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Clean Water Act and Total Maximum Daily Loads (TMDLs) of Pollutants

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Summary

Section 303(d) of the Clean Water Act requires states to identify waters that are impaired by pollution, even after application of pollution controls. For those waters, states must establish a total maximum daily load (TMDL) of pollutants to ensure that water quality standards can be attained. Implementation was dormant until states and EPA were prodded by numerous lawsuits. The TMDL program has become controversial, in part because of requirements and costs now facing states to implement this 30-year-old provision of the law. In 1999, EPA proposed regulatory changes to strengthen the TMDL program. Industries, cities, farmers, and others may be required to use new pollution controls to meet TMDL requirements. EPA's proposal was widely criticized, and congressional interest has been high. In July 2000, EPA issued final rules to revise the program, stimulating more controversy, although the effective date of the changes was delayed until October 2001. The Bush Administration has decided to delay the effective date of the rule until April 30, 2003, to allow for additional review and changes. This report will be updated.

Background

The Clean Water Act (CWA) contains a number of complex elements of overall water quality management. Foremost is the requirement in section 303 that states establish ambient water quality standards for water bodies, consisting of the designated use or uses of a water body (e.g., recreational, public water supply, or industrial water supply) and the water quality criteria which are necessary to protect the use or uses. Through permitting, states or the Environmental Protection Agency (EPA) impose wastewater discharge limits on individual industrial and municipal facilities to ensure that water quality standards are attained. However, Congress recognized in the Act that, in many cases, pollution controls implemented by industry and cities would be insufficient, due to pollutant contributions from other unregulated sources.

Under section 303(d) of the Act, states must identify lakes, rivers, and streams for which wastewater discharge limits are not stringent enough to achieve established water quality standards, after implementation of technology-based controls by industrial and

municipal dischargers. For each of these waterbodies, a state is required to set a total maximum daily load (TMDL) of pollutants at a level that ensures that applicable water quality standards can be attained and maintained. A TMDL sets the maximum amount of pollution a waterbody can receive without violating water quality standards, including a margin of safety. If a state fails to do this, the Environmental Protection Agency (EPA) is required to develop a priority list for the state and make its own TMDL determination. A TMDL is both a planning process for attaining water quality standards and a quantitative assessment of problems, pollution sources, and pollutant reductions needed to restore and protect a river, stream, or lake. TMDLs may address all pollution sources, including point sources such as municipal sewage or industrial plant discharges; nonpoint sources, such as runoff from roads, farm fields, and forests; and naturally occurring sources, such as runoff from undisturbed lands.

The TMDL itself does not establish new regulatory controls on sources of pollution. However, when TMDLs are established, municipal and industrial wastewater treatment plants may be required to install new pollution control technology. States and EPA enforce the TMDLs through revisions to existing permits which include the pollutant limits and a schedule for compliance. For waters impaired by nonpoint source runoff, because there are no federal controls over these sources under the Clean Water Act, the primary implementation measures are state-run nonpoint source management programs coupled with state, local, and federal land management programs and authorities and financial assistance programs. For example, farmers and ranchers may be asked to use alternative methods in their operations to prevent fertilizers and pesticides from reaching streams. States may require cities to manage or control runoff from streets.

Implementation

TMDLs are one element of water quality management programs conducted by states to implement the CWA. Other activities include standard setting, monitoring, permitting, and enforcement. Integrating them with the TMDL program is difficult because of factors such as different program purposes and schedules. Most states have lacked the resources to do TMDL analyses, which involve complex assessment of point and nonpoint sources in order to ascribe and quantify environmental effects for particular discharge sources. Baseline water quality monitoring data for the analyses (to identify impaired waters and pollution sources) is limited. EPA has both been reluctant to intervene in the states and has also lacked resources to do so itself. Thus, there had been little implementation of the provision which was enacted in 1972. Only in 1992 did EPA issue regulations requiring states every 2 years to list waters that do not attain water quality standards and establish TMDLs to restore water quality.

