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Water Quality: Implementing the Clean Water Act

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Summary

Congress enacted the last major amendments to the Clean Water Act in 1987 (P.L. 100-4). Since then, the Environmental Protection Agency (EPA), states, and others have been working to implement the many program changes and additions mandated in the law. At issue today — more than 30 years after enactment of the core law — is what progress is being made to achieve its goals. In general, states and environmental groups fault EPA for delays in issuing guidance and providing assistance to carry out the law. EPA and others are critical of states, in turn, for not reaching beyond conventional knowledge and approaches to address their water quality problems. Environmental advocates have been criticized for insufficient recognition of EPA's and states' need for flexibility to implement the Act. Finally, Congress has been criticized for not providing adequate resources to meet EPA and state needs. Appropriations for clean water programs, especially water infrastructure, are a continuing issue.

Three issues have predominated recently in connection with implementation of the law. The first involves funding to construct municipal wastewater treatment plants under the state revolving fund (SRF) provisions of the 1987 amendments. Budgetary constraints on federal aid for wastewater treatment and large remaining funding needs are a long-standing concern. For FY2006, Congress enacted legislation (P.L. 109-54) providing $887 million for clean water SRF grants ($204 million less than in FY2005). The President's FY2007 budget requests $688 million for these SRF grants, 22% less than FY2006 funding, and in May the House passed legislation providing the level requested by the President (H.R. 5386). Appropriations for water infrastructure assistance programs remain a controversial issue for Congress, and between Congress and the Administration.

The second issue involves progress in implementing the nonpoint pollution management provisions added in 1987. States are developing management programs describing methods that will be used to reduce nonpoint pollution, which may be responsible for as much as 50% of the nation's remaining water quality problems. Most observers agree that implementation of nonpoint source control measures is significantly hindered by limited resources. EPA has adopted program guidance intended to give states more flexibility and to speed up progress in nonpoint source control. The third issue is impacts and implementation of requirements under current law for states to develop total maximum daily loads (TMDLs) to restore pollution-impaired waters.

Reauthorization of the Act has been on Congress' agenda for several years, but no comprehensive amendments have been enacted. In the 108th Congress, legislation focused on water infrastructure funding legislation, but no bill was enacted.

This report replaces CRS Issue Brief IB89102, *Water Quality: Implementing the Clean Water Act*, by Claudia Copeland. It will be updated as warranted by developments.

Contents

List of Tables

Water Quality: Implementing the Clean Water Act

Most Recent Developments

Congress has begun consideration of legislation to fund EPA's clean water and other programs for FY2007. The President's budget, released in February, requested $687.6 million for grants to capitalize clean water state revolving funds (SRFs), 22% less than FY2006 funding. On May 18 the House passed H.R. 5386, providing EPA appropriations, and agreed to the clean water funding level requested by the President.

In July 2005, Congress passed the conference report on energy policy legislation, H.R. 6 (P.L. 109-58); one provision (Section 323) provides a permanent exemption from stormwater runoff rules for the construction of exploration and production facilities by oil and gas companies or the roads that service those sites. In January, EPA proposed a rule to implement this provision of P.L. 109-58.

The Act and Most Recent Amendments

The Federal Water Pollution Control Act, or Clean Water Act, is the principal law concerned with polluting activity in the nation's streams, lakes, and estuaries. Originally enacted in 1948, it was totally revised by amendments in 1972 (P.L. 92-500) that gave the Act its current form and spelled out ambitious programs for water quality improvements that are now being put in place by industries and cities. Congress made certain fine-tuning amendments in 1977 (P.L. 95-217) and 1981 (P.L. 97-117) and enacted comprehensive amendments in 1987 (P.L. 100-4).

The Act consists of two major parts: regulatory provisions that impose progressively more stringent requirements on industries and cities in order to meet the statutory goal of zero discharge of pollutants, and provisions that authorize federal financial assistance for municipal wastewater treatment construction. Industries were to meet pollution control limits first by use of Best Practicable Technology and later by improved Best Available Technology. Cities were to achieve secondary treatment of municipal wastewater (roughly 85% removal of conventional wastes), or better if needed to meet water quality standards. Both major parts are supported by research activities authorized in the law, plus permit and penalty provisions for enforcement. Programs are administered by the Environmental Protection Agency (EPA), while state and local governments have the principal day-to-day responsibility for implementing the law.[1]

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[1] For additional information, see CRS Report RL30030, *Clean Water Act: A Summary of* (continued...)

The last major amendments to the law are the Water Quality Act of 1987 (P.L. 100-4). These amendments culminated six years of congressional efforts to extend and revise the Act and were the most comprehensive amendments to it since 1972. They recognize that, despite much progress to date, significant water quality problems persist. Among its many provisions, the 1987 legislation: (1) established a comprehensive program for controlling toxic pollutant discharges, beyond that already provided in the Act, to respond to so-called "toxic hot spots;" (2) added a program requiring states to develop and implement programs to control nonpoint sources of pollution, or rainfall runoff from farm and urban areas, plus construction, forestry, and mining sites; (3) authorized a total of $18 billion for wastewater treatment assistance under a combination of the Act's traditional construction grants program and a new program of grants to capitalize State Revolving Funds; (4) authorized or modified a number of programs to address water pollution problems in diverse geographic areas such as coastal estuaries, the Great Lakes, and the Chesapeake Bay; and (5) revised many of the Act's regulatory, permit, and enforcement programs.

Legislative Activity after P.L. 100-4. Congressional oversight of water quality issues was limited immediately after enactment of P.L. 100-4. Subcommittees held general oversight hearings, as well as several hearings on individual issues (wetlands protection, Chesapeake Bay programs, and toxics contamination of Great Lakes waters), but reserved extensive review and oversight until implementation had been underway for some time.

