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The Evolution of Water Pollution Control in the United States—State, Local, and Federal Efforts, 1789-1972: Part II

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INTRODUCTION

This is the second article in a two-part series that examines the legal and technological developments, as well as the social and political forces, that culminated in the enactment of one of the landmark statutes of the twentieth century, the Federal Water Pollution Control Act Amendments of 1972, known best as the Clean Water Act.[1] The first article, which appeared in the January 2003 issue of this journal,[2] focused on developments at the state and local level. It traced the way in which water pollution progressed from a simple local issue to a complex state and regional problem by the 1920s. The article then turned to the development of state regulation from 1869 to 1972, concentrating on both its innovations and its shortcomings, which were many. The second article continues the story by exploring the history of federal involvement in water pollution control. The American penchant for turning to the federal government for help in coping with pollution problems is not of recent vintage. This part of the story begins in 1879 with the short-lived National Board of Health, continues through the fascinating attempts to enact a comprehensive federal regulatory scheme during the New Deal, and concludes with a thorough review of the legislative history of the 1972 Clean Water Act. The purpose of the series is to provide those who are concerned about the future of the Clean Water Act with a deeper appreciation of the trends and forces—the historical context—that helped shape the current regulatory structure.

1. Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C. §§ 1251-1376 (2000)).

2. William L. Andreen, *The Evolution of Water Pollution Control in the United States: State, Local, and Federal Efforts, 1789-1972: Part I*, 22 STAN. ENVTL. L.J. 145 (2003) [hereinafter Andreen, *Evolution of Water Pollution Control: Part I*].

II. The Federal Response to Water Pollution: 1879-1972

[N]othing is so local as a drop of water, or so national as what we do with it.[3]

– Rep. Sidney Yates of Illinois

A. *The National Board of Health: 1879-1883*

Although comprehensive federal involvement in water pollution control is a relatively recent development, the federal government's involvement in at least certain aspects of water pollution dates from the late nineteenth century. The establishment of city and state health boards in the 1860s and 1870s led many health care professionals to advocate the creation of a national board of health as the logical next step.[4] A number of bills that would have established such an agency failed to win approval in Congress in the mid-1870s due to concerns about states' rights[5] and the rivalry of the Marine Hospital Service.[6] However, yellow fever, the scourge of the South, soon brought action.

In the summer of 1878, yellow fever ravaged New Orleans, causing over 4,000 deaths, and then swept up the Mississippi Valley and along the Gulf Coast. Half of Memphis's 48,000 residents became ill, and over 5,000 died.[7] Newspaper reports spread panic throughout the South. By autumn, newspapers all over the country were

3. 111 Cong. Rec. 8674 (1965) (from a statement made on the House floor during debate on the Water Quality Act of 1965).

4. The idea of a unified federal health service was discussed in 1872 at the first meeting of the American Public Health Association (APHA). *See* George Rosen, A History of Public Health 248 (Johns Hopkins University Press 1993) (1958). The APHA championed the creation of a national health board during the 1870s, and the concept was also supported, although not as vigorously, by the American Medical Association. *See* John Duffy, The Sanitarians: A History of American Public Health 163 (1990).

5. The concept of state sovereignty over public health matters proved quite enduring and held sway for many years. *See* Rosen, *supra* note 4, at 225. Nevertheless, the efforts of the federal government, namely the U.S. Sanitary Commission during the Civil War, had demonstrated that proper disposal of human waste was absolutely crucial if typhoid and other gastrointestinal illnesses were to be avoided. *See* Duffy, *supra* note 4, at 113. R R

6. *See* Duffy, *supra* note 4, at 162-63. Congress created the Marine Hospital Service in 1798 to provide medical relief to sick and disabled merchant seamen. *See* Laurence F. Schmeckebier, Institute for Government Research, The Public Health Service: Its History, Activities and Organization 2 (1923). During the early 1870s, the service operated a total of seven hospitals and was run along military lines—a feature that would later survive as part of the U.S. Public Health Service. *See id.* at 6, 9. The Supervising General of the Marine Hospital Service at the time opposed the establishment of a national health board favoring instead an expansion of his agency's mission to include the nation's health. *See* Duffy, *supra* note 4, at 162-63. R R

7. *See* Duffy, *supra* note 4, at 145, 164. R

calling for federal action, and many Southerners, despite their traditional support for states' rights, echoed those calls. A previously resistant Congress responded in 1879, creating the first National Board of Health.[8] The board was given rather limited duties—for four years, it would gather information on public health matters and provide state and local governments with advice on health issues.[9] After the four-year period, it would disband.[10]

The brand new National Board of Health immediately faced a crisis. In June 1879, yellow fever again broke out in Memphis.[11] At the request of local officials, the board sent inspectors to Memphis, urged a mass evacuation from the city, gave notice of the outbreak to all the states up the Mississippi, and made a grant to help enforce various quarantine measures.[12] After the epidemic subsided, the board conducted a sanitary survey of Memphis. The results were appalling: six thousand privies and cesspools filled to overflowing, while the majority of residents drew their water from wells or cisterns located near the privies.[13] Not surprisingly, the National Board of Health recommended the construction of a sewer system. It then appointed a commission to make a recommendation from among a number of proposals for the sewerage of Memphis that were submitted by leading civil engineers. The commission selected an innovative separate sanitary sewer system developed by one of the country's leading experts on sanitation matters, Colonel George E. Waring.[14] Within a decade, the new sewer system—to-

8. *See* ROSEN, *supra* note 4, at 225. R

9. *See* Act of Mar. 3, 1879, ch. 202, § 2, 20 Stat. 484. The Act also authorized the board to work with state and municipal health departments to help prevent the introduction of contagious and infectious diseases into the United States and into one state from another. *See* Act of June 2, 1879, ch. 11, § 3, 21 Stat. 5.

10. *See* Act of June 2, 1879, ch. 11, § 10, 21 Stat. 7. These limits on the board's powers and its limited life-span probably reflected continuing congressional doubts about the proper role of the federal government with respect to public health matters. *See* DUFFY, *supra* note 4, at 168. R

11. Yellow fever took nearly 500 additional lives during the 1879 outbreak. *See* MARTIN V. MELOSI, THE SANITARY CITY: URBAN INFRASTRUCTURE IN AMERICA FROM COLONIAL TIMES TO THE PRESENT 153 (2000).

12. *See* DUFFY, *supra* note 4, at 145, 169-70. R

13. *See id.* at 145.

14. *See* JOEL A. TARR, THE SEARCH FOR THE ULTIMATE SINK, URBAN POLLUTION IN HISTORICAL PERSPECTIVE 139 (1996) [hereinafter TARR, URBAN POLLUTION]. Waring had already built a separate sanitary sewer system in Lenox, Massachusetts in 1875-76. That system included the nation's first sewage treatment facility—a subsurface irrigation system. *See id.* at 138-39. Most cities, however, had built and continued to build combined sewers in which both sanitary waste and storm water were collected and then discharged without treatment. *See* Andreen, *Evolution of Water Pollution Control: Part I, supra* note 2, at 167.

gether with a new water system supplied by artesian wells—had transformed Memphis. Instead of being one of the dirtiest cities in America, it was now hailed as one of the cleanest.[15]

The National Board of Health was busy during its short life. It urged other cities as well as states to undertake sanitary surveys similar to the one that was conducted in Memphis, and the board provided some limited funding to promote better sanitary programs. It also supported research on water pollution, subsidized work on the engineering of better sewer systems,[16] and sent an engineer to Europe to study the various continental approaches to the collection and treatment of sewage.[17] Despite these efforts, enthusiasm for the board quickly waned. As the epidemics of 1878 and 1879 faded from public memory, so did the rationale for a strong centralized health board at the federal level.[18] In 1883, the National Board quietly ceased to exist[19]—a victim not only of public apathy, but also of continuing opposition from both the Marine Hospital Service and states' rights advocates.[20] Sanitation, however, would return as a national issue early in the twentieth century.

Separate sanitary sewers were more amenable to sewage treatment because they carried significantly lower flows. *See id.*

15. *See* TARR, URBAN POLLUTION, *supra* note 14, at 138-39; DUFFY, *supra* note 4, at 146. The mortality rate in Memphis fell from over 46.6 per 1,000 in 1872 to 21.5 per 1,000 in 1889. *See id.* A few aspects of Waring's design, however, such as the small size of the pipes which were prone to clogging and the lack of manholes, which made the removal of clogs difficult, did present real problems. *See* MELOSI, *supra* note 11, at 156. R R

16. *See* DUFFY, *supra* note 4, at 170. R

17. *See* MELOSI, *supra* note 11, at 158. The engineer, Rudolph Hering, was specifically directed to address the relative merits of separate sanitary sewers versus combined stormwater-sanitary sewers. He reported that from the perspective of health, cost, and engineering, neither approach was inherently better. However, he argued that combined underground systems were better suited to large, densely populated cities which had to worry about the disposal of large amounts of both stormwater and sewage. On the other hand, smaller cities, which were primarily concerned about household waste, could construct separate sanitary sewer systems without worrying about building an underground system large enough to also handle rainwater runoff. *Id. See also* TARR, URBAN POLLUTION, *supra* note 14, at 140. R R

18. *See* ROSEN, *supra* note 4, at 225. R

19. *See id.*

20. *See* DUFFY, *supra* note 4, at 171. For the rest of the century, the Marine Hospital Service concentrated its attention on matters of maritime quarantine, the medical inspection of immigrants (which began in 1890), and the operation of the various marine hospitals. *See* SCHMECKEBIER, *supra* note 6, at 13-23. In recognition of its contribution to fighting yellow fever in Cuba in the late 1890s and combating an outbreak of bubonic plague in California in 1901, the service was reorganized and renamed the U.S. Public Health and Marine Hospital Service in 1902. *See* DUFFY, *supra* note 4, at 240-41. The head of the Service was renamed the Surgeon General. *See* SCHMECKEBIER, *supra* note 6, at 26. R R R R

B. *The Rivers and Harbors Act of 1899*

Section 13 of the Rivers and Harbors Act of 1899,[21] also known as the Refuse Act, is often referred to as the first piece of federal water pollution control legislation. However, four related federal statutes preceded the 1899 Act. The first two applied only to New York Harbor. The first of these statutes was enacted in 1886 and prohibited the dumping of "any ballast, stone, slate, gravel, earth, slack, rubbish, wreck, filth, slabs, edgings, sawdust, slag, or cinders, or other refuse or mill waste of any kind, into New York Harbor."[22] The effort to protect New York Harbor from "obstructive and injurious deposits" expanded two years later when Congress made it unlawful to discharge "refuse, dirt, ashes, cinders, mud, sand, dredgings, sludge, acid, or any other matter of any kind, other than that flowing from streets [or] sewers" into the harbor and adjacent or tributary waters.[23] In 1890, Congress essentially extended the 1886 New York Harbor statute to all navigable waters in the United States when it banned the discharge of "any ballast, stone, slate, gravel, earth, rubbish, wreck, filth, slabs, edgings, sawdust, slag, cinders, ashes, refuse, or other waste of any kind," but only if it would "tend to impede or obstruct navigation."[24] Then in 1894 Congress passed legislation paralleling the more expansive 1888 New York Harbor Act and made it applicable to waterways across the country, regardless of whether the discharge would tend to obstruct navigation. The 1894 provision forbade the discharge of "ballast, refuse, dirt, ashes, cinders, mud, sand, dredgings, sludge, acid, or any other matter of any kind other than that flowing from streets [or] sewers" into the waters of "any harbor or river" for which Congress had appropriated funds for improvement, unless otherwise permitted by the Secretary of War.[25]

Section 13 of the 1899 Act attempted to consolidate these scattered statutes, specifically the Acts of 1890 and 1894, which applied nationwide.[26] The Senate sponsor of the bill stated that only slight changes were made in order to "remove ambiguities"; otherwise, it

21. Act of Mar. 3, 1899, ch. 425, § 13, 30 Stat. 1152 (codified as amended at 33 U.S.C. § 407 (2000)).

22. Act of Aug. 5, 1886, ch. 929, § 3, 24 Stat. 329.

23. Act of June 29, 1888, ch. 496, § 1, 25 Stat. 209 (codified as amended at 33 U.S.C. § 441 (2000)).

24. Act of Sept. 19, 1890, ch. 907, § 6, 26 Stat. 453.

25. Act of Aug. 18, 1894, ch. 299, § 6, 28 Stat. 363.

26. *See* 32 CONG. REC. 2296 (1899) (statement of Sen. Frye of Maine, the Senate sponsor of the bill). *See* ROSEN, *supra* note 4, at 225; *see also* U.S. v. Standard Oil Co., 384 U.S. R

was in accord with the earlier statutes.[27] Section 13, hence, prohibited the discharge of "any refuse matter of any kind or description whatever," except for municipal storm-water and sewage, into any navigable water of the United States unless a permit were first obtained from the U.S. Army Corps of Engineers.[28] Unfortunately, the consolidation was not entirely free from ambiguity.