Responding to the failure of both states and EPA to meet these requirements, however, environmental groups have filed 40 lawsuits in 38 states in the last few years. Environmentalists see implementation of section 303(d) as important both to achieving the overall goals and objectives of the Act and pressuring EPA and states to address nonpoint and other sources which are responsible for many water quality impairments nationwide but have not been controlled up to this point. Of the suits tried or settled to date, 20 have resulted in court orders requiring expeditious development of TMDLs.

The TMDL litigation falls into five general categories, according to EPA: (1) situations in which a state has failed to perform any section 303(d) activities; (2)

situations in which a state has engaged in some but insufficient activities to implement section 303(d); (3) challenges to EPA's listing of impaired waters, TMDL approval decisions, or EPA's promulgation of TMDLs; (4) situations in which plaintiffs are using TMDL requirements to achieve other CWA objectives, such as forcing improved water quality monitoring programs; and (5) challenges to the substance or content of TMDLs.[1]

Because of the lawsuits and existing requirements of the law, in August 1997, EPA issued a policy which for the first time called on states to develop long-term schedules for implementing TMDLs. Under that policy, EPA directed states to establish TMDLs in order to meet water quality standards within 8 to 13 years.[2] Development of TMDLs is being initiated at an increasing pace (states and EPA have established about 3,800), but most TMDLs remain to be completed. The most recent state 303(d) lists, submitted in 1998, identified over 20,000 waterbodies as not meeting water quality standards, and EPA estimates that as many as 40,000 TMDLs may need to be developed for these waters.

In August 1999, EPA proposed revisions to the TMDL regulations to clarify and strengthen the program. The key proposed changes included: a new requirement for a more comprehensive list of impaired and threatened waterbodies; a new requirement that states, territories and authorized Indian tribes establish and submit schedules for establishing TMDLs; a new requirement that the listing methodologies be more specific, subject to public review, and submitted to EPA; clarification that TMDLs include 10 specific elements; a new requirement for an implementation plan in TMDLs; and new public participation requirements. (For additional information, see CRS Report RL30422, *EPA's TMDL Program: Highlights of Proposed Changes and Impacts on Agriculture*.)

The 1999 proposal incorporated many of the recommendations of a Federal Advisory Committee Act (FACA) group which EPA convened in 1996 to improve the national program. While the group did not reach consensus on all issues, its report, presented in July 1998, affirmed the TMDL program's goal of eliminating impairments that cause water quality standard violations and made recommendations for setting priorities, dealing with uncertainties, and requiring TMDL implementation.

EPA's 1999 proposal had few strong supporters, for varying reasons. States, which would be directly affected by the proposal, criticized the burdens that new requirements would place on them. They are concerned that they lack the resources to meet tight deadlines to develop and implement TMDLs. Further, states say that TMDLs should not necessarily be prioritized over other elements of existing water quality management programs. Industry groups are greatly concerned about impacts of new pollution control requirements. But, municipal and industrial point source groups urge states and EPA to ensure that TMDL requirements do not fall disproportionately on their discharges, while possibly failing to address nonpoint source contributions to impaired waters. Farm groups and others associated with nonpoint discharges question EPA's authority to

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[1] For a summary of TMDL litigation by state, see information on EPA's Web site: [http://www.epa.gov/owow/tmdl/lawsuit1.html].

[2] This is a longer time frame than has been mandated as a result of some of the TMDL litigation. The schedules for TMDLs in 15 lawsuits concluded by consent decrees and settlement agreements range from 4-1/2 years to 12 years.

include nonpoint source pollution in the TMDL program. The forestry industry vigorously criticized potential impacts of the proposal on its activities. A number of environmentalists, who support the need for a stronger and more comprehensive TMDL program, objected to the lengthy time periods in the proposal before water quality improvements are likely to occur. They criticize the lack of aggressive implementation of a program that has existed in the law since 1972.