EPA, states, industry, and other citizens continue to implement the 1987 legislation, including meeting the numerous requirements and deadlines in it. Three sets of issues have been the focus of attention regarding the pace and effectiveness of implementation: the toxic pollutant control provisions, nonpoint pollution management provisions, and the State Revolving Fund provisions to transfer wastewater treatment funding responsibility to the states after 1994. Attention has also focused on the cost-effectiveness of clean water requirements and flexibility of implementation.

Implementation issues discussed below were the basis for legislation to reauthorize the Clean Water Act during the 103rd Congress. Committees held hearings in 1993, and the Senate Environment and Public Works Committee reported a comprehensive reauthorization bill, S. 2093, in May 1994. Legislation also was introduced in the House, but no further action occurred because of controversies specific to the Act and the pending bills, as well as controversies over regulatory relief issues that became barriers to a number of bills in 1994.

In the 104th Congress, the House moved quickly on Clean Water Act legislation, approving a comprehensive reauthorization bill in May 1995. H.R. 961 would have amended many of the regulatory and standards provisions of the law, required EPA to use extensive new risk assessment and cost-benefit analysis procedures, and increased flexibility with regulatory relief from current clean water

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[1] (...continued)
the Law, by Claudia Copeland.

programs. However, the Senate did not take up the Clean Water Act during the 104th Congress; thus, no legislation was enacted.

1997 marked the 25-year anniversary of the 1972 Clean Water Act amendments, which established the goals, objectives, and structure that continue to guide the law today. In the 105th Congress, no major committee activity over the Act occurred either in the House or the Senate. Since the 104th Congress, attention has focused on individual program areas of the law; no comprehensive reauthorization legislation has been introduced. However, activity on bills dealing with specific water quality issues has occurred. Congress passed a bill to strengthen protection of coastal recreation waters through upgraded water quality standards and coastal waters monitoring programs (P.L. 106-284) and also passed a bill reauthorizing several existing CWA programs (i.e., Chesapeake Bay, clean lakes, and the National Estuary Program; P.L. 106-457). Further, Congress passed a bill to authorize CWA grant funding for wet weather sewerage projects (included as a provision of P.L. 106-554, FY2001 Consolidated Appropriations). The 107th Congress approved the Great Lakes Legacy Act (P.L. 107-303), which authorized $200 million for EPA to carry out projects to remediate sediment contamination in the Great Lakes. The 108th Congress enacted legislation amending the Act to extend the National Estuary Program through FY2010 (P.L. 108-399).

More generally, following the September 11, 2001 terrorist attacks on the World Trade Center and the Pentagon, congressional attention has focused on security, preparedness, and emergency response issues. Among the many topics of interest is protection of the nation's water infrastructure facilities (both wastewater and drinking water) from possible physical damage, biological/chemical attacks, and cyber disruption.[2] Policymakers are considering a number of legislative options in this area, including enhanced physical security, communication and coordination, and research. Physical security of wastewater treatment plant operations is one issue under consideration. In the 108th Congress, the House passed legislation to provide $200 million in grants for security activities at wastewater treatment plants (H.R. 866). A similar Senate bill was approved by the Senate Environment and Public Works Committee (S. 1039). No further action occurred, due in part to concerns expressed by some that the legislation would not require that vulnerability assessments be mandatory and be submitted to EPA, as is the case with assessments of drinking water utilities required by the 2002 Bioterrorism Preparedness Act (P.L. 107-288). The issue is again receiving attention in the 109th Congress.[3]

Although much progress has been made in achieving the ambitious goals established in the law 30-plus years ago to restore the maintain the chemical, physical, and biological integrity of rivers, lakes, and coastal waters, problems persist. Based on the limited water quality monitoring that is done by states, EPA reported in the 2000 National Water Quality Inventory Report that 39% of assessed river and stream miles and 45% of assessed lake acres do not meet applicable water

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[2] For information, see CRS Report RL32189, *Terrorism and Security Issues Facing the Water Infrastructure Sector*, by Claudia Copeland and Betsy Cody.

[3] See CRS Issue Brief IB10142, *Clean Water Act Issues in the 109th Congress*, by Claudia Copeland.

quality standards and were found to be impaired for one or more desired uses.[4] The types of remaining water quality problems are diverse, ranging from runoff from farms and ranches, city streets, and other diffuse sources, to metals (especially mercury), organic and inorganic toxic substances discharged from factories, sewage treatment plants, and nonpoint sources.

The Bush Administration has been reviewing a number of current clean water programs and rules but has proposed few new initiatives. However, in January 2003, the agency announced a Water Quality Trading Policy intended as an innovative approach to assist industry and municipalities in meeting Clean Water Act obligations. Trading allows one source to meet regulatory requirements by using pollutant reductions created by another source that has lower pollution control costs. The policy revised a May 2002 proposal which reflected lessons learned from a similar policy issued by the Clinton Administration in 1996. Water quality or effluent trading projects have occurred in the United States since the early 1980s.[5]

State Revolving Fund Program

The Act's program of financial aid for municipal wastewater treatment plant construction was a central and controversial aspect of debate on the 1987 amendments. Since 1972 Congress has provided more than $75 billion to assist wastewater treatment construction, but funding needs remain very high: an additional $181 billion nationwide for all types of projects eligible for funding under the act, according to the most recent Needs Survey estimate by EPA and the states, published in August 2003.[6] In September 2002, EPA released a study called the Gap Analysis that assesses the difference between current spending for wastewater infrastructure and total funding needs (both capital and operation and maintenance).[7] In that report, EPA estimated that, over the next two decades, the United States needs to spend nearly $390 billion to replace existing wastewater infrastructure systems and to build new ones. Funding needs for operation and maintenance (not eligible for Clean Water Act funding) are an additional $148 billion, the agency estimated. According to the Gap Analysis, if there is no increase in investment, there will be about a $6 billion gap between current annual capital expenditures for wastewater treatment ($13 billion annually) and projected spending needs. The study also estimated that, if wastewater spending increases by 3% annually, the gap would shrink by nearly 90% (to about $1 billion annually). At issue has been what should be the federal role in assisting states and cities, especially in view of such high projected funding needs.