The term "refuse" could have been interpreted to include all sorts of pollutants since the term was apparently intended to reflect the list of substances found in the previous two enactments, including acid and sludge and any other kind of waste or matter of any kind. Moreover, section 13's prohibition on the discharge of "refuse" was not specifically limited to cases where navigation was impeded. The Act, therefore, could have been used to create a broad permit program covering the discharge of most pollutants, other than sewage and municipal storm-water, into the navigable waters of the United States. On the other hand, one could argue that the Act was aimed only at physical obstructions since section 13 also prohibited the placement of "material of any kind" along the banks of a water body, but only if the material could impede navigation were it washed into the water.[29] This position appears bolstered by the fact that the Corps could only issue discharge permits where "anchorage or navigation [would] not be injured."[30] However, impact upon "anchorage and navigation" is not necessarily the sole standard governing the issuance of a section 13 permit since the section also mandated that permits contain "limits" and "conditions" set by the Corps.[31] Those limits could just as easily pertain to pollutants as they could to navigational concerns.

The Army Corps of Engineers, however, initially and for many years interpreted section 13 to apply only to the discharge of materials that could impede navigation.[32] Until the 1960s, there-

224, 227 (1966) (stating that the 1899 Act "was no more than an attempt to consolidate" the prior statutes "into one").

27. *See* 32 CONG. REC. 2296-97 (1899) (statement of Sen. Frye).

28. 33 U.S.C. § 407 (2000). The Act also applied to discharges into "any tributary of any navigable water from which the same shall float or be washed into such navigable water." *Id.* No administrative apparatus for issuing section 13 permits was established until the early 1970s. *See* BEATRICE HORT HOLMES, HISTORY OF FEDERAL WATER RESOURCES PROGRAMS AND POLICIES, 1961-1970 at 134 (1979) [hereinafter HOLMES, FEDERAL WATER PROGRAMS 1961-1970].

29. 33 U.S.C. § 407 (2000).

30. *Id.*

31. *Id.*

32. *See Pollution of Navigable Waters: Hearings Before the House Comm. on Rivers and*

fore, section 13 would be used only occasionally and then only to bring suit against companies dumping solid materials into navigable waters.[33]

C. *The United States Public Health Service*

At the beginning of the twentieth century, public health became a national issue once again, and calls were increasingly made for the creation of a national department of health.[34] Such efforts reflected the fact that many progressives considered the federal government a far more effective institution than state governments for dealing with matters of public health. The repeated outbreaks of waterborne diseases throughout the United States seemed to indicate a failure by many state governments either to cope with water pollution or safeguard public water supplies.[35] By contrast, public health activities at the federal level seemed amazingly efficient. The public health measures undertaken by federal authorities in Cuba, the Philippines, Puerto Rico and Panama had brought yellow fever and malaria under control and had successfully combated bacteria-filled water supplies.[36] Although Congress refused to place all of the public health-related activities of the fed-

Harbors, Part 2, 67th Cong. 102 (1921) (statement of Maj. Gen. Lansing H. Beach, Chief of Engineers, U.S. Army) [hereinafter *House Water Pollution Hearings 1921, Part 2*]; William H. Rodgers, Jr., *Industrial Water Pollution and the Refuse Act, A Second Chance for Water Quality*, 119 U. PA. L. REV. 761, 776 (1971) [hereinafter Rodgers, *Refuse Act*]. It was not until 1970 that the Corps announced that it no longer viewed section 13 as limited to activities having an impact on navigation. *See id.* at 777. It is interesting to note that a representative of the National Association of Manufacturers, while testifying against a bill which would have prohibited the discharge of acid waste in any form into navigable waters, asserted that it was unnecessary since section 13 already did so. *See House Water Pollution Hearings 1921, Part 2, supra* note 32, at 125-26 (testimony of James A. Emery, National Assn. of Manufacturers).

33. HOLMES, FEDERAL WATER PROGRAMS 1961-1970, *supra* note 28, at 224. *See infra* notes 279-298 and accompanying text for a discussion of developments surrounding the Refuse Act in the 1960s and early 1970s. **R** **R**

34. *See* DUFFY, *supra* note 4, at 241-42; Elizabeth Fee, *Public Health and the State: The United States*, *in* THE HISTORY OF PUBLIC HEALTH AND THE MODERN STATE 224, 239 (Dorothy Porter ed., 1994). A number of bills which called for a federal investigation of the relation between pollution and the contamination of water supplies were also introduced in Congress between 1897 and 1909. None, however, was enacted into law. *See* N. William Hines, *Nor Any Drop To Drink: Public Regulation of Water Quality Part III: The Federal Effort*, 52 IOWA L. REV. 799, 804 (1967). **R**

35. *See* Joel A. Tarr, *Industrial Wastes and Public Health: Some Historical Notes, Part I, 1876-1932*, 75 AM. J. PUB. HEALTH 1059, 1064 (1985) [hereinafter Tarr, *Public Health*].

36. *See* Fee, *supra* note 34, at 239-40; *see also* DAVID MCCULLOUGH, THE PATH BETWEEN THE SEAS: THE CREATION OF THE PANAMA CANAL: 1870-1914, at 410-21 (1977) (detailing the fight against yellow fever and malaria in Havana and the Panama Canal Zone). **R**

eral government[37] in a new department, it did change the name of the Public Health and Marine Hospital Service to the U.S. Public Health Service (PHS) in 1912, and more importantly, extended its authority to the study of sewage, sanitation and the pollution "of the navigable streams and lakes of the United States."[38] Although this piece of Progressive Era legislation gave the PHS no enforcement power, the PHS performed a number of valuable studies of watershed pollution. It also worked closely with state health departments, providing them with the assistance of trained sanitary engineers and encouraging them to adopt appropriate measures for drinking water and sewage disposal problems.[39] The PHS, however, took a limited view of its responsibility vis-à-vis industrial pollution, worrying that if it devised a treatment process, "the industrial interests are apt to hold the government responsible for any shortcomings . . . and to sit back complacently awaiting a perfected process."[40] As a result, more and more members of Congress concluded that a more direct approach was necessary to combat at least some forms of water pollution.

D. *The Oil Pollution Act of 1924*

During the early 1920s, many Americans considered oil pollution in our coastal waters the most serious water pollution problem facing the country.[41] It had fouled bathing beaches, caused finan-

37. In addition to the activities of the Public Health and Marine Hospital Service, the Department of Agriculture was charged with enforcing the pure food and drug law, the Department of the Interior was concerned about sanitary conditions on Indian reservations, and the Census Bureau kept vital statistics. *See* SCHMECKEBIER, *supra* note 6, at 35-37. R

38. *See* Public Health Service Act, Pub. L. No. 26-265, 37 Stat. 309 (1912). Much of this work was performed by a group of doctors, sanitary engineers, bacteriologists, chemists and biologists at what was to become the PHS's Center for Pollution Studies in Cincinnati. *See* TARR, URBAN POLLUTION, *supra* note 14, at 365. R

39. Hines, *supra* note 34, at 804-05. For a discussion of some of the most important PHS studies, see Tarr, *Public Health*, *supra* note 35, at 1064-66. *See also* SCHMECKEBIER, *supra* note 6, at 103, 141-42 (setting forth a contemporary view of the PHS stream investigation work and the assistance which it provided to state agencies). The PHS also set standards for the drinking water carried by interstate carriers like railroads. Since interstate carriers generally relied upon municipal water supplies, the PHS standards often brought about, albeit indirectly, improvements in the quality of municipal water. *See id.* at 102-03. The standards, initially set forth in 1914, were revised in 1925 and 1946. *See* RICHARD N.L. ANDREWS, MANAGING THE ENVIRONMENT, MANAGING OURSELVES: A HISTORY OF AMERICAN ENVIRONMENTAL POLICY 204 (1999). R R R

40. TARR, URBAN POLLUTION, *supra* note 14, at 368 (quoting Dr. Wade Frost, director of the PHS's Cincinnati laboratory). R

41. *See, e.g., House Water Pollution Hearings 1921, Part 2, supra* note 32, at 92 (testimony of Herbert Hoover, Secretary of Commerce). *Cf. Pollution of Navigable Waters: Hearings Before* R

cial losses at coastal resorts, killed fish, contaminated shell fisheries, impaired boating, and produced tremendously destructive fires at a number of harbors including New York and Baltimore.[42] Since section 13 of the Rivers and Harbors Act was thought to be limited to refuse which actually impeded or obstructed navigation, a new piece of federal legislation was necessary to regulate the discharge of oil. A number of Congressmen and others, however, thought that Congress should go further. One bill was introduced which would have prohibited the discharge of oil or any other kind of refuse into any navigable waters.[43] Critics of this approach argued that there was too little data to warrant a general prohibition; in other words, not enough was yet known about the effects of various chemical pollutants on the environment or how to treat those substances prior to discharge.[44] Even a bill that would have forbidden the discharge of oil to inland waters[45] was defeated because of the burden it would have placed upon industry.[46] All Congress managed to eventually enact in 1924 was a simple ban on the discharge

the House Comm. on Rivers and Harbors, Part 1, 67th Cong. 27 (1921) (testimony of J.H. Hays of the American Petroleum Institute) (arguing that oil pollution was only "a very small percentage" of the pollution problem) [hereinafter *House Water Pollution Hearings 1921, Part 1*].

42. *See House Water Pollution Hearings 1921, Part 1*, *supra* note 41, at 6 (testimony of Rep. Frank Appleby of New Jersey); *id.* at 7 (statement of the Interstate Committee on Prevention of Pollution of Coast Waters and Beaches). **R**

43. H.R. 7369, 67th Cong. (1921), *reprinted in House Water Pollution Hearings 1921, Part 1*, *supra* note 41, at 5 (introduced by Rep. Appleby). **R**

44. *See House Water Pollution Hearings 1921, Part 2*, *supra* note 32, at 92 (testimony of Herbert Hoover); *id.* at 99 (testimony of William E. Lamb, Solicitor, U.S. Department of Commerce). It was also opposed because it would hurt the mills and factories in one's home district. *See id.* at 89-90 (testimony of Rep. Allen T. Treadway of Massachusetts). **R**

45. H.R. 6256, 68th Cong. (1924) (introduced by Rep. Riley Wilson of Louisiana), *reprinted in Pollution of Navigable Waters: Hearings Before the Comm. on Rivers and Harbors, Part 2*, 68th Cong. 301 (1924). The bill would have applied to all navigable streams and their tributaries, whether navigable or not. As Representative Wilson testified: "In order to control the pollution of navigable rivers [like the Ouachita River in Louisiana and Arkansas] it is necessary to stop the pollution of their tributaries." *Id.* at 304.

46. Also rejected was a bill that would have prohibited the discharge of acids to all navigable waters, inland as well as coastal. *See House Water Pollution Hearings 1921, Part 2*, *supra* note 32, at 94-95 (statement by the bill's sponsor, Rep. Benjamin L. Rosenbloom of Wheeling, West Virginia). The Army Corps of Engineers spoke in favor of Representative Rosenbloom's bill not simply because it would protect fish, but because the water in some rivers was becoming so acidic "that there is considerable danger of its affecting the metal work of our locks and dams." *Id.* at 102 (testimony of Maj. Gen. Lansing H. Beach, Chief of Engineers, U.S. Army). The Corps was also concerned about the effect of mine acid drainage on shipping. "One single charge of the Youghiogheny River water [a tributary to Pennsylvania's Monongahela] into a boiler will corrode it to such an extent that it has to be repaired." *Id.* Industry responded by arguing that the bill would place too large a burden upon it and, ultimately, that burden would hit the consumer. *See id.* at 122-23 (testimony by **R**

of oil to coastal navigable waters from vessels—a ban which, of course, was not even applicable to oily discharges from industry or other on-shore facilities.[47] Although the Oil Pollution Act gave the Army Corps of Engineers the power to regulate the loading and unloading of oil, it never exercised that authority. The Corps, moreover, failed to rigorously enforce the Act's prohibition against discharges from the shipping industry.[48]

E. *The New Deal*

By the early 1930s, water quality had deteriorated badly. Seriously polluted streams existed in every section of the United States where there was any concentration of population,[49] and New York City was described as "an island literally surrounded by sewage."[50] Out of some 64 million Americans served by sanitary sewers, the waste of only 22 million Americans—about 34 percent—received any treatment at all.[51] Those few treatment facilities were, in many instances, so obsolete or inadequate that "the waste burden of less than [six million Americans was] actually removed."[52] In addition, "very little" industrial waste was receiving any treatment at all.[53]

Charles Dorrance, Vice Pres., Hudson Coal Co.); *id.* at 124-28 (testimony of James A. Emery, National Assn. of Manufacturers).

47. Oil Pollution Act of 1924, Pub. L. No. 68-288, 43 Stat. 604 (1924). Excepted from the prohibition, however, were discharges that resulted from emergencies "imperiling life or property, or unavoidable accident, collision, or stranding." *Id.* § 3. Subsequent attempts to expand the act to apply to the discharge of oil from land-based industries, as well as vessels, and extend its jurisdiction to all navigable waters failed. *See, e.g.*, H.R. 10625, 71st Cong. (1930) (introduced by Rep. Grant M. Hudson of Michigan), *reprinted in Pollution of Navigable Waters, Hearings Before the Comm. on Rivers and Harbors, Part 1*, 71st Cong. 1-2 (1930).

48. *See* Charles F. Lettow, *The Control of Marine Pollution*, *in* FEDERAL ENVIRONMENTAL LAW 602 (Erica L. Dolgin & Thomas G.P. Guilbert eds., Environmental Law Institute 1974).