Congressional interest has been high: by the time the final rule was signed in July 2000, 13 congressional hearings had been held, and six legislative proposals to modify the Clean Water Act or delay the rule had been introduced.[3] EPA attempted to respond to the widespread criticism and signal flexibility on some of the most contentious points. (For additional information, see CRS Report RL30573, *Changes Recently Announced by EPA to Its TMDL Proposal*, May 31, 2000.) While the revised rule was undergoing final review, Congress adopted a provision in H.R. 4425, the FY2001 Military Constructions/FY2000 Urgent Supplemental Appropriations Bill, stating that no funds may be used in FY2000 or FY2001 to "make a final determination on or implement any new rule relative to" the August 1999 proposal. Because President Clinton intended to sign H.R. 4425 into law but opposed the TMDL provision, the Administration accelerated its review, allowing the EPA Administrator to sign it before President Clinton signed the appropriations bill on July 13 (P.L. 106-246). In the final rule, EPA acknowledged Congress' action in H.R. 4425 and delayed the effective date of the rule's changes until 30 days after Oct. 1, 2001, or the expiration of the rider, whichever comes first. The text of the final rule was published in the *Federal Register* on July 13, 2000.[4]

The final rule builds on the current TMDL regulatory program and adds details, specific requirements, and deadlines that require states to implement plans to clean up polluted waters. It retains the basic elements of the 1999 proposal for more comprehensive identification of impaired waters, schedules and minimum elements for TMDLs, and new public participation requirements. For some interested parties, what is most of interest is what was not included in the final rule. EPA dropped several provisions that were most controversial in the proposal, including some potentially affecting agriculture and forestry. (For additional information, see CRS Report RL30611, *EPA's TMDL Program: Highlights of the Final Revised Rule*.) The Bush Administration announced in mid-October that it would delay the effective date of the rule until April 30, 2003, to allow for further review, which is expected to result in changes to rule. That announcement came after a federal court granted the Administration's request for a similar 18-month suspension of litigation which is challenging the regulation (nearly a dozen interest groups have sued EPA over various parts of the TMDL rule). In the interim, current program requirements under existing regulations and court-sanctioned TMDL schedules remain in place.

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[3] During the 106th Congress, hearings were held by the full committee or subcommittees of the House Agriculture Committee, House Transportation and Infrastructure Committee, Senate Agriculture, Nutrition and Forestry Committee, and Senate Environment and Public Works Committee. Legislative proposals included H.R. 3609, H.R. 3625, H.R. 4502, S. 2041, S. 2139, and S. 2417. H.R. 4922 was introduced after EPA issued the final revised rule.

[4] U.S. Environmental Protection Agency. "Revisions to the Water Quality Planning and Management Regulation and Revisions to the National Pollutant Discharge Elimination System Program in Support of Revisions to the Water Quality Planning and Management Regulation; Final Rules." 65 *Federal Register* No. 135, July 13, 2000, pp. 43586-43670.

Issues for Congress

A number of issues and options for Congress are apparent.

- **Do nothing at this time**. EPA had hoped that its regulatory proposals would achieve improvements to the TMDL program and not require legislative changes to the Clean Water Act, since the outcome of the legislative process is uncertain. EPA also hoped that modifications of the 1999 proposal which it included in the final rule in 2000 would lessen criticism and perhaps deter congressional action.

- **Strengthen the current program**. Environmentalists have long sought to strengthen the program, and some favor amending the Act to: impose clear deadlines on states and EPA to carry out section 303(d), as there are no statutory deadlines in current law; make clear that EPA has a non-discretionary duty to act if a state fails to do so and define what EPA actions and/or penalties would follow; and ensure that states periodically update lists of impaired waters, so that TMDL implementation evolves as water quality conditions change.

- **Provide flexibility or limit the program**. The need for flexibility to develop and implement TMDLs is a key issue for states and industry. Many favor policies that would not commit them to specific timeframes for establishing and implementing TMDLs, but instead call for schedules to reflect the availability of sound science and resources. Water quality data are so limited, particularly concerning nonpoint sources, that many fear that TMDL decisions will be based on unsound information and will impose unneeded or inappropriate control mandates.