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[4] U.S. Environmental Protection Agency. *The National Water Quality Inventory: 2000 Report.* Washington, September 2002. EPA-841-R-2-001. 207 p.

[5] For information, see CRS Report RS21403, *EPA's Water Quality Trading Policy*, by Claudia Copeland.

[6] U.S. Environmental Protection Agency. *Clean Watersheds Needs Survey 2000, Report to Congress.* Washington. August 2003. EPA 832-03-001. 1 vol.

[7] U.S. Environmental Protection Agency. *The Clean Water and Drinking Water Infrastructure Gap Analysis*. September 2002. EPA 816-R-02-020. 50 p.

The 1987 amendments extended through FY1990 the traditional Title II program of grants for sewage treatment project construction, under which the federal share was 55% of project costs. The 1987 law initiated a program of grants to capitalize State Water Pollution Control Revolving Funds (SRFs), or loan programs, in a new Title VI. States are required to deposit an amount equal to at least 20% of the federal capitalization grant in the Fund established under Title VI. Under the revolving fund concept, monies used for wastewater treatment construction would be repaid by loan recipients to the states (repayment was not required for grants under the Title II program), to be recycled for future construction in other communities, thus providing an ongoing source of financing. The expectation in 1987 was that the federal contributions to SRFs would assist in making a transition to full state and local financing by FY1995. Although most states believe that the SRF is working well, early funding and administrative problems have delayed the anticipated shift to full state responsibility. Thus, SRF issues have been prominent on the Clean Water Act reauthorization agenda in recent Congresses.[8]

SRF monies may be used for certain types of financial activity, including loans for as much as 100% of project costs (at or below market interest rates, including interest-free loans), to buy or refinance cities' debt obligation, or as a source of revenue or security for payment of principal and interest on a state-issued bond. SRF monies also may be used to provide loan guarantees or credit enhancement for localities. Loans made by a state from its SRF are to be used first to assure progress towards the goals of the Act and, in particular, on projects to meet the standards and enforceable requirements of the Act. After states achieve those requirements of the Act, SRF monies also may be used to implement nonpoint pollution management and national estuary programs.

Table 1 summarizes wastewater treatment funding under Title II (traditional grants program) and Title VI (capitalization grants for revolving loan programs).[9]

One issue of continuing interest is impacts on small communities. These entities in particular have found it difficult to participate in the SRF loan program, since many are characterized by narrow or weak tax bases, limited or no access to capital markets, lower relative household incomes, and higher per capita needs. They often find it harder to borrow to meet their capital needs and pay relatively high premiums to do so. Meeting the special needs of small towns, through a reestablished grant program, other funding source, or loan program with special rules, has been an issue of interest to Congress.

Congressional oversight of wastewater/SRF issues has focused on several points, including the fact that many small communities have found it difficult to participate in the SRF loan program, and the lack of funds for high-cost categories

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[8] For further information, see CRS Report 98-323, *Wastewater Treatment: Overview and Background*, by Claudia Copeland.

[9] *Note:* Table 1 does *not* include appropriations for special project grants in individual cities. Issues associated with special project grants are discussed in CRS Report RL32201, *Water Infrastructure Project Earmarks in EPA Appropriations: Trends and Policy Implications*, by Claudia Copeland.

of projects such as correcting combined sewer overflows. Although there has been some criticism of the SRF program, and debate continues over specific concerns (such as small community impacts), the basic approach is well supported in Congress and elsewhere. Congress used the clean water SRF as the model when it established a drinking water SRF in the Safe Drinking Water Act in 1996 (P.L. 104-182).[10]

Table 1. Wastewater Treatment Funding

(billions of dollars)

	Authorizations		Appropriations	
Fiscal Year	**Title II**	**Title VI**	**Title II**	**Title VI**
1986	$2.4	—	$1.8	—
1987	2.4	—	2.36	—
1988	2.4	—	2.3	—
1989	1.2	1.2	0.941	0.941
1990	1.2	1.2	0.967	0.967
1991	—	2.4	—	2.1
1992	—	1.8	—	1.95
1993	—	1.2	—	1.93
1994	—	0.6	—	1.22
1995	—	—	—	1.24
1996	—	—	—	2.07
1997	—	—	—	0.625
1998	—	—	—	1.35
1999	—	—	—	1.35
2000	—	—	—	1.345
2001	—	—	—	1.35
2002	—	—	—	1.35
2003	—	—	—	1.34
2004	—	—	—	1.34
2005	—	—	—	1.09
2006	—	—	—	0.887

Nonpoint Pollution Management

The 1987 amendments added a new Section 319 to the Act, under which states were required to develop and implement programs to control nonpoint sources of pollution, or rainfall runoff from farm and urban areas, as well as construction, forestry, and mining sites. Previously, the Act had largely focused on controlling point sources, while helping states and localities to plan for management of diverse nonpoint sources. Yet, as industrial and municipal sources have abated pollution,

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[10] For further information, see CRS Report RS22037, *Drinking Water State Revolving Fund: Program Overview and Issues*, by Mary Tiemann.

uncontrolled nonpoint sources have become a relatively larger portion of remaining water quality problems — perhaps contributing as much as 50% of the nation's water pollution. At issue today is what progress is being made to manage nonpoint source pollution and what additional efforts may be needed involving Section 319 or other public and private activities. Some observers are critical of the largely voluntary nature of the Section 319 program, consisting of "all carrot but no stick," while other argue that the types of individual land management decisions that are needed to manage nonpoint source pollution cannot be regulated in the same ways that industrial sources are controlled.