49. *See Stream Pollution: Hearings Before a Subcomm. of the Comm. on Commerce, Senate on S. 3958, S. 3959, S. 4342, and S. 4627*, 74th Cong. 476 (1936) (presentation by J.E. Hoskins, sanitary engineer in charge of stream pollution investigations for the PHS) [hereinafter *Senate Stream Pollution Hearings 1936*].

50. *Id.* at 15 (from "The Pollution Problem and Economy" by Dr. C.J. Volz, submitted by Senator Augustine Lonergan of Conn.).

51. *Id.*

52. *Id.*

53. *Id.* at 476 (presentation by J.E. Hoskins, sanitary engineer in charge of stream pollution investigations for the PHS). Even in 1936, however, there was talk about ways in which pollution control could save industry money. During a Senate hearing in that year, one witness emphasized the fact that a certain film manufacturer in Rochester, New York, which had previously discharged an emulsion sludge containing silver into an open stream, was now saving $10,000 a year beyond the cost of treatment by reclaiming the silver. *Id.* at 291 (testimony of E.E. Butterfield, a chemist from Forest Hills, N.Y.).

The New Deal inherited the Progressive Movement's inclination to take aggressive action on behalf of public health and safety. The Depression-era Roosevelt administration, furthermore, wanted to put the unemployed to work. As a result of this confluence of interests, the new Public Works Administration extended loans and grants to state and local governments to build hundreds of municipal sewage treatment plants, and the Works Progress Administration provided labor and funds for similar projects, albeit on a smaller scale.[54] All of this federal assistance produced dramatic progress. Between 1931 and 1938, the number of publicly owned waste treatment facilities rose by 46 percent,[55] and the total population served by such facilities increased over 85 percent.[56] The decade of the 1930s, in fact, was the only one before the 1970s in which sewage treatment construction kept pace with the growth in sewer lines.[57] However, 46 percent of municipal sewer systems (serving 33.3 million persons) still discharged raw, untreated waste, while 26 percent (serving 19 million persons) discharged waste with only rudimentary (primary) treatment.[58]

The 1930s also witnessed a number of attempts to enact federal water pollution control legislation. These efforts began with a con-

54. *See* BEATRICE HORT HOLMES, U.S. DEP'T OF AGRICULTURE, A HISTORY OF FEDERAL WATER RESOURCES PROGRAMS, 1800-1960 at 13, 15-16 (1972) [hereinafter HOLMES, FEDERAL WATER PROGRAMS 1800-1960]. *See also* MELOSI, *supra* note 11, at 240-44 (discussing Depression-era federal sewage treatment projects). Federal financial aid helped build 1,165 (nearly 90%) of the 1,310 new municipal sewage treatment plants constructed between 1932 and 1938. However, 535 of the new plants only provided primary treatment (about 30% removal of biological oxygen demand), and the other 775 are only described as providing substantially more treatment—not necessarily as good as what we define as secondary treatment today (about 90% removal of biological oxygen demand). *See* NATIONAL RESOURCES COMMITTEE, WATER POLLUTION IN THE UNITED STATES, THIRD REPORT OF THE SPECIAL ADVISORY COMM. ON WATER POLLUTION, H.R. DOC. NO. 155 at 82 (1939) [hereinafter THIRD REPORT OF THE SPECIAL ADVISORY COMM. ON WATER POLLUTION]. The Works Progress Administration also built hundreds of sewerage systems without providing for sewage treatment, thus helping to aggravate, rather than alleviate, stream pollution problems. *See Senate Stream Pollution Hearings 1936*, *supra* note 49, at 60 (testimony of Kenneth A. Reid, Member of the Pennsylvania Board of Fish Commissioners). R

55. *See* THIRD REPORT OF THE SPECIAL ADVISORY COMM. ON WATER POLLUTION, *supra* note 54, at 82. R

56. The total population served by sewage treatment plants increased from 21.5 million in 1932 to 39.8 million in 1938. *Id.* at 7.

57. *See* Murray Stein, *Problems and Programs in Water Pollution*, 2 NAT. RESOURCES J. 388, 401 (1962).

58. *See* THIRD REPORT OF THE SPECIAL ADVISORY COMM. ON WATER POLLUTION, *supra* note 54, at 7. Twenty-eight percent of American sewer systems (serving 20.7 million persons) provided some level of treatment better than primary. *See id.* The total sewered population at the time was approximately 73.2 million. *See id.* R

ference held in December 1934. Concerned that stream pollution was completely overwhelming the existing state and federal anti-pollution programs, Connecticut Senator Augustine Lonergan gathered thirty water quality experts together to discuss the need for new federal legislation.[59] The conferees readily agreed on the existence of four major problems: (1) state efforts had failed to keep pace with the rising levels of water pollution; (2) inadequate statutory authority and insufficient funding had hampered the existing federal programs at the PHS and Corps of Engineers; (3) the federal government had exercised inadequate jurisdiction over interstate and navigable waters; and (4) due to limited federal authority and a lack of cooperation among the states, there was a disturbing lack of uniformity in the level of regulation from state to state.[60]

Despite their agreement about the nature of the problems facing the nation, the conferees reached disparate conclusions over how to proceed. One group of conferees, led by the chief engineer of the PHS, opposed any additional federal regulation because they believed that such an approach would generate strong opposition in Congress and might even face a successful constitutional challenge.[61] Thus, they preferred to leave the problem in the hands of state government, although they supported increased levels of federal research assistance and federal efforts aimed at encouraging states to enact uniform pollution laws and form interstate compacts to control the pollution of shared waters.[62] The other, more numerous group boldly recommended the creation of a new federal program that would directly regulate the pollution of interstate watersheds.[63] Failing that, the group urged Congress to strengthen both section 13 of the Rivers and Harbors Act and the Oil Pollution Act of 1924.[64]

After a year of further research and study, Senator Lonergan introduced a bill in February 1936 that embodied the recommendations of the latter group.[65] Senator Lonergan's Water Pollution

59. *See* STREAM POLLUTION AND STREAM PURIFICATION, REPORT OF SEN. AUGUSTINE LONERGAN, CHAIRMAN OF THE CONFERENCE WITH THE SECRETARY OF WAR RELATIVE TO THE PROPOSAL TO GRANT FEDERAL AUTHORITY TO PREVENT STREAM POLLUTION AND TO PROVIDE FOR STREAM PURIFICATION, S. DOC. NO. 16 (1935).

60. *Id.* at 91-93, 94-95.

61. *Id.* at 91-92.

62. *Id.* at 93.

63. *Id.* at 95-96.

64. *Id.* at 97-99.

65. S. 3958, 74th Cong. (1936), *reprinted in Senate Stream Pollution Hearings 1936, supra*

Act would have made the National Resources Committee, which Roosevelt created by Executive Order in 1935,[66] the permanent federal agency primarily responsible for water pollution control.[67] The bill ordered the Committee to divide the nation into watershed sanitary districts that would in most instances encompass multi-state areas. The Committee would then establish "standards of purity" for the waters of each district,[68] as well as minimum treatment requirements for at least some pollutants.[69] These standards and requirements were to be administered in each watershed by a district board selected by the National Committee, with at least three-fourths of its membership drawn from the district and with nearly as equal representation as possible among the states in the district.[70] The bill declared that any discharge into navigable waters or their tributaries in violation of the Committee's standards and requirements would be a public nuisance if the discharge was injurious to public health or aquatic life. United States Attorneys were authorized to bring an action to abate such nuisances and were obligated to do so when the action was requested by either the National Resources Committee or the district board.[71] The Commit-

note 49, at 1-4. The introduction of S. 3958 followed an impassioned national radio address about stream pollution that Senator Lonergan delivered on the National Broadcasting Company on December 23, 1935. *Id.* at 9-13 (reprinting the speech). R

66. The National Resources Committee was established pursuant to Executive Order No. 7065 (June 7, 1935). It succeeded the National Resources Board that had been created by Title II of the National Industrial Recovery Act of 1933. *See* HOLMES, FEDERAL WATER PROGRAMS 1800-1960, *supra* note 54, at 14. R

67. *See* S. 3958, *reprinted in Senate Stream Pollution Hearings 1936*, *supra* note 49, at 1. The Committee was to be comprised of the Secretaries of the Interior, War, the Treasury, Agriculture, Commerce, and Labor, and the Federal Emergency Relief Administrator—as well as three additional members to be appointed by the President with the advice and consent of the Senate. *See id.* R

68. *See* S. 3958, § 6, *reprinted in Senate Stream Pollution Hearings 1936*, *supra* note 49, at 2-3. Apparently, these "standards of purity" would take into consideration the use of the water and its assimilative capacity. *See Senate Stream Pollution Hearings 1936*, *supra* note 49, at 37, 39 (testimony of Grover C. Ladner, Deputy Attorney General of Pennsylvania). Grover Ladner worked with Senator Lonergan to draft the bill and was designated by Senator Lonergan to explain the bill, section-by-section. *See id.* at 8-9 (testimony of Sen. Lonergan). R R

69. *See* S. 3958, § 6, *reprinted in Senate Stream Pollution Hearings 1936*, *supra note* 49, at 2-3. R

70. *Id.* § 7, *reprinted in Senate Stream Pollution Hearings 1936*, *supra* note 49, at 3. The district boards would have been responsible for (1) preventing pollution by voluntary actions insofar as possible; (2) instituting enforcement proceedings; and (3) making recommendations to the National Committee on loans or grants for municipal and industrial wastewater treatment plants. *See id.* R

71. *Id.* § 9, *reprinted in Senate Stream Pollution Hearings 1936*, *supra* note 49, at 3 (declaring that "it shall be the duty of such attorneys to bring such an action when requested" by the Natural Resources Committee or the district board of a Sanitary Water District). R

tee was also empowered to make loans and grants for the construction of sewage treatment plants and even facilities to treat industrial waste.[72]

The bill's focus on watershed management was amazingly farsighted. After all, many of us even today consider the concept as a cutting-edge development. But the authors of S. 3958 recognized an obvious fact: most of our great river systems do not respect state boundaries, a fact which has led to intense conflict among upper riparians and lower riparians and between those who share the same stretch of river.[73] The most logical and effective way to deal with such natural systems, therefore, is to design a management system that recognizes, to the maximum extent possible, the biological unity of the stream and reflects its geographic dimensions. To do so meant federal action, federal standards, and federal enforcement—facts from which the authors did not shy away. The Izaak Walton League, the Wilderness Society, the Audubon Society, the American Game Conference, and virtually the entire conservation community supported the watershed approach.[74]

The bill was vigorously resisted by industry. However, industry's contradictory approach to federal and state legislation surfaced during the hearings. Although many industry representatives argued that regulation was properly a state function reflecting local needs and sentiments,[75] at least one representative could not resist the temptation to complain about the "unfair competition result-

72. *Id.* § 8, *reprinted in Senate Stream Pollution Hearings 1936*, *supra* note 49, at 3. Such loans or grants could only be made at the request of a state agency or the district board. *See id.* Senator Lonergan also introduced a bill that would have extended section 13 of the Rivers and Harbors Act to cover sewage and the Oil Pollution Act of 1924 to apply to discharges into any tributary of a coastal water as well from land-based facilities. *See* S. 3959, 74th Cong., *reprinted in Senate Stream Pollution Hearings 1936*, *supra* note 49, at 4. **R**

73. *See Senate Stream Pollution Hearings 1936*, *supra* note 49, at 32-33 (testimony of Grover Ladner, Deputy Attorney General of Pennsylvania). **R**

74. *Id.* at 7, 105, 233-34, 275-76, 323, 324–29.

75. The statement of the American Mining Congress probably best summarized industry's position: "[T]here are sufficient laws on the statute books to amply care for the problems under consideration . . . and . . . further enactments . . . would constitute an uncalled for and unnecessary invasion of the fields of the sovereign States . . . and an entry upon problems which are definitely local in character, varying widely in individual cases . . . ." *Id.* at 168 (testimony of Julian D. Conover, Secretary of the American Mining Congress). The real concern, however, was cost, as the Secretary of the Alabama Mining Institute candidly and vociferously stated:

> Without fear of logical contradiction, we assert that pollution occasioned by operation of the coal mines, blast furnaces, byproduct plants, and mills producing iron and steel products in Alabama . . . is unavoidable and cannot be minimized or eliminated at a cost within the means of the operators . . . or at an expense in

ing from enforcement of strict regulations concerning stream pollution on industries in certain States, while similar industries elsewhere were not so penalized."[76] In other words, industry wanted state regulation to fall to the level of the lowest common denominator—to avoid "unfair competition"—while simultaneously fighting any attempt to create uniformity through federal action.

The bill also faced opposition from the Works Progress Administration, the PHS, and the Corps of Engineers whose roles in pollution control would largely be eclipsed by the new federal program.[77] Harold Ickes, who served as the Chair of the National Resources Committee, felt that his Committee ought not to be the agency chosen to administer this program, and argued that it should remain an advisory organization without administration or enforcement obligations.[78] Finally, a number of state agencies as well as some engineers and scientists employed at the state and local level opposed the bill out of concern that a new federal bureaucracy would deprive them of their authority and their jobs.[79]

Shortly after hearings began on Senator Lonergan's bill, a number of other related bills were placed in the congressional hopper. Among these bills was one introduced by Senator Alben Barkley of

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anywise commensurate with the benefit, if any, which would ensure [sic] from such expenditures.

