

WATERSHED-BASED NPDES PERMITTING: RETHINKING PERMITTING AS USUAL

WHAT IS WATERSHED-BASED NPDES PERMITTING?

Watershed-based NPDES permitting is an approach to developing NPDES permits for multiple point sources located within a defined geographic area (i.e., watershed boundaries). Through this approach, NPDES permitting authorities consider watershed goals and the impact of multiple pollutant sources and stressors, including nonpoint source contributions. This approach can encompass a wide variety of activities, from synchronizing permit issuance within a watershed to developing water-quality based effluent limits for a group of point sources, aimed at achieving new efficiencies and environmental results.

WHAT ARE POSSIBLE WATERSHED-BASED PERMITTING APPROACHES?

Every watershed is different and requires customized solutions to protect and restore water quality. One size-fits all approaches go against this basic premise of watershed management. Watershed-based NPDES permitting recognizes the need for watershed-specific solutions and does not prescribe one approach. Instead, it provides several possible approaches to serve as examples and generate ideas. Examples of possible approaches include the following:

- **Watershed-Based Individual Permit–Multiple Permittees.** This is a single NPDES permit that would cover multiple sources in the same watershed, or implement a Total Maximum Daily Load (TMDL) or watershed plan. Would allow several point sources within a watershed to apply for and obtain coverage under the same permit.
- **Watershed General Permits.** This approach relies on general permitting and would be similar to many existing general permits except that the watershed boundary defines eligibility for coverage or applicability of certain conditions (e.g., monitoring).
- **Integrated Municipal Permits.** This approach bundles all point source requirements for a municipality into a single NPDES permit. It may or may not reflect watershed boundaries.

WHY WATERSHED-BASED NPDES PERMITTING?

Recent studies of the nation's waters reveal that nearly half of the water bodies assessed are not meeting water quality standards, and that point source discharges are a contributing factor in many of these impaired waters. Where conditions are right for this approach, watershed-based NPDES permitting may successfully address these remaining water quality problems and produce further water quality improvements. In addition to environmental results, other possible benefits of watershed-based permitting approaches may include:

- Integration of other watershed protection programs under the Clean Water Act and the Safe Drinking Water Act
- Targeted and maximized use of resources to achieve environmental results
- Increased and coordinated public involvement in the permitting process
- Cooperation and collaboration among point source dischargers and other key stakeholders within the watershed
- Opportunities for water quality trading and other market-based strategies for meeting water quality standards.



WHERE IS WATERSHED-BASED NPDES PERMITTING HAPPENING?

OREGON: WASHINGTON COUNTY'S SPECIAL SERVICE DISTRICT EVALUATING BENEFITS AND ISSUES OF WATERSHED-BASED PERMITTING

In the Tualatin River watershed, both TMDLs and endangered species issues are primary concerns. Clean Water Services is responsible for wastewater and surface water management in urban Washington County, which translates into numerous permits and requirements under the NPDES program. Under a multi-year pilot project, Clean Water Services is evaluating the technical, stakeholder, regulatory and legal issues surrounding the development of a watershed-based NPDES permitting approach that will result in a permit that covers multiple point sources. Two outcomes of the pilot project are an interim permit that will allow development of a watershed-based permitting framework and a 5-year project work plan to coordinate requirements under the Clean Water Act, the Endangered Species Act, and the Safe Drinking Water Act.



Photo: Courtesy, Clean Water Services.



Photo: Anthony R. Congram, ConocoPhillips.

COLORADO: SELENIUM STAKEHOLDERS COLLECT DATA FOR STANDARDS IN THE SOUTH PLATTE RIVER

During the triennial review process in 2000, the Colorado Department of Public Health and Environment (CDPHE) proposed lowering the chronic selenium standard. This lowered standard would make compliance with NPDES water-quality based effluent limits challenging for point sources given current technological limitations for selenium removal and nonpoint source contributors. Conoco Inc. convened a stakeholder group of point sources that discharge to the South Platte River and its tributaries to discuss potential impacts of changing the selenium standards within this watershed. Based on data presented by the Selenium Stakeholder group during the Triennial Review hearings, the state granted a three-year Temporary Modification for a portion of this watershed to allow for additional monitoring to better understand the sources of selenium and determine site-specific selenium criteria. This study, now in its third year of implementation, has facilitated the collection of a large amount of quality data which can be used to develop and implement TMDLs in the future at a significant cost savings to the group.



Photo: Courtesy, NCDENR-DWQ.

CONNECTICUT: MULTIPLE POTWS IN LONG ISLAND SOUND REDUCING NITROGEN UNDER ONE PERMIT

In the summer, excessive nitrogen loading causes low dissolved oxygen (DO) in bottom waters of western Long Island Sound. The States of Connecticut and New York have established a 2014 goal to reduce nitrogen loads and have formalized a nitrogen reduction program through a TMDL. To help achieve this goal, the Connecticut Department of Environmental Protection (CTDEP) developed and issued

an NPDES permit addressing nitrogen discharges to 79 publicly-owned treatment works (POTWs) that discharge at least 20 pounds of total nitrogen (TN) per day to Long Island Sound. Existing individual permits held by the POTWs continue to regulate other pollutants and protect against localized impacts. Reductions in TN close to the low DO impact zone in the Long Island Sound are more “valuable” than TN reductions from more distant sources in the Sound; this disparity in credit value promotes trading through the Nitrogen Credit Exchange program. The ultimate measure of success in this watershed-based permitting approach is meeting, or exceeding, the nitrogen reduction schedule in the TMDL; as of 2002, the nitrogen reductions are several years ahead of projections.