States were required to identify waters not expected to meet water quality standards because of nonpoint source pollution and to implement plans for managing pollution from runoff. Federal grants totaling $400 million were authorized to cover as much as 60% of the costs of implementing a state's management plan.

The funding issue has become more urgent as states have moved from assessment and plan development to management, since Congress intended that Section 319 funds be used primarily to implement nonpoint pollution controls on the ground. EPA has urged states to use a portion of monies that they receive under Section 106 of the Act, water quality program assistance grants, for nonpoint source activities. But, doing so utilizes money otherwise needed for core state efforts, such as permit issuance, monitoring, enforcement, etc. Several concerns have been raised about the Section 319 program.

Adequacy of Plans. Whether state plans have comprehensively addressed nonpoint pollution problems is a lingering question. Some environmental groups criticize EPA for providing inadequate guidance on methods, or management practices, to advance control of nonpoint sources beyond known problems and existing implementation steps, such as voluntary compliance and public education. Moreover, some believe that states should be required to repeat the nonpoint source assessments, which were one-time-only activities under the 1987 law, in order to reflect improvements in technical and scientific information.

Funding. Precise estimates of the cost to manage nonpoint source pollution are not available, because so much depends on the site-specific nature of problems and solutions. However, in 1994 EPA estimated that current and planned spending by private sources, states, and cities under provisions of current law is between $750 million and $1.1 billion per year. Without adequate funding to implement state management plans, it is doubtful that much will be achieved under Section 319 to control nonpoint source pollution.

Questions have been raised about the state grant program's efficacy and overlap with farm bill conservation funding, leading to proposed reductions in FY2004 and FY2005 appropriations for Section 319 funds. In particular, the White House Office of Management and Budget (OMB) found that EPA had not demonstrated results under the program and urged the agency to shift its focus away from implementing projects in agricultural areas and toward implementing plans in impaired waters. State officials have been concerned that OMB is not fully aware of the extent to which Section 319 funds address a range of nonpoint pollution control needs beyond the agricultural sector.

Program Changes. EPA and states negotiated changes intended to give the 319 program a new framework by giving states more flexibility. As a result, in 1996, EPA issued revised guidance concerning state management of nonpoint source programs that is intended to recognize that federal and state processes need to be streamlined to increase program effectiveness and to speed progress towards solving nonpoint pollution problems. The revised guidance outlines nine key elements to be reflected in state programs (e.g., strong partnerships with stakeholders, explicit short- and long-term goals for protecting surface and ground waters). States that meet the nine criteria can be designated as leadership states, making them eligible for incentives such as multi-year grants, reduced amount and frequency of reporting, and self-assessment by states themselves. These incentives contrast with the previous program approach, in which states competed for grants and those that did not meet particular requirements received less grant money.

Significance for TMDLs. Attention has focused on nonpoint source management efforts as a result of recent emphasis by EPA and states on meeting TMDL requirements (see "TMDL Requirements," next). Scrutiny of nonpoint pollution problems and how they are being addressed has intensified as policymakers and program officials assess additional steps to continue progress towards the Act's water quality goals. For several years, EPA has been explicitly linking implementation of Section 319 with TMDL activities. For example, in 2001, EPA published guidance saying that grants awarded under Section 319 should have a concentrated focus on the development and implementation of TMDLs for nonpoint sources of pollution, although funds will still be awarded to activities other than TMDLs. However, states and agricultural interests criticized the guidance as being too restrictive, and in August 2002, EPA modified the guidance which continues to encourage development of nonpoint source TMDLs but gives states more flexibility to do so, especially in areas that lack formally established TMDLs. Since FY2001, $100 million of Section 319 grant funds (which totaled $204 million in FY2006, for example) is being devoted annually to developing and implementing nonpoint source TMDLs.

Total Maximum Daily Load (TMDL) Requirements

Section 303(d) of the Clean Water Act requires states to identify pollutant-impaired water segments and develop "total maximum daily loads" (TMDLs) that set the maximum amount of pollution that a water body can receive without violating water quality standards. If a state fails to do so, EPA is required to develop a priority list for the state and make its own TMDL determination. Most states have lacked the resources to do TMDL analyses, which involve complex assessment of point and nonpoint sources and mathematical modeling, and EPA has both been reluctant to override states and has also lacked resources to do the analyses. Thus, for many years there was little implementation of the provision that Congress enacted in 1972. At issue today is continuing controversy over implementation of this program which is intended to address uncontrolled sources of water quality impairment and efforts to revise the rules and requirements for it.

In recent years, national and local environmental groups have filed more than 40 lawsuits in 38 states against EPA and states for failure to fulfill requirements of the Act. Of the suits tried or settled to date, 22 have resulted in court orders requiring EPA to develop TMDLs expeditiously. EPA and state officials have been concerned about diverting resources from other high-priority water quality activities in order to meet the courts' orders. In 1996, EPA created an advisory committee to solicit advice on the TMDL problem. Recommendations from the advisory committee formed the basis of program changes that EPA proposed in August 1999. The 1999 proposal set forth criteria for states, territories, and authorized Indian tribes to identify impaired waters and establish all TMDLs within 15 years. It would require more comprehensive assessments of waterways, detailed cleanup plans, and timetables for implementation.[11]

The 1999 proposal was highly controversial because of issues such as burdens on states to implement a revised TMDL program and potential impacts on some agriculture and forestry sources which are not now subject to CWA regulations. The controversies also have drawn congressional attention, and 13 congressional hearings were held during the 106th Congress by four separate House and Senate committees. Public and congressional pressure on EPA to revise or withdraw the TMDL proposal entirely was great. Several bills to modify EPA's TMDL proposals or delay implementation of final rules were introduced.