Id. at 218 (statement of James L. Davidson). Davidson argued that jobs would therefore be lost with no real gain since mine acid actually killed "infectious and noxious germs" and since the volume of the water flowing in the streams of Alabama was "so great as to dilute any pollution now, or for many years to come . . . to a degree where it is unappreciable or unrecognizable." *Id.*

76. *Id.* at 229 (testimony of Sheppard T. Powell, Manufacturing Chemists' Association).

77. *Id.* at 97-98 (letter from Harry L. Hopkins, Administrator of the Works Progress Administration), 98-99 (letter from Wayne C. Taylor, Acting Secretary of the Treasury Department, home of the PHS), 100-01 (letter from George H. Dern, Secretary of the War Department).

78. *Id.* at 58-59. Senator Lonergan was not wedded to the idea of using the National Resources Committee to administer the Water Pollution Act. He stated during consideration of essentially the same bill a year later that he really did not care which federal agency was given this authority—even the PHS was acceptable to him—just as long as regulation and enforcement power was created at the federal level. *See Pollution of Navigable Waters: Hearings on H.R. 2711 and H.R. 3419 Before the House Comm. on Rivers and Harbors*, 74th Cong. 76 (1937) (statement of Sen. Lonergan) (1937) [hereinafter *House Water Pollution Hearings 1937*].

79. *See Senate Stream Pollution Hearings 1936*, *supra* note 49, at 6 (statement of Sen. Lonergan). R

Kentucky.[80] His bill was far less ambitious than Lonergan's. It aimed to create a Division of Stream Pollution Control within the PHS to perform studies, to work with the states to develop a comprehensive plan for fighting water pollution, and to encourage interstate compacts and the enactment of uniform state laws.[81] Finally, Barkley's bill would authorize the PHS to make grants and loans to municipalities for the construction of sewage treatment works and to private industry to build treatment facilities.[82] The bill, in short, was designed to appeal to the PHS and those interests—state agencies as well as industry—that opposed a strong federal role in the regulation of water pollution.

Congressman Fred Vinson of Kentucky introduced a bill in the House of Representatives that was similar to the Barkley bill.[83] Vinson's bill passed in nearly unanimous fashion.[84] Meanwhile, the Senate Commerce Committee, in a spirit of accommodation, reported both the Lonergan and Barkley bills to the full Senate.[85] Both bills, however, died prior to final passage. Although the Barkley bill was approved at one point on the floor,[86] it failed to survive a motion to reconsider during the waning days of the 74th Congress.[87]

The same bills were reintroduced in the next Congress.[88] Sena-

80. S. 4627, 74th Cong. (1936), *reprinted in Senate Stream Pollution Hearings 1936*, *supra* note 49, at 409-11. R

81. *See* S. 4627, §§ 3-4, *reprinted in Senate Stream Pollution Hearings 1936*, *supra* note 49, at 409-10. R

82. *Id.* §§ 6-7, *reprinted in Senate Stream Pollution Hearings 1936*, *supra* note 49, at 410. Such financial assistance could only be extended upon the recommendation of the state board or department of health. *Id.* R

83. H.R. 12764, 74th Cong. (1936), *reprinted in Pollution of Navigable Waters: Hearings Before the House Comm. on Rivers and Harbors*, 74th Cong. §§ 6-7 (1936).

84. 80 CONG. REC. 10,610 (1936).

85. *See House Water Pollution Hearings 1937*, *supra* note 78, at 20 (statement of Sen. Barkley). R

86. 80 CONG. REC. 9182 (1936).

87. *Id.* at 9192. Under the rules of senatorial courtesy, the motion for reconsideration by Senator Lonergan succeeded in scuttling the bill by forcing the Senate, if it wished to secure passage, to bring the bill up for yet another vote, something that was apparently not possible during the final days of the 74th Congress. *See House Water Pollution Hearings 1937*, *supra* note 78, at 8 (statement of Rep. Vinson). R

88. *See House Water Pollution Hearings 1937*, *supra* note 78, at 86-88. Dr. Joseph Pfeifer, a New York Congressman, introduced a bill in the House which was quite similar to the Lonergan bill. H.R. 3419, 75th Cong. (1937), *reprinted in House Water Pollution Hearings 1937*, *supra* note 78, at 289-93. Pfeifer's bill, however, would have created an additional enforcement mechanism: the issuance of administrative cease and desist orders which could be appealed to an appropriate court of appeals. *Id.* §§ 12-13, *reprinted in House Water Pollution Hearings 1937*, *supra* note 78, at 291-92. R R

tor Barkley still took the position that the Lonergan bill was much too "drastic" and that a more "gradual approach" would enable us to "feel our way first to see how far we may go economically, wisely, discreetly, hoping that we will reach the point at no distant date when we can bring in an effective regulation, after industry and the communities have prepared themselves for that day."[89] Lonergan, by contrast, was adamant that the states had failed to solve the problem and that they did not deserve more time to try.[90] Federal control and federal enforcement were necessities, and the nation had to recognize that "pollution control, like flood control" was a federal responsibility.[91]

The Vinson bill passed the House in April 1937.[92] The Senate, however, did not act until after Senators Lonergan and Barkley agreed to resolve their differences. The resulting compromise specified that Senator Lonergan would drop his bill in return for the addition of a number of provisions to the House bill.[93] As amended, the House bill directed the PHS to set up sanitary water districts based on watersheds and to promulgate standards of purity and minimum treatment requirements.[94] The bill also included the all-important Lonergan provision on federal enforcement.[95] So revised, the bill was reported to the full Senate where it passed on August 16, 1937.[96] Congress, however, soon adjourned for the year, leaving no time for the House and Senate to work out their differences.

Both the U.S. Chamber of Commerce and the National Associa-

89. *House Water Pollution Hearings 1937*, *supra* note 78, at 20-21. **R**

90. *Id.* at 71-74.

91. *Id.* at 74.

92. 81 CONG. REC. 3700 (1937) (passing on a vote of 187 to 121). In opposition, Representative Faddis of Western Pennsylvania declared:

> This is only a bill to turn over to the bureaucracies connected with State departments of health a certain amount of money to play with, to go ahead and follow the same old road they have always followed, to perpetuate a policy under which our streams have come to their present state. [He had claimed earlier that not "even a carp" could survive in the Monongahela River.] As far as the State of Pennsylvania is concerned, I assure you that the health department has made absolutely no inroad in the matter of preventing stream pollution. . . . If we are going to insist on spending money, in the name of common sense let us get something for it.

Id. at 3688.

93. *Id.* at 8949 (statement of Sen. Barkley).

94. *Id.* at 8947 (§ 7(b), (c)).

95. *Id.* at 8948 (§ 8).

96. *Id.* at 8957.

tion of Manufacturers opposed the Senate version of the Vinson bill, and during the fall and early winter of 1937, Congress was flooded with letters and telegrams of opposition from American industry.[97] Although Congress reconvened in January 1938, the Conference Committee was not able to produce a bill until the closing days of that Congress.[98] In June, the House conferees insisted upon the removal of the provisions providing for watershed districts, standards of purity, minimum treatment standards, and federal enforcement, and the Senate conferees relented believing that it was better to pass a modest bill than no bill.[99] On June 8, just one day after the Conference Report was issued, the bill was successfully rushed through the Senate with very little debate.[100] Then, on June 13, three days before the 82nd Congress ended, the House passed the conference version with no debate at all.[101]

The conservation community immediately called upon President Roosevelt to veto the bill. They argued that the bill would just serve "as soothing sirup [sic] to the rising tide of public indignation against pollution, and that several years would elapse before the public would awaken from its dream of false security to the realization that it had bought only another investigation."[102] On June 25, Roosevelt complied with their wishes. The President's explanation of the veto, however, had nothing to do with the debate about federal regulation of water pollution. His only stated objection was that the bill authorized the Secretary of the Treasury to send requests for sewage treatment funds directly to Congress, thus bypassing the President's Budget Office.[103]

In 1939, President Roosevelt sent a special message to Congress that emphasized the important role the federal government could play in controlling water pollution, but indicated support for the "general purposes" of the bill he had vetoed.[104] Thus, "pending

97. *See Pollution of Navigable Waters: Hearings Before the House Rivers and Harbors Comm.*, 76th Cong. 147-48 (1939) [hereinafter *House Water Pollution Hearings 1939*] (reprinted article from the Jan. 1939 issue of the *Am. Nature Assn. Quarterly Bull.*).

98. *See* H.R. REP. NO. 2633, 75th Cong. (1938).

99. *See* 83 CONG. REC. 8496 (statement of Sen. Copeland, one of the Senate conferees). Even Senator Barkley declared that he had "rather . . . favored the idea of federal enforcement. . . . However, it was impossible to get that feature into the bill." *Id.*

100. *Id.* at 8497.

101. *Id.* at 9078.

102. *House Water Pollution Hearings 1939*, *supra* note 97, at 147 (reprinted article from the Jan. 1939 issue of the *Am. Nature Assn. Quarterly Bull.*). R

103. 83 CONG. REC. 9710 (1938).

104. 84 CONG. REC. 1483 (1939).

further experimentation with interstate and State enforcement activities Federal participation in pollution abatement should take the general form of establishing a central technical agency to promote and coordinate education, research, and enforcement."[105] Even with Roosevelt's support, those who favored a limited approach—basically, more money, but no federal regulatory or enforcement authority—were unable to enact any legislation before the United States's entry into World War II. Their attempts foundered in the face of stubborn resistance from those who insisted on a stronger federal role. As Representative Karl Mundt of South Dakota, a newly elected member of Congress, pleaded:

> Let us not camouflage the issue. Let us not confuse the public. Let us not pass any pollution legislation until we are ready to pass a bill which the polluters themselves will not lobby in favor of. We want something in our bill some place that is going to cause them a little distress and a little concern—which it must, if we are going to correct the problem.[106]

By 1940, Congress had produced a split decision. The Senate, without Augustine Lonergan in its midst, had passed a bill with no federal regulatory authority,[107] while the House had passed one that required federal approval for any new municipal or industrial discharges to navigable waters or their tributaries (the Mundt amendment).[108] Both sides refused to budge, and the bills died in conference.[109] Although a few bills were introduced during the war years, Congress and the country were far too preoccupied with the nation's war effort to pay serious attention to the rapidly deterio-

105. *Id.* at 1484.

106. *House Water Pollution Hearings 1939*, *supra* note 97, at 132. **R**

107. *See* 84 CONG. REC. 4931 (1939).

108. 86 CONG. REC. 2226 (1940).

109. *Id.* at 9347-59. The level of frustration among the protagonists was getting high, as evidenced by Representative Dingell's statement urging the House conferees to insist upon the Mundt amendment:

> There can be no compromise. The House has previously expressed itself and should now hold the line. If the Senate insists upon the half-baked, insipid, and ineffective proposals made heretofore, then it appears we will have no bill, and I do not know but what we will be just as well off. The bill to have any real value must prevent future new pollution . . . .

Id. at 9358. The conservation community and its supporters clearly felt that they had compromised by insisting only upon the regulation of new sources rather than all sources of water pollution. *See id.* (statement of Rep. Harrington). Representative Dingell was the father of current Representative John Dingell, Jr., who has been an active voice on matters involving water pollution since his election to Congress in 1955. *See* BIOGRAPHICAL DIRECTORY OF THE UNITED STATES CONGRESS 1774-1989, S. DOC. 100-35, at 912 (1989).

rating condition of the nation's waters.[110]

F. *The Federal Water Pollution Control Act of 1948*

Not long after the conclusion of the war, Congress returned to the question of stream pollution. During the war, the problem had intensified due to both increased industrial activity and dramatically lower expenditures on wastewater treatment.[111] Hearings on three bills began in the House in November 1945.[112] One, introduced by Representative Karl Mundt, was similar to the earlier Lonergan bills. It called for federal water quality standards (then called "standards of cleanliness") established on a watershed basis, federal treatment requirements and federal enforcement.[113] In an attempt to attract additional support, the bill provided that its operating commission would be drawn from existing agencies including the PHS and the Corps of Engineers, stipulated that the two-year deadline for complying with water quality standards could be extended for up to five years if no practical treatment technology was available or if municipalities could not afford to comply, and gave states the first opportunity to enforce the Act against violators.[114] A second bill, introduced by Margaret Chase Smith of Maine, resembled the Mundt bill except that it also provided federal aid for the construction of municipal and industrial treatment facilities.[115] Finally, Brent Spence of Kentucky introduced a bill that was similar to the 1938 Vinson bill, but included a feeble bow towards federal enforcement by authorizing the Surgeon General to give notice to states and to recommend remedial measures

110. *See* Hines, *supra* note 34, at 808.

111. *See Pollution of Navigable Waters: Hearings on H.R. 519, H.R. 587, and H.R. 4070 Before the House Comm. on Rivers and Harbors*, 79th Cong. 12 (1945) [hereinafter *House Water Pollution Hearings 1945*] (testimony of Dr. Thomas Parran, U.S. Surgeon General).

112. *Id.* at 1.

