvements (69% reduction in TN)
  - Challenges continue when allowing for growth

Overlay Permit: VA Chesapeake Bay
Background and Drivers

- Chesapeake 2000 Agreement
  - Established nutrient reduction goals for Total Nitrogen (TN) and Total Phosphorus (TP)
- Tributary Strategies
  - Virginia developed strategies for 5 majors tributaries to the Chesapeake bay
- In 2005, the Governor signed legislation
  - Created the Chesapeake Bay Watershed Nutrient Credit Exchange Program
  - Requiring significant dischargers to register for coverage under a general permit.

Overlay Permit: VA Chesapeake Bay
Permit highlights

- Permit was issued January 1, 2007 and covers approx. 140 Dischargers
- For all significant and new or expanding dischargers in the watershed, the Permit:
  - Establishes annual effluent loading limits for TN & TP
  - Addresses compliance schedules and plans
  - Includes Monitoring and reporting requirements
- Includes Water Quality Trading
  - Establishes conditions by which credits may be exchanged

Overlay Permit: VA Chesapeake Bay
Permit Highlights (cont'd)

- Under the permit, dischargers have the option of complying with their load through:
  - Treatment technology upgrades
  - Trading among permitted facilities via the **Exchange Network**
  - Purchasing Nutrient credits directly from compliant facilities
  - Purchasing nutrient reductions generated by non-point sources
  - Payment into the **Water Quality Improvement Fund** (only when no other options are available)

Overlay Permit: VA Chesapeake Bay
Benefits and Lessons Learned

- Benefits
  - Permittee: Provides permitees with a variety of options for Achieving compliance
  - Permitting Authority: Fewer staff to negotiate a single consolidated permit

- Lessons Learned
  - Numerous stakeholders involved who might not have consistent or complementary goals and objectives.

For More Information on Watershed-based Permitting

Danielle Stephan (202) 564-0759
Watershedpermitting@epa.gov

Water Permits Division (MC 4203M)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
EPA East Building - Seventh Floor
Washington DC 20460

http://www.epa.gov/npdes/watersheds