Photo: Mark Parker, CT DEP.



NORTH CAROLINA: POINT SOURCES FORM THE NEUSE RIVER COMPLIANCE ASSOCIATION

Nutrient impacts led to TMDLs and the Neuse River Basin Nutrient Sensitive Waters Management Strategy. To meet the Strategy's 30 percent total nitrogen reduction goal, public and private entities in the basin that hold individual NPDES permits formed the Neuse River Compliance Association. The North Carolina Department of Environment and Natural Resources (NCDENR) issued an individual watershed-based permit with multiple permittees, called a group compliance permit, to the members of the Association. Dischargers participating in the Association keep their existing individual permits, but are subject to the TN limits in the group compliance permit. The TN limit in this permit is the sum of all TN loads for each of the Association members, established and allocated through the TMDL. If Association membership changes, the Association's TN allocation changes accordingly. The Association serves as the point of contact between the members and NCDENR and conducts activities for the group such as reporting. The group compliance permit does not contain any monitoring requirements; members of the Association adhere to the monitoring requirements contained in their existing individual permits.

HOW IS EPA PROMOTING THIS APPROACH?

Watershed-based NPDES permitting is gaining momentum and EPA is committed to accelerating this approach through a variety of actions focused on education and technical assistance, as stated in the January 2003 Watershed-Based NPDES Permitting Policy Statement. EPA has conducted activities such as compiling research and background information on watershed-based NPDES permitting, identifying and analyzing existing examples of this approach, and creating case study fact sheets. In addition, EPA has committed to developing guidance on implementation and technical issues surrounding watershed-based NPDES permitting. Where there is an interest in using this approach, EPA can help to initiate efforts by acting as a facilitator or identifying funding opportunities.

WHAT RESOURCES ARE AVAILABLE?

To date, EPA has generated several resources to educate stakeholders on the watershed-based NPDES permitting approach. EPA's web site is the primary resource for obtaining information on this approach, including:

- **Watershed-Based Permitting Under the NPDES Program: A Summary of Related Background Information.** A compilation and summary of past research, policies, memos and case studies.
- **Potential Partners in Promoting Watershed-Based Permitting: An Analysis of Watershed Organizations.** An analysis of 29 watershed organizations to identify the various roles that they can play in this permitting approach based on existing organizational goals and activities.
- **Watershed-Based NPDES Permitting Policy Statement.** Policy signed by Assistant Administrator for Water, G. Tracy Mehan III on January 7, 2003, that demonstrates the Agency's significant level of support for this approach.
- **Committing EPA's Water Program to Advancing the Watershed Approach.** Memo from EPA's Assistant Administrator for Water, G. Tracy Mehan III on December 3, 2002 that addresses steps the Office of Water will take to demonstrate renewed commitment to the watershed approach, including accelerating efforts to issue permits on a watershed-basis.
- **Watershed-Based NPDES Permitting Case Studies.** Series of fact sheets that present an overview of existing watershed-based NPDES permitting activities around the country.

Resources that EPA will make available in the near future include an implementation guidance manual, a technical guidance manual, and training opportunities.

WHAT IS THE PROCESS?

The process used to generate NPDES permits under a watershed approach will vary from watershed to watershed. There are basic steps that stakeholders involved in the process can use as a starting point. Stakeholders should tailor this process to fit the needs of the watershed.

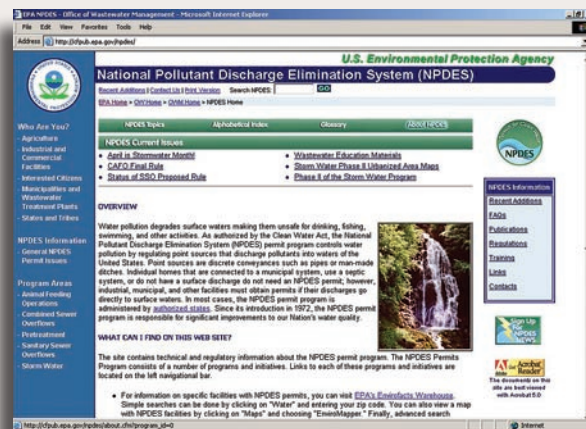
- Step One: Select a watershed and determine boundaries.
- Step Two: Identify stakeholders and facilitate their participation.
- Step Three: Assess water quality conditions of the watershed. Collect and analyze data for permit development.
- Step Four: Develop watershed-based permit conditions and documentation.
- Step Five: Issue watershed-based permit(s).
- Step Six: Measure and report progress.

WHERE DO STAKEHOLDERS FIT IN?

A wide variety of stakeholders can affect, and are affected by, watershed management decisions. As in any watershed effort, it is imperative to identify and involve stakeholders in watershed-based NPDES permitting early on in the process. Every step in the watershed-based NPDES permitting process contains an opportunity for stakeholders to participate! Stakeholders such as the NPDES permitting authority and point sources may initiate and facilitate the overall process. Other stakeholders, such as local watershed organizations and residents, may contribute data and information or provide input on the technical process. Every watershed-based permitting approach is different; therefore, the type of stakeholder involvement will vary.

WHERE CAN I FIND MORE INFORMATION?

For more information on watershed-based NPDES permitting, visit EPA's web site at www.epa.gov/npdes/watersheds.



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