113. *See* H.R. 519, 79th Cong. §§ 4, 7 (1945), *reprinted in House Water Pollution Hearings 1945*, *supra* note 111, at 2-3. Mundt argued that "[w]hen and where the local authorities, State, county, district, and city fail or refuse to act, and when the offending industries decline to correct their polluting practices, it seems to me then it is the responsibility of the Federal Government to do what others continuously neglect to do." *House Water Pollution Hearings 1945*, *supra* note 111, at 51. R R

114. H.R. 519, §§ 2, 4(c), 7 (1945), *reprinted in House Water Pollution Hearings 1945*, *supra* note 111, at 1-3. In addition, the bill retained Mundt's 1940 innovation which required all new pollution sources to obtain federal approval prior to any discharge. *Id.* § 8, *reprinted in House Water Pollution Hearings 1945*, *supra* note 111, at 3. R R

115. H.R. 587, 79th Cong. § 6 (1945), *reprinted in House Water Pollution Hearings 1945*, *supra* note 111, at 4. R

whenever water pollution was found to jeopardize public health.[116] If appropriate action was not forthcoming, the bill called for yet another round of notice, but still no actual federal enforcement.[117]

Not surprisingly, industry, local government, and state agencies supported the Spence approach.[118] And although Surgeon General Thomas Parran testified that state and local authorities had demonstrated for years their "inability" to control water pollution,[119] he opposed the two stronger bills because they authorized federal enforcement action.[120] In short, nothing had really changed since the late 1930s. The bills and their proponents were basically the same—virtually frozen in time—and no one seemed in a mood for compromise. However, water pollution soon took a backseat amid the press of other post-war legislation.[121]

The issue did not reappear until 1947. Senator Barkley along with Senator Taft introduced a bill[122] that differed little from the Spence bill or, for that matter, from the 1938 Vinson bill. It did, however, contain an ever so slightly stronger provision on federal enforcement than the one found in the Spence bill.[123] Although

116. H.R. 4070, 79th Cong. § 2(d) (1945), *reprinted in House Water Pollution Hearings 1945*, *supra* note 111, at 8. R

117. *Id.*

118. *See House Water Pollution Hearings 1945*, *supra* note 111, at 64-65 (referring to the support of the American Public Health Association, the Federation of Sewage Works Associations, and the American Water Works Association), 128-29 (testimony of Milton P. Adams representing the Michigan Stream Control Commission), 138-39 (letter from the New York Department of Health), 139-40 (letter from the Wisconsin Committee on Water Pollution), 140 (letter from the Iowa Department of Health), 179 (testimony of Hudson Biery, Chairman of the Stream Sanitation Committee of the Cincinnati Chamber of Commerce), 192-97 (referring to support from state agencies and industrial groups for similar bills that were introduced in the 1930s). The Attorney General of Pennsylvania, Jim Duff, however, supported the Mundt bill because he believed that federal involvement was necessary to eliminate the competitive advantage, which, in the absence of uniform regulation, industry in dirty states would enjoy over their competitors in more strictly regulated states. *See id.* at 83 (testimony of Harrington Adams, Deputy Attorney General of Pennsylvania reading a statement prepared by Attorney General Duff). R

119. *Id.* at 14.

120. *Id.* at 15-16.

121. *See* Hines, *supra* note 34, at 809. R

122. S. 418, 80th Cong. (1947).

123. *Id.* § 2(d). The bill declared that the pollution of interstate waters was a public nuisance whenever it endangered the health or welfare of persons in a state other than the one in which the discharge originated. Upon finding that such a public nuisance existed, the Surgeon General was authorized to give notice to the polluter and the relevant state agency—with or without recommended remedial measures. If appropriate action to abate the pollution was not brought, the Surgeon General was directed to give notice yet again. If, within a reasonable time, action to resolve the matter was still not taken, the federal government was authorized to call a public hearing. If the recommendations resulting

Mundt railed against it,[124] the bill breezed through the conservative,[125] Republican-controlled houses of Congress with little debate,[126] and President Truman signed the Water Pollution Control Act into law on June 30, 1948.[127] The industrial lobbyists had won; Barkley of Kentucky and Taft of Ohio had "successfully protected the coal and industrial interests in the Ohio valley" by securing the passage of a largely ineffectual bill.[128]

The new statute left primary responsibility for dealing with water pollution with the states. The role of the federal government remained "secondary," designed only to strengthen state and local efforts through the provision of technical advice and some additional funding.[129]

The Act directed the Surgeon General to encourage states to enact uniform water pollution laws and to enter into interstate compacts[130]—something the Surgeon General was already doing.[131] The Act also empowered the Surgeon General to investigate specific pollution problems and to offer possible solutions, but only upon state request.[132] On the financial side, the bill created a relatively modest municipal construction program. It authorized

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from the hearing were not complied with, the Attorney General was empowered to bring suit, but only with the consent of the state in which the discharge arose. *Id.*

124. He predicted that the bill:

> [W]ill not stop pollution. It will not outlaw or prevent new sources of pollution. It will not even protect what virgin streams and clean waters [that] remain in America. But the polluters believe and I believe that this legislation will work to stop new attempts to write effective legislation, that it will protect present pollution practices, and that it will buy polluters additional time to practice their pagan program without being subjected to a workable formula for eliminating unjustifiable pollution.

94 CONG. REC. 8196-97 (1948). Karl Mundt proved an excellent prophet.

125. John Kenneth Galbraith described this Congress as one of the most conservative in modern history. JOHN KENNETH GALBRAITH, THE AFFLUENT SOCIETY xiv (2d ed. 1969).

126. Hines, *supra* note 34, at 810. The House, however, made some changes in the bill which were subsequently agreed to by the Senate. *Id.* R

127. Water Pollution Control Act, Pub. L. No. 80-845, 62 Stat. 1155 (1948) (superseded 1972). In 1956, Congress redesignated the Act as the "Federal Water Pollution Control Act." Water Pollution Control Act Amendments of 1956, Pub. L. No. 84-660, § 1, 70 Stat. 498, 507 (1956) (superceded 1972).

128. ARNOLD W. REITZE, JR., 1 ENVIRONMENTAL LAW 4-34 (1972) [hereinafter REITZE, ENVTL. LAW].

129. Hines, *supra* note 34, at 810. R

130. Water Pollution Control Act, § 2(b), 62 Stat. 1156. The federal program was actually administered by the Division of Water Pollution Control within the PHS. LEONARD B. DWORSKY, CONSERVATION IN THE UNITED STATES: WATER AND AIR POLLUTION 233 (1971).

131. *See* Andreen, *Evolution of Water Pollution Control: Part I*, *supra* note 2, at 183. R

132. Water Pollution Control Act, § 3.

up to $22.5 million in loans every year to build sewage treatment plants.[133] The aid was desperately needed. According to a 1944 PHS survey, forty percent of the waste discharged by municipal sewage systems—the waste product of twenty-nine million Americans—received no treatment whatsoever. The other sixty percent was treated, but with "varying degrees of effectiveness."[134] The actual level of federal expenditures for sewage treatment, however, never came close to meeting the expectations of the 1948 Act. The annual appropriation fell from $3 million in 1950 to less than $1 million by 1955—a victim, at least in part, of the Korean War.[135]

Federal enforcement power was also modest,[136] limited as it was to cases where interstate pollution actually endangered the health or welfare of persons in a neighboring state.[137] Polluters were immune to federal action as long as they only endangered local residents or refrained from activities that actually threatened public health.

Even if this limited federal jurisdiction were implicated, the enforcement process created by the 1948 Act was awkward and time-consuming. The government could seek an injunction only after completing a lengthy, three-step process. First, the Surgeon Gen-

133. *Id.* §§ 5, 7. The loans had to be approved by both the relevant state agency and the Surgeon General. *Id.* § 5. Money was also set aside to support research by state agencies—up to $2 million a year—and funds were earmarked for the construction of a water pollution laboratory to be operated by the PHS in Cincinnati, Ohio. *Id.* § 8(a), (b), (c). The laboratory—known as the Environmental Health Center—was completed early in 1953.

134. *Stream Pollution Control: Hearings on S. 418 Before a Subcomm. of the Senate Comm. on Public Works*, 80th Cong. 26 (1947) (statement of Dr. Thomas Parran, Surgeon General of the United States, referring to the 1944 study).

135. REITZE, ENVTL. LAW, *supra* note 128, at 4-34. The Act's funding had been reauthorized for a three-year period, 1953-56, by the Water Pollution Control Act Extension Act, 66 Stat. 755 (1952). R

136. For thorough discussions of the shortcomings of federal enforcement from 1948 through 1972, see William L. Andreen, *Beyond Words of Exhortation: The Congressional Prescription for Vigorous Federal Enforcement of the Clean Water Act*, 55 GEO. WASH. L. REV. 202, 210-15 (1987) [hereinafter Andreen, *Clean Water Act Enforcement*]; Frank J. Barry, *The Evolution of the Enforcement Provisions of the Federal Water Pollution Control Act: A Study of the Difficulty in Developing Effective Legislation*, 68 MICH. L. REV. 1103 (1970).

137. Water Pollution Control Act, Pub. L. No. 80-845, § 2(d)(1), 62 Stat. 1156 (1948). The Act defined "[I]nterstate waters" as "all rivers, lakes, and other waters that flow across, or form a part of, State boundaries." *Id.* § 10(e). The definition was so narrow that it failed to cover approximately 22,000 of the estimated 26,000 water bodies in the United States. Completely excluded were most coastal waters, many international boundary waters such as the St. Lawrence River, and hundreds of intrastate waters. *See* HOUSE PUBLIC WORKS COMM., FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1961, H.R. REP. NO. 87-306, at 8 (1961).

eral had to give the polluter two notices to abate the problem.[138] Then, if inadequate progress was being made, a board appointed by the Federal Security Administrator was required to hold a public hearing.[139] Only after giving the polluter an opportunity to comply with the recommendations of the hearing board was the Administrator permitted to refer the matter to the Attorney General. The Act made this referral contingent, however, on the consent of the state where the pollution originated,[140] which effectively gave the states veto power over any federal suit. If the federal government were fortunate enough to surmount those hurdles, two additional obstacles remained in the path of federal enforcement. First, the Justice Department had to prove that a specific polluter had actually endangered public health in an adjacent state[141]—a particularly difficult task. Second, the 1948 Act required that a court, in issuing its decision, consider "the physical and economic feasibility" of curtailing the discharge.[142] As one high-ranking federal enforcement official later said, the 1948 enforcement procedure was "a very peculiar one, almost an Alice in Wonderland technique."[143] Perhaps not surprisingly, the federal government completely ignored this enforcement procedure in the years preceding its amendment in 1956.[144]

G. *The Federal Water Pollution Control Act Amendments of 1956*

In 1956, Congress made an effort to remedy some of the deficiencies of the 1948 Act.[145] The 1956 Amendments replaced the loan program for municipal sewage plant construction with a

138. Notice also had to be provided to the state where the pollution originated. The notice could set forth recommendations for remedial action and set a reasonable time for compliance with those recommendations. If the polluter failed to take action within the time allowed, the Surgeon General could issue notice a second time. Water Pollution Control Act, § 2(d)(2).

139. *Id.* § 2(d)(3). (The Surgeon General at this time was subject to the supervision of the Federal Security Administrator. *Id.* § 1. The functions of Federal Security Administrator were transferred to the Department of Health, Education, and Welfare when it was created in 1953. Reorg. Plan No. 1, 18 Fed. Reg. 2053 (1953).)

140. Water Pollution Control Act, § 2(d)(4).

141. *See* Barry, *supra* note 136, at 1111. **R**

142. Water Pollution Control Act, § 2(d)(7).

143. *Water Pollution Control Legislation, 1971*: *Oversight Hearings Before the House Comm. on Public Works*, 92d Cong. 184 (1971) (testimony of Murray Stein, an official in EPA's Office of Enforcement who had worked in federal water pollution enforcement since the 1950s).

144. Hines, *supra* note 34, at 814. **R**

145. Water Pollution Control Act Amendments of 1956, Pub. L. No. 84-660, 70 Stat. 498 (1956) (superceded 1972).

much larger grant-in-aid program proposed by a young Congressman from Minnesota, John Blatnik. Despite robust opposition from the Eisenhower Administration,[146] expenditures of $50 million a year were authorized for the next ten years.[147] However, an attempt to empower the Surgeon General to "set federal water quality standards for interstate waters" failed.[148]

With regard to enforcement, the 1956 Amendments eliminated the power of a polluting state to veto any federal court action.[149] Congress, however, created another problem—a requirement to convene a conference was inserted into the process, following notice but prior to any public hearing.[150] The conference was intended to bring representatives of federal and state agencies together in order to give the local authorities the first chance to correct the problem. The new procedure, however, produced even more delay, and conferences were rarely held.[151] Between 1956 and 1961, only fourteen conferences were convened, six upon a state's request, and eight on the Surgeon General's initiative. Most of these conferences focused on rural rivers, with the PHS shying away from problems involving the nation's most industrialized streams.[152] As a result, state regulators continued to operate "with

146. Hines, *supra* note 34, at 816. President Eisenhower believed that pollution was a uniquely local problem and that, therefore, the construction of sewage treatment plants was a state and local responsibility rather than a function of the federal government. *See id.* at 822. R

147. Water Pollution Control Act Amendments of 1956, *supra* note 145, at § 6. Grants could not exceed the smaller of 30% of the project's cost or $250,000. *Id.* § 6(b)(2). R

148. *See* Hines, *supra* note 34, at 814-15. This proposal was found in S. 890, which was drafted by the Department of Health, Education, and Welfare because officials there believed that water quality standards would help simplify the enforcement process. *Id.* at 815. Opponents felt that the standards were not necessary, too complex, and, in any case, believed that they ought to be the prerogative of state government. *See id.* at 815 n.69. R

149. Consent still had to be obtained, but it could now be provided by either the governor of the affected state or the governor of the polluting state. Water Pollution Control Act Amendments of 1956, *supra* note 145, at § 8(f). R

150. After giving notice to the polluting state, the Surgeon General was directed to hold a conference with all of the interested states. If the conference revealed that insufficient steps were being taken to resolve the problem, the amendments required the Surgeon General to recommend remedial action to the appropriate state agency. If the state failed to pursue that action within six months, the Secretary of Health, Education, and Welfare was required to call a hearing which would again issue recommendations with which the polluter had at least six months to comply. *Id.* § 8(c), (d), (e).

