

ABSTRACT

Continuing Planning Process

This abstract is intended to present the essentials of the water quality planning process of the Missouri Department of Natural Resources, Water Pollution Control Program. The mission of the program is to maintain and improve the quality of our streams, lakes and groundwater for the benefit of present and future generations.

Water Quality Processes

The objective of the Clean Water Act (the Act) is to restore and maintain the chemical, physical and biological integrity of our nation's waters. The status of water quality in Missouri is reported to the U.S. Environmental Protection Agency (EPA) every two years as required under section 305(b) of the Clean Water Act. The report focuses on water quality problems and assists the department in managing water quality. The Act requires Missouri and all states to assess water quality and identify actions needed for improvement. Protection of water quality involves the permitting process, including the application of technology-based controls and best management practices, while the improvement of water quality usually involves financial and engineering services and/or enforcement actions.

Waters that fail to meet standards are placed on the state's "303(d) list." Missouri's 1998 303(d) list of impaired waters, approved by EPA Region 7, based its ranking of those listed waters on the severity of the pollution and the designated use of the water. A revised list is required every two years at this point in time. The 1998 list was large due to the public input received. The 2002 303(d) list of impaired waters is being prepared and will be placed on public notice. The Clean Water Commission will forward the EPA a list of streams and lakes that do not meet Water Quality Standards or need more intensive monitoring. Missouri is working to limit pollution through the Total Maximum Daily Load (TMDL) process. TMDLs for water quality take into account both waste load allocation from point sources and load allocation from nonpoint sources. The TMDL process focuses on the problems associated with both nonpoint and point source pollution so that water is restored to meet Water Quality Standards. The water quality program's point and nonpoint source monitoring networks are described in the Continuing Planning Process. (See below for the distinction between point and nonpoint source).

Water Quality Protection Requirements

The first step in protecting water quality is to determine the level of protection needed. Missouri and all states use Water Quality Standards as the legal basis for their water quality-based pollution control requirements. When setting Water Quality Standards, Missouri designates the use(s) for each water body and adopts water quality criteria to protect the designated use(s). Using scientifically based methods, criteria are then adopted that protect and support the use. Missouri is reviewing its Water Quality Standards as it is required to do every three years under Clean Water Act (the Act). Standards are promulgated as state rules through a public hearing process before the Clean Water Commission.

The second step in the water-quality-based approach is to conduct water quality assessments to identify waters that are not meeting standards. By assessing a water's quality, the Department of Natural Resources can determine whether or not technology-based controls are adequate and/or water-quality-based controls are needed. Missouri's Water Pollution Control Program assesses and compiles data and reports on the status of its water bodies, focusing on the problems and assisting the department in the management of water quality. The information and data compiled is made public in a report to Congress every two years and is called the Missouri Water Quality Report or 305(b) report, as required in section 305(b) of the Clean Water Act. The 303(d) list for impaired waters is included in the 305(b) report.

Surface Water Quality Monitoring

Due to the cost of environmental monitoring, the department routinely coordinates its monitoring activities to avoid overlap with other agencies and often provides and receives interagency input on monitoring study design. The department partners with other agencies in special water quality studies.

Once the department identifies the condition of Missouri's waters through assessment, monitoring, study activities and inspections, priorities for water quality protection, enforcement and compliance are then determined based on the severity of the pollution. The department may, for instance, set or revise its Water Quality Standards and develop site-specific criteria for a particular stream. The department also works with responsible parties to ensure compliance and enforcement of Water Quality Standards for all water bodies in the state.

In revising or reaffirming its Water Quality Standards, the department will, through water quality management planning, determine what pollution controls will be necessary to meet the required standards. In other words, the Water Pollution Control Program, through assessment and monitoring, determines how much pollution stress a water body can absorb or assimilate from all sources without violating the water's quality standards. This is accomplished by looking at the entire watershed through the TMDL process and the basin planning effort. Some water bodies will need additional monitoring prior to TMDL development. The TMDL calculations form the critical link between Water Quality Standards and application of point and nonpoint source controls. Point sources include discernible, confined conveyances such as pipes, ditches, channels, sewers or tunnels from which pollutants are discharged. Nonpoint source pollution sources are those that do not have a single point of origin and include such activities as agriculture, forestry, strip mining, construction and development. Missouri and other states are prioritizing increasing amounts of time and money to determine crucial TMDLs for impaired waters.