TMDL issues also were addressed in FY2001 appropriations bills. In July 2000, the House and Senate approved an FY2001 Military Construction and emergency supplemental appropriations bill that included a provision to prevent EPA from spending any funds in FY2000 or FY2001 to finalize or implement new TMDL rules. President Clinton signed the bill, in spite of the TMDL restriction, which the Administration opposed (P.L. 106-246). However, the EPA Administrator signed the new rules two days before the President signed the bill but delayed the effective date until October 2001, when the limitation in P.L. 106-246 would expire. EPA's signing of the rule before the rider took effect led to more criticism.

The FY2001 appropriations act providing funds for EPA, P.L. 106-377, included report language mandating studies by the National Academy of Sciences (NAS) and EPA on the scientific basis of the TMDL program and on the potential costs to states and businesses of implementing the revised TMDL rules. The NAS report, examining the role of science in the TMDL program, was issued in June 2001.[12] It did not specifically analyze the July 2000 revised regulations. The NAS panel concluded that scientific knowledge exists to move forward with the TMDL program and recommended that EPA and states use adaptive implementation for TMDL development. In many cases, the report said, water quality problems and solutions are obvious and should proceed without complex analysis. In other cases, solutions are more complex and require a different level of understanding and

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[11] For additional information, see CRS Report 97-831, *Clean Water Act and Total Maximum Daily Loads (TMDLs) of Pollutants,* by Claudia Copeland.

[12] National Research Council, National Academy of Sciences. *Assessing the TMDL Approach to Water Quality Management*. National Academy Press, Washington, D.C. June 2001. 82 p.

something like phased implementation. A House Transportation subcommittee held a hearing on the NAS report in June 2001. In August 2001, EPA issued a draft report on costs of the 2000 TMDL program. It estimated 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.[13] The General Accounting Office (now the Government Accountability Office) reported in 2002 that inconsistent monitoring, data collection, and listing procedures used by states to identify impaired waters have hindered efforts to develop effective TMDL programs.[14]

The Bush Administration announced in October 2001 that it would delay the effective date of the 2000 rule until April 30, 2003, to allow for further review. 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 sued EPA over various parts of the TMDL rule). A House Transportation and Infrastructure subcommittee held an oversight hearing in November 2001 concerning EPA's plans to revise the rule. Most recently, on March 19, 2003, EPA withdrew the July 2000 TMDL rule (68 Federal Register 13607). EPA officials said that additional time beyond May 2003 was needed to decide whether and how to revise the current program and that allowing the rule to take effect would have disrupted ongoing review efforts. In the interim and continuing for the present time, current program requirements under existing regulations issued in 1992 and court-sanctioned TMDL schedules remain in place.

Having withdrawn the 2000 rule, EPA is reportedly considering other options, including initiating an entirely new rule, but no specific plans or timeframe have been announced. In mid-2002, EPA developed a draft revised rule that it informally circulated among interest groups and federal agencies for many months, but no formal proposal has occurred. One EPA view, widely reported, is that a new rule is not essential, because EPA believes that states are and will continue to improve the pace at which TMDLs are established, even under existing rules. Most environmentalists say that, short of retaining the 2000 rule, the best action would be to leave the 1992 rules in place, because, despite flaws, those rules are preferable to a new rule that might significantly weaken the program. States, cities, and industry groups have urged EPA to develop a new rule with more flexibility than either the 1992 regulations or the 2000 revisions.

Other Issues

A number of other Clean Water Act issues continue to receive attention, as well. Like those discussed previously, many of these topics have recently been part of Congress' agenda in connection with reauthorization.

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[13] U.S. Environmental Protection Agency. *The National Costs of the Total maximum Daily Load Program (Draft Report).* EPA 841-D-01-003. Aug. 1, 2001. 1 vol.

[14] U.S. Government Accountability Office. *Water Quality: Inconsistent State Approaches Complicate Nation's Efforts to Identify Its Most Polluted Waters*, GAO-02-186, June 2001. 41 p.

Stormwater Discharges. EPA has struggled since the 1970s to regulate industrial and municipal stormwater discharges in a workable yet comprehensive manner. In P.L. 100-4, Congress established firm deadlines and priorities for EPA to require permits for discharges of stormwater that are not mixed or contaminated with household or industrial waste. EPA issued rules in November 1990 (21 months after the statutory deadline) that addressed Phase I of the program, detailing the process of applying for stormwater permits for industries, medium and large municipalities, and construction sites larger than 5 acres. The agency worked with an advisory committee of stakeholders beginning in 1994 to develop rules for regulating smaller stormwater dischargers, which were not covered by the 1990 rules. Rules for smaller dischargers (unregulated industries, small construction sites, and small cities), Phase II of the program, were issued in October 1999. The burden of complying with the rules continues to be an issue with many affected industries and municipalities, especially small cities, which faced compliance deadlines beginning in March 2003.[15]

Stormwater issues were addressed in one provision of omnibus energy legislation in the 108th Congress and now again in the 109th Congress. (For information, see CRS Issue Brief IB10143.) Section 323 of H.R. 6 provides a permanent exemption from stormwater runoff rules for the construction of exploration and production facilities by oil and gas companies or the roads that service those sites. As the March 2003 compliance deadline for small construction sites to comply with stormwater permit rules approached, EPA proposed a two-year extension of those rules for small oil and gas construction sites to allow the agency to assess the economic impact on that industry. In March 2005, EPA again extended the deadline, until June 2006.