151. TERRENCE KEHOE, CLEANING UP THE GREAT LAKES: FROM COOPERATION TO CONFRONTATION 49 (1997).

152. *See id.* at 7. Although the states welcomed the modest level of federal assistance that was available at the time and appreciated the technical support that the federal government offered (*see id.* at 36), states regarded a federal enforcement conference as an

little interference from their counterparts in the federal program."[153]

In contrast, the new construction grants program appeared to be a great success. In the first year and a half of its existence, the program made 1,005 grants totaling $84.1 million.[154] Representative Blatnik was so enthused by these results that he sponsored a bill in 1958, which would have increased federal expenditures to $100 million a year.[155] President Eisenhower, however, was adamantly opposed to the construction grants program. In 1958, his budget proposal suggested that expenditures should be cut back in 1959 and perhaps phased out thereafter.[156] The session ended before final action could be taken on Blatnik's bill, although the bill had been "reported favorably" to the floor of the House.[157] In 1960, Congress finally passed a variation on Blatnik's earlier theme, increasing annual funding to $90 million, but Eisenhower vetoed it.[158] Before Eisenhower left Washington, his own Surgeon General was describing the condition of American rivers as "a national disgrace"[159]—words that reflected the passion growing in the American people during the late 1950s and 1960s for cleaner rivers and lakes, and the recognition that water pollution was indeed a national problem.

"encroachment into state affairs" and "embarrassing ordeals that held state failures up to public scrutiny." *Id.* at 52.

153. *Id.*

154. *See* Amend Federal Water Pollution Control Act: Hearings on H.R. 11714 Before the Rivers and Harbors Subcomm. of the House Public Works Comm., 85th Cong. 2 (1958). Prior to the passage of the 1956 Act, a total of only $222 million was spent annually on the construction of municipal water treatment facilities. After its enactment, annual construction contracts averaged $360 million a year—a 62% increase in construction activity. Over 80% of that total represented state and local funding. *See* SENATE COMM. ON PUBLIC WORKS, FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1961, S. REP. NO. 87-353, at 3 (1961) [hereinafter SENATE COMM. REPORT 1961].

155. H.R. 11714, 85th Cong. (1958).

156. *See* Hines, *supra* note 34, at 820 n.91. Eisenhower's disdain for the program was shared by the National Association of Manufacturers which also argued that federal water pollution control efforts should be limited to research and advice. *See id.* at 819 n.89. R

157. *Id.* at 820.

158. *Id.* at 822. *See* Veto of Bill to Amend the Federal Water Pollution Control Act, 1960-61 PUB. PAPERS 208 (1961). Eisenhower defended the veto, in part, by arguing that the promise of a large-scale federal program "would tempt municipalities to delay essential water pollution abatement efforts while they waited for Federal funds." *Id.* at 209. He did, however, advocate the creation of stronger federal enforcement authority to deal with interstate pollution problems. *Id.* at 209-10.

159. KEHOE, *supra* note 151, at 46 (quoting Surgeon General Leroy E. Burney addressing the National Conference on Water Pollution in December 1960). R

H. *Federal Water Pollution Control Act Amendments of 1961*

In 1961, the new Kennedy Administration exhibited a different attitude toward environmental protection. President Kennedy declared in an early message to Congress that the pollution of the nation's rivers and streams had "reached alarming proportions."[160] He called on Congress to pass legislation not only to increase federal assistance for the construction of wastewater treatment facilities, but also to "strengthen enforcement procedures to abate serious pollution situations of national significance."[161] Leaders on Capitol Hill were sympathetic, having turned to environmental protection and other quality of life issues such as education and health care to garner political support.[162] Congress soon presented President Kennedy with the Federal Water Pollution Control Act Amendments of 1961,[163] and he signed the act on July 20.[164]

Besides increasing the annual authorization for the construction grants program to a maximum of $100 million by 1963,[165] the bill also modestly enhanced federal enforcement. Federal enforcement authority was extended from "interstate" waters to all "navigable waters" where the discharge of pollutants, whether to that water or to a tributary, endangered human "health or welfare."[166] For

160. Special Message to Congress on Natural Resources, 1961 PUB. PAPERS 116 (1962) [hereinafter 1961 PUB. PAPERS].

161. *Id.* at 117.

162. *See* Kehoe, *supra* note 151, at 46-47. R

163. Federal Water Pollution Control Act Amendments of 1961, Pub. L. No. 87-88, 75 Stat. 204 (1961) (superseded 1972).

164. *See* Remarks Upon Signing the Federal Water Pollution Control Act Amendments, 1961 PUB. PAPERS, *supra* note 160, at 524. R

165. Federal Water Pollution Control Act Amendments of 1961 § 5(d). Despite 2,600 projects that had been approved under the 1956 Act, a 1960 survey by state water pollution control agencies showed a backlog of over 5,000 projects having an estimated value of nearly $2 billion. *See* SENATE COMM. REPORT 1961, S. REP. NO. 87-353, at 3 (1961).

166. Federal Water Pollution Control Act Amendments of 1961 § 7(a). While the amendments did not define "navigable waters," the House Report referred to the definition set forth in *The Daniel Ball*, 77 U.S. (10 Wall.) 557 (1870). *See* H.R. REP. NO. 87-306, at 10 (1961) [hereinafter HOUSE COMM. REPORT 1961]. In that case, the Supreme Court wrote:

> Those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water.

77 U.S. (10 Wall.) at 563. The definition of "interstate waters" was itself broadened to specifically include "coastal waters." Federal Water Pollution Control Act Amendments of 1961 § 9.

intrastate pollution, however, federal authority was much more limited. The United States could neither convene an enforcement conference nor file suit until the governor of that state (home to both the polluter and the polluted) had given consent.[167]

Finally, Congress recognized that the federal water pollution control program had outgrown its place within the PHS and needed to be given a higher and more independent profile. Nevertheless, the proposal to create a new office within the Department of Health, Education, and Welfare (HEW) was dropped in deference to Secretary Ribicoff's request that he be given flexibility in restructuring the program.[168] Thus, the Act transferred administrative responsibility from the Surgeon General to the Secretary of Health, Education and Welfare.[169] The House Committee, however, asked Secretary Ribicoff to keep in mind that the scope of the federal program had now gone "far beyond usual public health legislation."[170]

Senator Ribicoff tapped James M. Quigley, an Assistant Secretary of HEW, as his principal representative on water pollution matters. Quigley made an effort to bring the issues of water pollution into the public spotlight. He stressed the importance of robust enforcement and touted the economic value of clean water.[171] He even warned state administrators that, if they failed to deal effectively with their pollution problems, the federal government might have to enter the fray.[172]

Despite congressional exhortations to the contrary, the federal water pollution control program remained well out-of-sight, buried deep within the PHS as the Department of Water Supply and Pollution Control, a unit of the Bureau of State Services. Enforcement conferences remained rare. Five were held during 1962 and 1963, and three of those were convened at state request. And seldom did enforcement matters move beyond the conference stage. Of the thirty-seven conferences called between 1956 and 1965, a scant four progressed to the next enforcement level—the public hear-

167. Federal Water Pollution Control Act Amendments of 1961 § 7(c), (e). The United States could still convene an abatement conference and eventually file suit, without state permission, where the pollution of "interstate or navigable waters" in one state endangered the health or welfare of persons in another state. *Id.*

168. *See* HOUSE COMM. REPORT 1961, *supra* note 166, at 4. R

169. Federal Water Pollution Control Act Amendments of 1961 § 1.

170. HOUSE COMM. REPORT 1961, *supra* note 166, at 4-5. R

171. *See* KEHOE, *supra* note 151, at 48.

172. *Id.* at 49.

ing, and only one ever went to court.[173] As Terence Kehoe points out, federal officials may have talked tough, but their action "mirrored to a great extent the cooperative pragmatism characteristic of the state programs."[174]

I. *The Water Quality Act of 1965*

The environmental consciousness of the nation was growing during the early years of the 1960s, inspired in part by the message and eloquence of Rachel Carson's *Silent Spring*, published in 1962.[175] Her warnings of a world stricken by a mysterious blight[176] were underscored by massive fish kills which were occurring with great frequency in the early 1960s.[177] All signs, in fact, "pointed to a continuing deterioration in the quality of the nation's waters."[178] Lake Erie was choking in algae, a victim of accelerated eutrophication,[179] commercial fisheries were in decline elsewhere on the Great Lakes,[180] and beaches were being closed all over the country.[181] Increasingly, Americans who now had the time and resources to engage in various kinds of outdoor recreation found their favorite rivers and lakes fouled by industrial and municipal pollution.[182] Newspapers began to run stories on local pollution problems,[183] and many citizens, upset by what they were experiencing and reading, began to join reform groups such as the League of Women Voters or traditional conservation groups like the Izaak Walton League and Sierra Club. Even city boosters, concerned about their city's image, started crusading for cleaner water.[184] With increasing frequency, citizens turned to the federal govern-

173. *Id.* The case that went to court was *United States v. City of St. Joseph, Missouri* (No. 1077, W.D. Mo. 1961).

174. KEHOE, *supra* note 151, at 50. R

175. RACHEL CARSON, SILENT SPRING (1962).

176. *See id.* at 1-3 (so starkly posed in her "Fable for Tomorrow").

177. *See* DONALD E. CARR, DEATH OF THE SWEET WATERS 174 (1966). Relying upon data submitted by forty states, EPA later reported that almost twenty-three million fish were killed nationwide by water pollution during 1964 alone. U.S. ENVTL. PROT. AGENCY, OFFICE OF WATER PLANNING AND STANDARDS, FISH KILLS CAUSED BY POLLUTION: FIFTEEN-YEAR SUMMARY 1961-1975, at 5 (1979).

178. Hines, *supra* note 34, at 825. R

179. WILLIAM MCGUCKEN, LAKE ERIE REHABILITATED: CONTROLLING CULTURAL EUTROPHICATION, 1960s-1990s, at 44-47 (2000).

180. KEHOE, *supra* note 151, at 45. R

181. *Id.* at 46, 56.

182. *See* ANDREWS, *supra* note 39, at 201, 210; SAMUEL P. HAYS, BEAUTY, HEALTH, AND PERMANENCE: ENVIRONMENTAL POLITICS IN THE UNITED STATES, 1955-1985, AT 54-55 (1987). R

183. KEHOE, *supra* note 151, at 54-55. R

184. *Id.* at 52-66.

ment for help.[185]

The case of Sterling State Park in Monroe, Michigan provides an especially poignant example of this phenomenon. Sterling State Park provided the only public beachfront along Lake Erie in the state of Michigan. Located approximately midway between Detroit and Toledo, thousands of area residents flocked to the beach in warm weather. In 1959, over 1.2 million persons used the park. In August of 1961, however, the beach was closed due to the threat of infectious disease. As Kehoe recounts, the beach closing "was the last straw" for many residents.[186] They organized the Lake Erie Cleanup Committee and started lobbying government agencies. Disillusioned with the lack of positive response from state and local government, they sought federal action. Officials in cities downstream from Detroit who were worried about the contamination of their drinking water supplies by the sewage discharged by Detroit joined in this effort. Eventually, a number of prominent Michigan Democrats in Congress, including Senator Philip Hart, urged the Democratic governor of Michigan to seek a federal enforcement conference.[187] Despite bitter opposition from the state agency, which viewed federal involvement as an encroachment on its turf, the governor requested federal assistance and Secretary Ribicoff convened the conference.[188]

Fueled by local concern over issues such as the pollution of Sterling State Park, the environmental movement grew substantially in the early 1960s. These issues often prompted the formation of new grassroots organizations and spurred the growth of national environmental groups.[189] Increasingly, politicians, especially at the federal level, began to see that a strong approach to water pollution control could "pay political dividends."[190] And although state officials may not have always been pleased about federal enforcement initiatives, officials in many northern states were beginning to favor the establishment of minimum federal standards, concerned as they were that southern and western states were attempting to lure industry through lax environmental protection.[191]

Congressional efforts to further strengthen the water pollution

185. *Id* at 54.
186. *Id.* at 56.
187. *Id.* at 56-57.
188. *Id.* at 57-58.
189. *See* Andreen, *Evolution of Water Pollution Control: Part I*, *supra* note 2, at 198 n.302. **R**
190. KEHOE, *supra* note 151, at 59.
191. FREDERICK A. ANDERSON ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY

control program were bolstered with the emergence of a new leader—Senator Edmund Muskie of Maine.[192] Muskie saw water pollution as a "national problem" that was compromising "the physical and economic health of the entire country."[193] Saying that he favored "encouraging compliance rather than imposing enforcement,"[194] he resurrected a failed 1956 proposal that would give the federal government discretionary authority to establish water quality standards for interstate waters.[195] He argued that federal standards would reduce the need for abatement actions because they would give industry and municipalities a tool with which to design adequate treatment facilities.[196] Muskie also proposed to create a Federal Water Pollution Control Administration within HEW,[197] an idea opposed by the state water pollution control agencies who, despite the trend at the state level to transfer programs from health departments to new separate administrations, wanted the federal program to remain within the PHS.[198] Although the

588 (3d ed. 1999). A contemporary observer, Donald E. Carr, described the problem in the following way:

> For many years the difference in water cleanliness standards between states has given industrialists a powerful club which they have not hesitated to use. They can threaten to move the plant downriver where the requirements are not so tough. Or they can threaten to move from a Northern state, grown more persnickety, to some Southern state, where one can dump anything short of straight cyanide into a stream.