Water Quality Implementation

The effective implementation of water-based controls requires an integrated and cooperative approach between the permitting and planning sections of the water quality program. Point source permits and nonpoint source controls are controls that can be implemented.

Point Source Measures

- Anyone who discharges wastewater into waters of the state must obtain a state operating permit from the permit section of the program. This permit fulfills the requirements of

federal law under the Act's National Pollutant Discharge Elimination System permit requirements . Missouri may regulate point source pollution because of the authority it has received from the EPA.

- Water pollution control permits and state operating permits place limits on the amount of a pollutant that can be discharged to the water body and are written for municipal, domestic, industrial and federal facilities to achieve the state's applicable Water Quality Standards.
- These permits are legally enforceable. The permit requires dischargers to monitor their wastes and to report the amount and nature of all wastewater discharges.

Engineering, Permitting and Planning

- The oversight provided by the department's engineering staff is important in the building of new wastewater treatment and collection systems. New construction may not always be the most effective solution. After thorough assessment, it may be determined that facilities should be connected to other facilities. The department's goal is to provide technical assistance up front in planning activities to prevent the need for enforcement.
- Plans to construct wastewater treatment facilities are reviewed by department engineering staff. The engineering department attempts to ensure that the people's investment in construction and the operation of wastewater treatment collection systems is good for the life of the project and that the construction plans meet the discharge criteria, typically over twenty years.
- During the permitting section's technical review to determine effluent limits for treated or untreated wastewater or grant general or site-specific permits, the section considers Water Quality Standards criteria, Total Maximum Daily Load limits and best management practices. This dual review by each section ensures that applications for construction and operating permits and other types of permits not only meet effluent guidelines but conform to the total water quality management efforts of the department.

Funding

Point Source (PS) Pollution Management

Financing for wastewater treatment collection systems is done through the State's Revolving Loan Program in the financing section of the water program. State Revolving Funds are capitalized with a federal grant and a 20 percent state grant. The borrower, municipal and wastewater facility participants, receive a low-interest loan to finance their project, while the bondholder receives a market rate on their bonds. No participant borrower in Missouri has ever defaulted on an obligation to its State Revolving Fund loan. Applications are reviewed by the Missouri Water and Wastewater Review Committee and then submitted to the department for financing through grant and loan programs.

Nonpoint Source (NPS) Pollution Management

Nonpoint source pollutants are substances of widespread origin that run off, wash off, or seep through the ground and enter surface water or groundwater. A Total Maximum Daily Load plan covering point and nonpoint source pollutants results in improved water quality that meets

standards. Nonpoint source pollution management is authorized and funded under Section 319 of the Clean Water Act. The Nonpoint Source Management Program in the planning section uses an integrated approach that develops and coordinates nonpoint source activities with federal, state, local and private sector entities in information, education, demonstration, technical assistance and implementation assistance through Clean Water Act section 319 grants. These grants are administered by the planning section of the Water Pollution Control Program.

Nonpoint Source Measures

Nonpoint source controls and protection measures are complex. These are practices that are implemented under Missouri's 2000 Nonpoint Source Management Plan (NPSMP). The stated mission of the NPSMP is three-fold:

- 1) Enhance statewide water quality assessment processes to evaluate water quality and prioritize watersheds affected by nonpoint source pollution,
- 2) Improve water quality by implementing nonpoint source related projects and other activities and
- 3) Maintain a viable and effective nonpoint source management program to meet changing environmental conditions.

Missouri's nonpoint sources include: agricultural nonpoint sources with sediment, fertilizer, pesticides and animal waste as the primary pollutants; urban nonpoint sources with sediment as the primary contaminant; and severe storms (water flow regimes) affecting water quality and acid mine drainage from abandoned coal mined lands, primarily historical in origin.

Total Maximum Daily Loads and Watershed Restoration

Missouri has two special focus areas for nonpoint source activities. These are the development of water quality management plans and/or TMDL implementation plans and the ongoing implementation of watershed restoration projects. Grant funds are provided to Missouri and other states under Section 319 of the Clean Water Act to implement watershed restoration strategies.