Industry officials said that EPA's original stormwater rule created costly permitting requirements, even though the short construction period for drilling sites carries little potential for stormwater runoff pollution. The provision in H.R. 6 makes EPA's temporary delay permanent and makes it applicable to construction activities at all oil and gas development and production sites, regardless of size, including those covered by an earlier Phase I of the stormwater program. Opponents argued that the provision did not belong in the energy legislation and that there was no evidence that construction at oil and gas sites causes less pollution than other construction activities. The conference report on H.R. 6, with the oil and gas stormwater provision, passed the House and Senate on July 28 and 29, respectively. President Bush signed it into law on August 8 (P.L. 109-58). On January 6, EPA proposed a rule to conform the CWA to these provisions of P.L. 109-58.[16]

Combined and Separate Sewer Overflows. A total of 772 municipalities have combined sewers where domestic sanitary sewage, industrial wastes, infiltration

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[15] For further information, see CRS Report 97-290, *Stormwater Permits: Status of EPA's Regulatory Program*, by Claudia Copeland.

[16] U.S. Environmental Protection Agency. "Amendments to the National Pollutant Discharge Elimination System (NPDES) Regulations for Storm Water Discharges Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations, or Transmission Facilities." 71 *Federal Register* 894, Jan. 6, 2006.

from groundwater, and stormwater runoff are collected. These systems serve approximately 40 million persons, mainly in older urban and coastal cities. Normally (under dry-weather conditions), the combined wastes are conveyed to a municipal sewage treatment plant.

Properly designed, sized, and maintained combined sewers can be an acceptable part of a city's water pollution control infrastructure. However, combined sewer overflow (CSO) occurs when the capacity of the collection and treatment system is exceeded due to high volumes of rainwater or snowmelt, and the excess volume is diverted and discharged directly into receiving waters, bypassing the sewage treatment plants. Often the excess flow that contains raw sewage, industrial wastes, and stormwater is discharged untreated. Many combined sewer systems are found in coastal areas where recreational areas, fish habitat and shellfish beds may be contaminated by the discharges.

In 1994, following negotiations with key stakeholder groups, EPA issued a CSO permitting strategy. Cities were to implement nine minimum controls by January 1, 1997 (e.g., proper operation and maintenance programs for sewer systems and pollution prevention programs). The EPA strategy did not contain a deadline for issuance of permits or for controlling CSOs. Deadlines will be contained in plans developed by permitting authorities, which primarily are states. Controls are available and generally are based on combinations of management techniques (such as temporary retention of excess flow during storm events) and structural measures (ranging from screens that capture solids to construction of separate sewer systems). EPA officials stated in 1998 that only about one-half of the cities with combined sewers implemented the minimum measures called for in the 1994 strategy. EPA is now working with states to remind cities of their obligations to address CSO problems. However, a formal enforcement strategy is not contemplated.

A more recent issue concerning some cities is the problem of overflows from municipal separate sanitary sewers (SSOs) that are not CSOs because they transport only sanitary wastes. Discharges of untreated sewage from these sewers occur from manholes, broken pipes and deteriorated infrastructure, and undersized pipes, and can occur in wet or dry weather. EPA estimates that there are about 18,000 municipalities with separate sanitary sewers, all of which can, under certain circumstances, experience overflows. No explicit EPA or statutory control policy currently exists. In 1995, EPA convened a stakeholders' group to discuss how to address those overflows that pose the highest environmental and public health risk first. On January 5, 2001, the Clinton Administration finalized regulations to improve the operation of municipal sanitary sewer collection systems, reduce the frequency and occurrence of overflows, clarify the existing CWA prohibition on SSO discharges, and clarify circumstances appropriate for enforcement action. The Clinton proposal was not finalized and remains under review by the Bush Administration.

Funding for CSO and SSO projects is a major concern of states and cities. The most recent clean water needs survey estimating the cost of projects to meet objectives of the CWA found that the largest needs category, totaling $51 billion, is to address CSOs. EPA estimates that costs to restrict SSOs are $88.5 billion. In December 2000, Congress passed legislation, the Wet Weather Water Quality Act,

authorizing a two-year $1.5 billion grants program to reduce wet weather flows from municipal sewer systems. This bill was included in the FY2001 Consolidated Appropriations bill (Section 112 of Division B, P.L. 106-554), which codified EPA's CSO policy on sewer overflows (discussed above). Congress provided no appropriations for these wet weather grants during the two years of authorization (FY2002-FY2003).

Wetlands. Public debate over the nation's wetlands has come to focus on questions of the effectiveness and costs of wetland resource protection efforts, rather than on whether such resources should be preserved. The permit program authorized by Section 404 of the Clean Water Act is one of the major federal programs that protects wetlands. However, environmentalists and others have criticized Section 404 as being inadequate to prevent the continuing loss of wetlands, due to statutory exemption of certain types of actions on farmlands and weak enforcement. Those wishing to develop wetlands maintain that existing laws are already an intrusion on private land-use decisions and that further federal involvement is unwarranted. How best to protect remaining wetlands and regulate activities taking place in wetlands has become one of the most contentious environmental policy issues facing Congress and was a prominent element of clean water debate during the 103rd and 104th Congresses. Although there has been no recent legislative activity on Section 404, committee hearings were held on several issues arising from judicial decisions, administrative actions of interest, and implementation of current law. Particular attention has focused on issues related to a 2001 Supreme Court case which narrowed the government's regulatory jurisdiction over isolated waters, *Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers* (531 U.S. 159 (2001)). Since that ruling, some federal courts have interpreted *SWANCC* narrowly, thus limiting its effect on current permit rules, while a few have read the decision more broadly. On February 21, the Supreme Court heard arguments in two more cases brought by landowners (*Rapanos v. United States*; *Carabell v. U.S. Army Corps of Engineers*) seeking to narrow the scope of the Section 404 permit program. Decisions in these cases are expected by the end of June.[17]