CARR, *supra* note 177, at 145. **R**

192. *See* JAMES RIDGEWAY, THE POLITICS OF ECOLOGY 63-65 (1970). For a thorough examination of Senator Muskie's role during these early years, see Robert F. Blomquist, *"To Stir Up Public Interest": Edmund S. Muskie and the U.S. Senate Special Subcommittee's Water Pollution Investigations and Legislative Activities, 1963-66—A Case Study in Early Congressional Environmental Policy Development*, 22 COLUM. J. ENVTL. L. 1 (1997). Muskie was joined in his push for a more prominent federal role by Senator Gaylord Nelson of Wisconsin and, on the House side, by John Dingell of Michigan and Henry Reuss of Wisconsin. KEHOE, *supra* note 151, at 47. **R**

193. 109 CONG. REC. 19,641 (1963) (debate on the Senate's adoption of Muskie's bill, S. 649, to amend the Federal Water Pollution Control Act).

194. *See id.* at 19,646.

195. S. 649, 88th Cong. § 4 (1963). The standards were to be developed in consultation with state and local interests and based on current and future uses such as "public water supplies, propagation of fish and aquatic life and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses." *Id.* § 5. Violations would be treated as public nuisances. *Id.*

196. *See* 109 CONG. REC. 19,646. A number of Senators, however, continued to support state prerogative and maintained that the states rather than the federal government should have the decisive power to fix standards. *See id.* at 19,663 (comments of Sen. John Sherman Cooper of Kentucky).

197. *See* S. 649, *supra* note 195, § 2. **R**

198. *See* 109 CONG. REC. 19,647.

Senate passed Muskie's bill in October 1963,[199] Congressman Blatnik's more conservative subcommittee on the House side moved slowly. It reported out a weaker version of the bill so late in 1964 that it made action by the full House impossible.[200] Lyndon Johnson's landslide victory over Barry Goldwater in the 1964 election, however, dramatically improved the prospects for strong new legislation.[201]

Senator Muskie reintroduced his bill in January 1965.[202] Some senators, like John Tower of Texas, continued to oppose the bill's increase in federal power.[203] Majority sentiment, however, was probably summed up well by Thomas Dodd of Connecticut when he declared that

> it is evident that the seriousness of the [water pollution problem] and the size and expense of the project ahead demand national attention. The Federal Government must expand its efforts, must bear a greater portion of the costs than before, and must be in a position to coordinate all of the work . . . in this area.[204]

The Senate acted quickly and passed Muskie's reintroduced bill 68 to 8 in January 1965.[205]

In February, President Johnson sent a message to Congress on Conservation and the Restoration of Natural Beauty. In it, he endorsed a "national program to prevent water pollution at its source" through the use of water quality standards, combined with swift and effective enforcement procedures.[206] His target was the

199. *Id.* at 19,682. Professor Irwin Unger contends that Muskie's bill was "only feebly supported" by the Kennedy administration. IRWIN UNGER, THE BEST OF INTENTIONS: THE TRIUMPHS AND FAILURES OF THE GREAT SOCIETY UNDER KENNEDY, JOHNSON AND NIXON 133 (1996).

200. DAVID ZWICK & MARCY BENSTOCK, WATER WASTELAND 264-65 (1971). Representative Blatnik was basically opposed to the use of federal water quality standards, and his committee's bill gave the Secretary of HEW only the power to recommend standards, not promulgate them. *See* H.R. REP. NO. 88-1885, at 18-19 (1964); Hines, *supra* note 34, at 828. R

201. *See* UNGER, *supra* note 199, at 130.

202. S. 4, 88th Cong. (1965).

203. 111 CONG. REC. 1519 (1965).

204. *Id.* at 1544.

205. *Id.* at 1545.

206. 1965 PUB. PAPERS 162 (Feb. 8, 1965). Elsewhere in his message, President Johnson referred to his rationale for federal action. He stated: "Every major river system is now polluted. Waterways that were once sources of pleasure and beauty and recreation are forbidden to human contact and objectionable to sight and smell. . . . In spite of the efforts and many accomplishments of the past, water pollution is spreading." *Id.* at 161-62.

Irwin Unger reports that President Johnson's feelings about clean water were influenced, in part, by the degraded condition of the Potomac River which smelled so bad that the President occasionally had to "hold his nose" while sailing on the Presidential yacht *Sequoia*. UNGER, *supra* note 199, at 134.

House of Representatives and, more specifically, John Blatnik's committee. Blatnik's committee eventually reported a bill, but the bill did not call for federal water quality standards; it did not even require states to promulgate standards. It merely required states to file a "letter of intent" to adopt water quality standards for their interstate waters.[207] Although the entire House accepted this version on a vote of 396-0-37,[208] a number of Representatives took the debate as an opportunity to send a message. Representative Don Clauson of California, for example, warned state agencies "that if they do not want Federal controls or Federal standards [they] certainly are going to have to take the lead . . . to resolve some of these problems."[209] Patience was beginning to run thin as reflected in Representative Wolff's contention that the failure of state action was obvious from "the countless miles of polluted waterways and beaches throughout the Nation."[210] Likewise, Representative Miller declared that state agencies "have not done the job and it is well nigh certain that they will not do the job except in conjunction with cooperative Federal authority and assistance."[211]

After months of work and persistent effort by Muskie,[212] the House-Senate conference committee finally fashioned a compromise by the fall of 1965 that was passed and signed into law as the Water Quality Act of 1965.[213] President Johnson used strong language at the signing ceremony, language that reflected a growing passion and sense of urgency about reclaiming "this portion of our national heritage."[214] He stated:

> The clear, fresh waters that were our national heritage have become dumping grounds for garbage and filth. They poison our fish; they breed disease; they despoil our landscapes.
> No one has a right to use America's rivers and America's waterways that belong to all the people as a sewer. The banks of a river

207. *See* 111 CONG. REC. 8655.

208. *Id.* at 8690.

209. *Id.* at 8664.

210. *Id.* at 8674. He pointedly added that "[t]ime has long since run out for the purely 'voluntary persuasion' policy that has marked State and local efforts to deal with the problem of pollution." *Id.*

211. *Id.* at 8663. In the same vein, Rep. Reuss was extremely critical of the current state approach to water quality standards, stating that "we have seen many streams actually classified as suitable primarily for the transportation of sewage." *Id.* at 8678. Rep. Dingell also laid into the weakness of enforcement at the state level. *Id.* at 8687.

212. *See* Blomquist, *supra* note 192, at 36-55 (detailing Sen. Muskie's efforts to secure passage of a new water pollution control bill).

213. Pub. L. No. 89-234, 79 Stat. 903 (1965) (superseded 1972).

214. 1965 PUB. PAPERS 1035 (Oct. 2, 1965).

> may belong to one man or even one industry or one State, but the waters which flow between those banks should belong to all the people.
>
> There is no excuse for a river flowing red with blood from slaughterhouses. There is no excuse for papermills pouring tons of sulphuric acid into the lakes and the streams of the people of this country. There is no excuse . . . for chemical companies and oil refineries using our major rivers as pipelines for toxic wastes. There is no excuse for communities to use other people's rivers as a dump for their raw sewage.
>
> This sort of carelessness and selfishness simply ought to be stopped; and more, it just must be reversed. And we are going to reverse it.[215]

Johnson, however, was careful not to claim too much for the new legislation, weakened as it was by the concessions needed to secure passage in the House. Instead, he acknowledged that stronger legislation would be needed in the years to come. But he did say that the effort had begun "in the best American tradition—with a program of joint Federal, State, and local action."[216]

The 1965 amendments[217] created the Federal Water Pollution Control Administration (FWPCA) within HEW to administer the federal program[218] and expanded the construction grants program.[219] The amendments also required each state to adopt water quality standards, which were subject to federal approval for its interstate waters, and a plan for their implementation and enforcement. These standards were to be set at a level that would protect public health or welfare, considering the water's use and value for drinking water, fish and wildlife, recreation, agriculture, industry, and other legitimate uses.[220] In the event a state failed to establish acceptable standards, the amendments empowered the Secretary of HEW to promulgate appropriate standards.[221]

The 1965 Amendments also created a separate enforcement process for the violation of the new federally approved water quality standards. The procedure, while less unwieldy than the existing

215. *Id.* at 1034-35.

216. *Id.* at 1035.

217. *See* Water Quality Act of 1965, Pub. L. No. 89-234, 79 Stat. 903 (1965) (superseded 1972).

218. *Id.* § 2.

219. *Id.* § 3. The annual appropriation for construction grants was raised to $150 million for the next two fiscal years, and the ceiling on individual grants was raised to $1.2 million. *Id.* § 4(a), (f).

220. *Id.* § 5(a) (adding § 10(c)(3) to the Federal Water Pollution Control Act).

221. *Id.* § 5(a) (adding § 10(c)(2) to the Federal Water Pollution Control Act).

conference process, was still slow and tilted against effective enforcement. It authorized the Secretary of HEW to ask the Attorney General to file suit to abate a violation—but only if the polluter had been given 180 days notice.[222] It still required proof of a threat to health or welfare, and if the violation affected persons only in the state where the offending discharge occurred, the governor of that state had to agree to the institution of the federal suit.[223] The courts, moreover, were to hear such cases *de novo* giving "due consideration to the practicality and to the physical and economic feasibility of complying with such standards."[224]

J. *The Clean Water Restoration Act of 1966*

Before all of the personnel could be transferred from the PHS to HEW, President Johnson proposed to transfer the FWPCA from HEW to the Department of the Interior.[225] The justification given for the move was to consolidate in one agency all of the water-related activities of the United States government (conservation, use, and pollution control) and to facilitate the administration's proposal for a Clean Rivers Program—a new watershed-oriented approach to pollution control.[226] Another plausible explanation was that the Secretary of the Interior, Stewart Udall, was seeking to extend his political influence to eastern and midwestern cities—and their representatives in Congress—through the administration of the rapidly growing construction grants program.[227] Although Blatnik and Muskie had some qualms about the timing, as well as the destination, of the transfer,[228] neither wanted to challenge the President at the peak of his popularity. Congress, therefore, did not seriously consider a veto of the reorganization, and it went into effect in May 1966.[229] The rest of President Johnson's water quality

222. *Id.* § 5(a) (adding § 10(c)(5) to the Federal Water Pollution Control Act).

223. *Id.* Although a violation of water quality standards would not necessarily affect health or welfare, the requirement of such an effect came into play because the new enforcement provision incorporated the old section 10(g) provision governing the institution of an abatement action. *Id.* The existence of a serious water quality violation, however, would have certainly eased the government's burden of showing a threat to human health or welfare.

224. *Id.*

225. *See* Special Message to the Congress Proposing Measures to Preserve America's Natural Heritage, 1966 PUB. PAPERS 197 (Feb. 23, 1966) [hereinafter 1966 PUB. PAPERS].

226. *Id.* at 196-97.

227. *See* RIDGEWAY, *supra* note 192, at 65-67.

228. *See* Hines, *supra* note 34, at 831 n.152. R

229. Reorg. Plan No. 2 of 1966, 31 Fed. Reg. 6857 (1966), *reprinted in* 5 U.S.C. app. at 184-89 (2000), and in 80 Stat. 1608 (1966). As if all of this was not confusing enough, the

initiatives would not fare as well.