- A water quality management plan may be approved as part of the TMDL process. Such plans might include a nonpoint source management program combined with point source controls. The water quality management plan, as part of the TMDL strategy, informs citizens of their watershed status and provides for public participation and voluntary action in the implementation of watershed restoration projects. The TMDL program planning effort is technical, intensive and focused for bringing 303(d) listed waters into compliance with Water Quality Standards and is an appropriate strategy for both point and nonpoint source pollution.
- Watershed restoration projects stem from the federal Clean Water Action Plan, which directs states to focus substantial effort on the restoration of impaired waters and the implementation of water quality best management practices. These practices are designed to control the delivery of pollutants from nonpoint sources to water resources. Best management practices can be structural (for example, waste lagoons or storage tanks, terraces, sediment basins, or fencing) or managerial (rotational grazing, fertilizer, pesticide management or conservation tillage). Missouri has historically used a watershed ranking to prioritize watershed projects

and has developed a Unified Watershed Assessment. It is expected that the assessment will continue to be refined as a tool for nonpoint source activities.

Careful management of our watersheds – the land that captures, stores and supplies water to streams, lakes, rivers, reservoirs and aquifers – is essential to ensuring sufficient supplies of high quality water to sustain our economy and the environment.

Compliance and Monitoring

Based on review of inspections performed chiefly at the regional and state levels, the department will determine whether a permittee has complied with the requirements of the National Pollutant Discharge Elimination System permit. The compliance history of a facility will be reviewed. The focus will be on the amount, frequency and duration of the violation. The Department of Natural Resources has the authority to conduct investigations concerning violations of the Clean Water Law, Section 644.056 RSMO and is required to investigate upon request of the Clean Water Commission or upon receipt of information concerning alleged violations of the Clean Water Law. The department has the authority to attempt to eliminate violations through conference, conciliation or persuasion and may also order abatement or file an abatement complaint with the Commission. The focus for compliance with the state's nonpoint source program is different due to the fact that it is currently based on voluntary implementation of best management practices. The effectiveness of the program is determined by the commitment of the participants.

The department collects data about water quality and flow characteristics for many water bodies and lakes. Through crucial monitoring and compliance checks, the state assesses the effectiveness of point and nonpoint source controls. The 305(b) report, required under the Clean Water Act, is a measure of the progress of the environmental controls imposed by the department as a result of the data received from continuous monitoring and assessment. The report summarizes the status and condition of the Missouri's waters in a report to Congress as required every two years. This information is available when requested.

Water Quality Planning Management

Basic elements of water quality planning include:

- 1) Monitoring and assessment of all water bodies to provide the baseline data for planning changes in how water quality will be achieved,
- 2) Setting objectives that quantify the desired change in water quality through the adoption of national standards or by setting site-specific standards so that minimum national requirements are met,
- 3) The holding of public hearings for the purpose of reviewing Water Quality Standards every three years,
- 4) Maintaining and/or improving and restoring the designated uses of the state's water bodies by review and upgrade during the Water Quality Standards revision process,
- 5) Determining any new information technology now available that would warrant the change in designated uses regarding the protection and propagation of fish, shellfish and wildlife and or recreation on the water,
- 6) Meeting Water Quality Standards through the application of effective point and nonpoint source controls and in permit issuance and Total Maximum Daily Load development

7) Meeting the Water Quality Standards that support the water body's designated use through timelines for implementation, monitoring and evaluation.

All of these efforts comprise the everyday responsibilities of the water pollution control program. Success is ultimately based on widespread public involvement. One mechanism for achieving public involvement in the water quality planning effort is through the work of the Water Quality Coordinating Committee.

Water Quality Coordinating Committee

Missouri's water quality management planning is facilitated through the Water Quality Coordinating Committee, which meets monthly to present and discuss information on water quality issues in the state. This committee is composed of representatives from federal, state and local agencies, private sector groups and citizen groups. The meetings are open to the public. The goals of the partnering agencies directly impact the water quality management effort. The Missouri Department of Health, for instance, has objectives for on-site sewage systems that work to improve water quality.

Public Access to the Water Pollution Control Planning Process

The rise of urban and suburban growth and development has made the water quality work of the department more crucial than ever in protecting and enhancing Missouri's water quality. Proposed revisions to Water Quality Standards, changes to the water quality regulations, revisions of the Continuing Planning Process, permits and variances, the development of the 303(d) Impaired Waters List, including public notices, public meetings and other opportunities for public involvement are an important part of the management process. The meetings of the Missouri Clean Water Commission are open to the public. Many activities are planned and carried out to provide public input into the processes for these changes and revisions.

For example, the 2002 Impaired Waters List or 303(d) list and the 2001-2005 Continuing Planning Process documents are documents that are public noticed for 60 days. Copies of these draft documents are presented to the Commission for consideration and are placed on the department's Web site.