On January 15, 2003, EPA and the Corps issued guidance to their staffs in the field for regulating in light of *SWANCC* and related cases. At the same time, the agencies issued an advanced notice of proposed rulemaking (ANPRM), seeking public comment on possible rule changes not yet proposed but which may be needed in response to the legal decisions. The agencies received more than 130,000 public comments on the ANPRM, most of them negative, according to EPA and the Corps. Since the 2001 ruling, House and Senate committees have held several hearings to examine issues and frustrations arising from government and judicial interpretations of the decision. On December 16, 2003, EPA and the Corps announced that the Administration will not pursue development of rule changes concerning federal regulatory jurisdiction over isolated wetlands. The EPA Administrator said that the Administration wanted to avoid a contentious and lengthy rulemaking debate over the issue. Environmentalists and state representatives expressed relief at the

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[17] For additional information, see CRS Report RL33263, *The Wetlands Coverage of the Clean Water Act is Revisited by the Supreme Court: Rapanos and Carabell*, by Robert Meltz and Claudia Copeland.

announcement. Interest groups on all sides have been critical of confusion in implementing the 2003 guidance, which constitutes the main tool for interpreting the reach of the *SWANCC* decision. However, environmentalists remain concerned about diminished protection resulting from the 2003 guidance, while developers said that without a new rule, confusing and contradictory interpretations of wetland rules likely will continue.[18]

Strategy Concerning Animal Feeding Operations. Public and policy attention has been increasing on steps to minimize public health and environmental impacts of runoff from animal feeding operations (AFOs). AFOs are agricultural facilities that confine livestock feeding activities, thus concentrating animal populations and waste. Animal waste is frequently applied to land for disposal and to utilize the nutrient value of manure to benefit crops. If not managed properly, however, it can pose risks to water quality and public health, contributing pollutants such as nutrients, sediment, pathogens, and ammonia to the environment. In 1999, EPA and the U.S. Department of Agriculture initiated a national AFO strategy to improve compliance and strengthen regulations that are intended to control adverse environmental impacts of these agricultural activities.

EPA regulations, issued in the 1970s, required CWA discharge permits for the largest AFOs, termed confined animal feeding operations (CAFOs). However, EPA acknowledged that compliance and enforcement of these permit rules was poor (less than one-third of covered facilities actually have permits) and that the regulations themselves were outdated. In December 2000, EPA proposed a rule to increase the number of AFOs required to obtain CWA permits and to restrict land application of animal wastes. In May 2001, a House Transportation and Infrastructure subcommittee held an oversight hearing on the proposal. Issues that Congress has addressed during this period include impacts and costs imposed on the agricultural sector, especially small farmers, and how the proposed combination of regulatory and incentive-based measures in the 1999 National AFO Strategy would achieve control of agricultural runoff that adversely affects water quality.[19]

On December 15, 2002, the EPA Administrator signed a final revised rule to regulate waste discharges from CAFOs. The final rule, which the agency was under court order to issue by December 2002, modified the Clinton Administration's 2000 proposal in a number of areas. The final rule retains much of the structure of the existing rule, such as regulatory thresholds and definitions, but includes requirements for development of nutrient management plans to better manage land application of manure. EPA estimated that 15,500 CAFOs will be regulated by the rule (compared with 26,000-39,000 under the proposal), at an annual compliance cost of $335 million (versus $850-$980 million under the proposal). Farm groups said that the regulations are generally workable and consistent with environmental initiatives in the 2002 farm bill (P.L. 107-171), but environmental groups criticized the rule for

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[18] For additional information, see CRS Issue Brief IB97014, *Wetland Issues*, by Jeffrey Zinn and Claudia Copeland.

[19] For additional information, see CRS Report RL30437, *Water Quality Initiatives and Agriculture*, by Claudia Copeland.

inadequately addressing animal waste runoff problems.[20] A January 2003 GAO report concluded that the rule will be ineffective unless EPA increases its oversight of state regulatory programs, which have primary responsibility for ensuring compliance by feedlot operators.[21]

In February 2005, a federal court issued a ruling in a set of challenges to the CAFO rule (*Waterkeeper Alliance, American Farm Bureau, et al. v. EPA*, 399 F.3d 486 (2d Cir. 2005)). The litigation involved challenges to the permitting scheme of the rule, the type of discharges subject to regulation, and the effluent limitations established in the rules. The court upheld major parts of the EPA rule, held in favor of some of industry's challenges, held in favor of several of environmentalists' challenges, and in some cases directed EPA to explain more fully why it did or did not do certain things with regard to specific provisions of the rule. It remanded the rule to EPA in light of the court's ruling. The court overturned the "duty to apply" part of the rule, which industry had challenged, that would require all CAFOs to apply for a permit. It also rejected parts of the rule, challenged by environmentalists as inadequate, regarding regulatory review of permits, inclusion of nutrient management plans in CAFO permits, and public participation requirements. EPA announced in November 2006 that it is extending the 2006 deadlines for livestock operations to obtain clean water permits and develop nutrient management plans, at least until the agency finishes revising the 2002 rule in compliance with the court's 2005 ruling. EPA now expects to issue a final revised rule in March 2007.

Continuing Issue: Appropriations and the Federal Budget

Although the 1987 Clean Water Act amendments dealt extensively with financial aid issues, funding questions have continued to arise and be addressed in the context of appropriations.[22]

FY2007. The President's FY2007 budget requested $687.6 million for clean water SRF capitalization grants, which is 22% less than was appropriated in FY2006 (see following section) and 37% below the FY2005 funding level. As in recent budgets, the Administration proposed no funding for congressionally designated water infrastructure grants, but it did seek a total of $40.6 million for Administration priority projects in Puerto Rico, Alaska Native Villages, and at the U.S.-Mexico border. Advocates of the SRF program (especially state and local government officials) contend that the cuts will impair their ability to carry out needed municipal

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[20] For additional information, see CRS Report RL31851, *Animal Waste and the Environment: EPA Regulation of Concentrated Animal Feeding Operations*, by Claudia Copeland.