- **Clarify the program's impact on nonpoint sources**. Nonpoint sources (both urban and rural) cause or contribute to water quality impairments throughout the United States. Section 303(d) currently does not specify whether TMDLs should cover nonpoint sources, but EPA's long-standing interpretation is that sources of polluted runoff should be included, along with point sources. That position has been challenged, but EPA's interpretation has been upheld in one key court case (*Pronsolino v. Marcus*, 91 F.Supp.2d 1337 (N.D.Cal Mar. 30, 2000) *aff'd*, *Pronsolino v. Nastri*, CA9, No. 00-16026, 5/31/02). To limit TMDL implementation only to point sources would likely impose disproportionate pollution control requirements on cities and industries, which have been the traditional focus of the CWA's regulatory requirements. The 2000 rule explicitly included nonpoint source-impaired waters in the program. Farming and forestry groups contend that other non-regulatory CWA programs are directed at nonpoint source pollution, and they were concerned that EPA intends to regulate their activities through permits. These groups favor excluding nonpoint sources from the TMDL program, so that they do not bear the costs of implementation and pollution controls. Several bills in the 106th Congress proposed to exempt agriculture and/or forestry from CWA permit requirements. EPA clarified in the final rule its understanding

that it lacks regulatory authority over nonpoint sources and only can influence their activities through use of grants and funding.

- **Consider the resource question.** Both EPA and states face significant financial and technical challenges, and costs of EPA's rule have been one of the most controversial issues. The Agency projected that the incremental cost of the 2000 rule to states will be about $23 million per year, but states believe that costs will be higher and that assistance to states should triple to meet their increased needs. EPA's FY2001 final budget included $95 million in increased grant funds for TMDL activities to address the resource problems. The Bush Administration has not requested TMDL-specific increases for FY2002 or FY2003.

- **Further study and analysis**. Several bills in the 106th Congress called for more analysis of changes to the current TMDL program. EPA's FY2001 appropriation bill, P.L. 106-377 (H.Rept. 106-988), required studies by the National Academy of Sciences (NAS) and EPA on the scientific basis of the program and on the costs to states and businesses of implementing the TMDL rules. The NAS report was issued in June 2001. The panel concluded that scientific knowledge exists to move forward with the program but recommended changes to improve implementation. EPA issued a draft report on costs of the TMDL program in August, estimating that average annual costs to states and EPA of developing TMDLs could be $63-$69 million, while implementation costs for pollutant sources could be between $900 million and $4.3 billion per year, depending on states' actions. (For information, see CRS Report RL31091, *The Clean Water Act's TMDL Program: Newly Presented Options and Cost Estimates*.) A House Transportation and Infrastructure Committee subcommittee held a hearing on the NAS report on June 28, 2001, and additional congressional oversight is anticipated.

Finally, the recent attention to the TMDL program raises some challenging questions about the quality of the nation's surface waters, those subject to the Clean Water Act. After nearly 30 years of implementing the law, EPA and states acknowledge that a substantial portion of the nation's waters still are impaired or threatened by pollution. The most recent national inventory of water quality reported that nearly 40% of surveyed water bodies remain too polluted for fishing, swimming, and other designated uses.[5] Yet those numbers only represent rivers, streams, and lakes actually surveyed by state monitoring programs – typically about one-third of all waters. The TMDL assessments now being developed by states are yielding more precise water quality information and are identifying large numbers of stream segments which require additional measures before water quality standards are attained. Full implementation of the TMDL process is likely to inform policymakers more completely about conditions nationwide.

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[5] U.S. Environmental Protection Agency. Office of Water. THE QUALITY OF OUR NATION'S WATERS: 1998, EXECUTIVE SUMMARY. June 2000. 1 vol. EPA841-S-00-001. Report and summary are available at: [http://www.epa.gov/305b/98report/index.html].