[21] U.S. Government Accountability Office. *Increased EPA Oversight Will Improve Environmental Program for Concentrated Animal Feeding Operations*, GAO-03-285. January 2003. 42 p.

[22] For additional information, see CRS Report 96-647, *Water Infrastructure Financing: History of EPA Appropriations*, by Claudia Copeland.

wastewater treatment plant improvement projects. Administration officials say that cuts for the SRF in FY2007 are necessary because Congress boosted funds above the requested level in FY2005 and 2006. A group of state environmental officials contend that the budget unfairly targets state and local environmental grants.

On May 18 the House passed H.R. 5386 (H.Rept. 109-465), providing FY2007 funds for EPA and other agencies under the Interior and Environment Appropriations account. The House bill endorses the President's proposed cut to the clean water SRF program by providing $687.6 million for this popular program. It also includes $200 million for congressionally earmarked water infrastructure grants in 146 communities and $41 million for Administration-designated priority projects. The House-passed bill also includes $29.6 million for cleanup of contaminated sediments in the Great Lakes ($20 million less than requested), $204 million for Section 319 grants ($10 million more than requested), and $221.7 million for Section 106 state program administration grants (as requested).

During debate on H.R. 5386, the House approved an amendment (by a 222-198 vote) to block EPA from spending funds to implement controversial 2003 policy guidance that limited Clean Water Act jurisdiction over isolated streams, wetlands, ponds, and other non-navigable intrastate waters. The guidance, issued jointly by EPA and the Army Corps of Engineers, was intended to interpret the scope of the Act's jurisdiction following the 2001 Supreme Court *SWANCC* case (discussed above, see "Wetlands"). Supporters of the amendment said that the guidance goes beyond what the Supreme Court required in *SWANCC*, has allowed many streams and wetlands to be unprotected from development, and has been more confusing than helpful. Opponents predicted that the amendment would make EPA's and the Corps' job of regulating activities that affect wetlands more difficult than it already is.[23]

FY2006. In July 2005, the House and Senate approved legislation providing FY2006 appropriations for EPA (H.R. 2361, H.Rept. 109-188). President Bush signed the bill into law on August 2 (P.L. 109-54). One of the most controversial issues in the bill concerned funding for clean water SRF grants. The final measure includes $900 million for these grants — $170 million more than requested by the President for 2006. In its budget submission for FY2006, the Administration had requested $730 million for SRF grants, 17.5% less than the FY2005 appropriation and 45.6% below the FY2004 funding level, and said that cuts for the SRF in FY2006 were because Congress boosted funds above their requested level in FY2005 (see following discussion). The White House said that it plans to invest a total of $6.8 billion in the clean water SRF program between FY2004 and FY2011, after which federal funding would end and the state SRFs would have an annual revolving level of $3.4 billion. If Congress were to appropriate more than EPA requests in any given year, the Administration has said, that target will be met sooner, leading to reduced requests for the SRF in subsequent years until a planned phaseout in FY2011. State and local officials say that the SRF reductions will impede their ability to meet clean water goals. The President's budget also requested no funds for congressionally earmarked water infrastructure projects, but did seek $70 million in

[23] For information, see CRS Issue Brief IB97014, *Wetland Issues*.

funding for Administration priorities — U.S.-Mexico border projects and Alaska Native Villages projects.

The final measure passed by Congress exceeded the Administration's request by providing $900 million for clean water SRF grants and $285 million for a total of 259 earmarked special projects. However, these totals were reduced slightly as a result of a provision in P.L. 109-54 requiring a 0.476% across-the-board rescission for all accounts in that bill, and were reduced further by another across-the-board rescission of 1.0% affecting all domestic programs except those for veterans that Congress included in a subsequent appropriations bill, P.L. 109-148. As a result of the two required rescissions, the final FY2006 appropriations for clean water SRF grants is $886.8 million, and the total amount provided for earmarked water infrastructure project grants is $280.8 million.

The President's FY2006 budget included increases for some water quality programs (in particular, requesting $50 million for cleanup of Great Lakes contaminated sediment, up from $22 million in FY2005). The budget also included increases for some categorical clean water grant programs (state grants for program administration, $23.6 million more than in FY2005; and nonpoint source pollution management grants, $1.8 million more than in FY2005) and decreases elsewhere in order to fund other Administration priorities (such as elimination of Water Quality Cooperative Agreement grants, which support a variety of innovative permitting, management, and research projects and were funded at $17 million in FY2005). As enacted, P.L. 109-54 provides $30 million for cleanup of Great Lakes contaminated sediment. It includes nonpoint source pollution grants at the FY2005 level and state program grants (CWA Section 106) slightly higher than in FY2005, but less than requested. The bill endorses the Administration's request for no funding of Water Quality Cooperative Agreement grants. The final bill also includes a House-passed provision to prohibit EPA from using funds to finalize or implement a draft policy proposed in November 2003 concerning sewage blending by municipal wastewater treatment plants.[24]

For Additional Reading

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Loeb, Penny. "Very Troubled Waters." *U.S. News & World Report*, v. 125, no. 12, September 28, 1998: 39, 41-42.

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[24] For information, see CRS Report RL32384, *EPA's Proposed Policy on Wastewater Blending: Background and Issues*, by Claudia Copeland.

U.S. Environmental Protection Agency. *The National Water Quality Inventory: 2000 Report*. Washington, September 2002. "EPA-841-R-2-001."

U.S. Government Accountability Office. *Key EPA and State Decisions Limited by Inconsistent and Incomplete Data.* (GAO/RCED-00-54) March 2000. 73 p.

——*Water Infrastructure: Information on Financing, Capital Planning, and Privatization*. (GAO-02-764) August 2002. 79 p.

——*Improved EPA Guidance and Support Can Help States Develop Standards That Better Target Cleanup Efforts*. (GAO-03-308) January 2003. 74 p.