Johnson proposed a logical and innovative way to regulate water quality: the development of comprehensive pollution control and abatement plans on a watershed level; the creation of permanent river basin organizations that would help implement and enforce water quality standards as well as coordinate action to carry out the watershed plan; and the construction of regional treatment facilities.[230] This planning process could be started in a particular watershed by the Secretary of the Interior acting either on his own initiative or at the request of one or more governors.[231] Johnson also proposed strengthening federal enforcement in substantial ways. After all, as the President wrote: "Standards . . . mean little without the power to enforce them."[232] In order to bolster federal enforcement, he proposed to eliminate the six-month notice requirement; to give the federal government authority to bring suit immediately in case of imminent endangerment; to extend federal jurisdiction to all navigable waters, intrastate as well as interstate; to subject polluters to federal inspection; and to require polluters to provide information about the nature, quantity, and location of not only their discharges, but also their water withdrawals.[233] He also wanted to give private citizens the right to bring suit in federal district court to enjoin any pollution of interstate or navigable waters that was endangering their health or welfare.[234]

After having struggled for three years to pass the Water Quality Act of 1965, Congress was in no mood for major changes. While the idea of organizing pollution control activities at the watershed level received some support, concern was expressed about the creation of another layer of government between the states and federal government—a complication that could lead to more delay.[235] The

name of the FWPCA was changed to the Federal Water Quality Administration in 1970. Water Quality Improvement Act of 1970, Pub. L. No. 91-224, § 110, 84 Stat. 91, 113 (1970).

230. *See* H.R. 13104, 89th Cong. §§ 102-104 (1966) (the administration's bill introduced by Rep. Fallon). The plans were also supposed to consider the establishment of "effluent charges on public and private entities discharging wastes" in the water basin. *Id.* § 104(b).

231. *Id.* § 103(a).

232. 1966 PUB. PAPERS 198 (Feb. 23, 1966). Secretary Udall believed that strong enforcement powers could yield positive results. *See Reorg. Plan No. 2 of 1966 (Water Pollution Control): Hearings Before a Subcomm. on Executive Reorg. of the Senate Comm. on Gov't Operations*, 89th Cong. 52 (1966).

233. *See* H.R. 13104, 89th Cong. §§ 304-313.

234. *Id.* § 401 (which would have added 28 U.S.C. § 1362).

235. *See* Hines, *supra* note 34, at 835 n.74. The 1966 amendments did authorize grants to help fund regional planning agencies, but such grants could only be made upon **R**

administration's enforcement proposals also garnered little support, a victim of fear that the measures would dilute state authority by concentrating power in federal hands.[236] The Clean Water Restoration Act of 1966, however, did create a construction grants program of Great Society proportions, although Johnson had not sought anywhere near the amount of money approved: $450 million was authorized for 1968, $700 million for 1969, $1 billion for 1970, and $1.25 billion for 1971.[237] Senator Muskie had wanted even more based upon an estimate that it would take $20 billion to eliminate the backlog in municipal construction needs.[238] This ambitious program, however, would soon fall victim to the fiscal realities of fighting a war in Southeast Asia. In both 1968 and 1969, little more than $200 million was actually appropriated to build municipal treatment plants.[239] The 1966 Act also amended the Oil Pollution Act of 1924 in order to extend its jurisdiction to inland as well as coastal waters and to transfer its administration from the Corps of Engineers to the FWPCA.[240] Unfortunately, the amendments only prohibited "willful" or "grossly negligent" discharges, and applied only to boats and vessels, not to land-based facilities.[241]

K. *The Water Quality Standards Program*

All of the states met a June 1967 deadline for adopting both water quality standards as well as plans for their implementation

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the request of a state governor or a group of governors should more than one state be involved. *See* Clean Water Restoration Act of 1966, Pub. L. No. 89-753, § 101, 80 Stat. 1246, 1246 (1966).

236. *See* Hines, *supra* note 34, at 835, 859 n.307. Others felt that the states and the FWPCA ought to be given a chance to implement the new regulatory and enforcement scheme, which had just been enacted during the previous year. *See* 112 CONG. REC. 24,598 (1966) (statement of Rep. Cramer during the House debate on the conference report for the 1966 Clean Water Restoration Act). **R**

237. *See* Clean Water Restoration Act § 205 (amending Federal Water Pollution Control Act § 8). The federal share of these grants was to be generally 30% with no ceiling on the amount of the grant, thus eliminating the program's previous bias against large municipal systems. *See id.* § 203. Johnson, by the way, only requested an additional $50 million in the first year to support additional construction grants under the Clean Rivers Demonstration Program. *See* 1966 PUB. PAPERS 197 (February 23, 1966).

238. *See* 112 CONG. REC. 27,245 (1966) (statement of Sen. Muskie during the Senate's consideration of the Conference Report). The estimate assumed that by 1975, 80% of the nation would require secondary treatment, the rest tertiary treatment. *See id.* at 27,244 (memorandum from Leon G. Billings, staff member of the Senate Public Works Committee to Sen. Muskie).

239. HOLMES, FEDERAL WATER PROGRAMS 1961-1970, *supra* note 28, at 99-100. **R**

240. *See* Clean Water Restoration Act § 211.

241. *Id.*

and enforcement.[242] Only a few of the original state standards were completely acceptable to the FWPCA, however.[243] The disputes between the FWPCA and the states concerned two primary matters. First, the FWPCA insisted that secondary treatment of municipal sewage—defined as treatment capable of reducing the oxygen demand of organic waste by about ninety percent—be included in the implementation plans. Second and more controversial was the FWPCA's insistence that all implementation plans contain an anti-degradation provision designed to protect waters that were cleaner than the criteria established for their use classification. Due to the unwillingness of many states to adopt such an anti-degradation policy, only twenty-nine states had fully approved standards by the end of 1970.[244] The standards that had been approved, moreover, were viewed by some observers as "subminimum,"[245] and state enforcement efforts as substandard.[246]

Federal enforcement of state water quality standards proved difficult. The process was slow; purely intrastate waters were not covered; actual endangerment to health or welfare had to be shown; and, even if interstate waters were involved, states had veto power where the offending discharge only affected persons in the same state.[247] Perhaps the most fundamental weakness of the reliance upon water quality standards was the fact that the federal government was required to show which polluter caused the violation of ambient standards. This was no easy task when the FWPCA possessed virtually no data about the location, volume, or composition of industrial discharges,[248] and especially when there were more

242. Most states applied their water quality standards programs to their intrastate waters as well. HOLMES, FEDERAL WATER PROGRAMS 1961-1970, *supra* note 28, at 190. **R**

243. The FWPCA had grown rapidly since its creation in 1965. It had 1,537 employees when it left the PHS (about half of the PHS's 300 commissioned officers assumed civil service status and transferred to the FWPCA), and by 1967 the agency had expanded to over 1,900 staffers. *See Water Pollution 1967: Hearings Before the House Comm. on Public Works*, 90th Cong. 24 (1967) (statement of Interior Secretary Stewart Udall).

244. HOLMES, FEDERAL WATER PROGRAMS 1961-1970, *supra* note 28, at 188-90. Other areas of disagreement involved criteria for dissolved oxygen and temperature. ARNOLD W. REITZE, JR., ENVIRONMENTAL LAW 4-63 (2d ed. 1972) [hereinafter REITZE, ENVTL. LAW 2D]. **R**

245. *See* Oliver A. Houck, *TMDLs: The Resurrection of Water Quality Standards-Based Regulation Under the Clean Water Act*, 27 Envtl. L. Rep. (Envtl. L. Inst.) 10,329, 10,332 (1997); HARVEY LIEBER, FEDERALISM AND CLEAN WATERS 22 (1975) (quoting Gus Speth of the Natural Resources Defense Council as saying that "[s]tate water quality standards . . . are frequently weak, particularly the water use classifications and implementation plans.").

246. *See* LIEBER, *supra* note 245, at 14. **R**

247. *See* text accompanying *supra* notes 220, 222-23.

248. *See* HOLMES, FEDERAL WATER PROGRAMS 1961-1970, *supra* note 28, at 209. **R**

than a few likely culprits.[249] Congress also had created one more hurdle for the FWPCA to clear in a standards enforcement action. Before enforcing the Act, courts were instructed to consider the "practicability" and "physical and economic feasibility" of complying with water quality standards.[250] In short, the judiciary was given free rein to grant de facto variances and exceptions to what was supposed to be a carefully crafted system of ambient water standards.

By the end of the 1960s, it was clear that both approaches to federal enforcement, the older conference mechanism as well as the newer process, left a great deal to be desired. Only fifty-one enforcement conferences had been convened during the fifteen years between 1956 and 1971, and of those only three had advanced to the hearing stage,[251] despite the fact that the majority of polluters had failed to live up to conference recommendations.[252] Only one case, moreover, had ever gone to court.[253] Part of the problem, aside from the procedural and legal obstacles, was that federal officials were hesitant to intervene in matters where states opposed their involvement.[254] This was not an uncommon situation since state officials often viewed "the highly publicized conferences as embarrassing ordeals that held state failures up to public scrutiny."[255] Many federal enforcement officials also continued to believe in the efficacy of negotiation, cooperation, and the balancing of user interests—attitudes which led, of course, to even more delay and an overly flexible attitude on meeting compliance deadlines.[256]

249. *See* Jeffrey M. Gaba, *Federal Supervision of State Water Quality Standards Under the Clean Water Act*, 36 VAND. L. REV. 1167, 1179 (1983). Federal officials recognized that this deficiency could have been cured by a statutory provision calling for the establishment of effluent limitations. After all, it is easier to prove that discharges fail to meet effluent limits than to prove that they caused an ambient violation in the receiving waters. *See* HOLMES, FEDERAL WATER PROGRAMS 1961-1970, *supra* note 28, at 192. Reliance on effluent standards, moreover, would eliminate "the much abused mixing zone concept" which allowed dischargers to violate water quality standards in a stretch of river near their discharge pipe. *Id.* R

250. Water Quality Act of 1965 § 5(a), Pub. L. No. 89-234, 79 Stat. 903 (1965).

251. *See* Andreen, *Clean Water Act Enforcement*, *supra* note 136, at 214 n.78.

252. *See* HOLMES, FEDERAL WATER PROGRAMS 1961-1970, *supra* note 28, at 222; Rodgers, *Refuse Act*, *supra* note 32, at 802-04; James W. Moorman, *Primer for the Practice of Federal Environmental Law*, 1 Envtl. L. Rep. (Envtl. L. Inst.) 50,001, 50,014-15 (1971). The conferences, however, did produce a number of very useful studies on various watershed pollution problems. R

253. *See* Moorman, *supra* note 252, at 50,015.

254. *See* KEHOE, *supra* note 151, at 49.

255. *Id.* at 52.

256. *See id.* at 49-51, 68, 95.

The situation regarding water quality standard enforcement fared no better. By the end of 1970, a grand total of fourteen notices of violation had been issued under the 1965 Act[257] and no case had progressed beyond informal conferences with the Secretary.[258] As a historian of federal water policy put it: "If Federal standards enforcement could be expected to have any significant effect on the many tens of thousands of continuing discharges that were polluting American waterways, it was not yet apparent."[259] Some 41 million fish were killed by water pollution in American waters in 1969—seventy percent from industrial operations.[260] Many activists and other Americans wanted faster action and were beginning to lose patience with existing forms of water pollution regulation.[261] The stage was being set for further reform.

L. *The Birth of the U.S. EPA and Passage of the Water Quality Improvement Act of 1970*

By the end of the 1960s, the environment was fast becoming a major issue. Most Americans believed that their local waterways were polluted, and they attributed the responsibility for this condition to the activities of their local industries.[262] Although President Nixon was not personally keen on nature or the environment, he did not want to cede such a popular issue to the Democratic Congress or to Senator Muskie, who was a potential rival for the Presidency in 1972.[263] Nixon therefore took the initiative early in his administration and proposed in July 1970 to create the United States Environmental Protection Agency (EPA).[264] After the re-

257. Andreen, *Clean Water Act Enforcement*, *supra* note 136, at 214 n.78. The first 180-day notices were issued in 1969. *See* HOLMES, FEDERAL WATER PROGRAMS 1961-1970, *supra* note 28, at 222. **R**

258. *See* Moorman, *supra* note 252, at 50,015.

259. HOLMES, FEDERAL WATER PROGRAMS 1961-1970, *supra* note 28, at 223. **R**

260. FEDERAL WATER QUALITY ADMINISTRATION, 1969 FISH KILLS 1 (1969) (reporting that 28.9 million fish died from industrial pollution).

261. *See* KEHOE, *supra* note 151, at 68, 97-98. **R**

262. *See id.* at 97 (citing a Harris poll). Even the Supreme Court had referred to the problem of water pollution as a "crisis" and discerned that there was "greater concern than ever" over the threat "to our free-flowing rivers and . . . lakes." United States v. Standard Oil Co., 384 U.S. 224, 225 (1966).

263. *See* UNGER, *supra* note 199, at 336-38; *infra* note 468. **R**

264. *See* JOHN QUARLES, CLEANING UP AMERICA: AN INSIDER'S VIEW OF THE ENVIRONMENTAL PROTECTION AGENCY 20-21 (1976). Nixon had already signed the National Environmental Policy Act on New Year's Day in 1970 and had sent a 37-point environmental program to Capitol Hill in February 1970. *See* William L. Andreen, *The Evolving Law of Environmental Protection in the United States: 1970-1991*, 9 ENVTL. & PLAN. L.J. 96, 98-99 (1992). By the end of the year, Nixon had also claimed credit for the Clean Air Act, even

quired consultation with Congress, EPA came into existence in December 1970.[265] The move was popular with environmentalists and many members of Congress because they viewed the consolidation of the various federal programs dealing with pollution control as a way to increase regulatory power and visibility.[266] The White House staff, on the other hand, saw the more centralized approach as a way to give the executive branch more control.[267] Regardless of the reason for the change, the federal water pollution control program, the FWPCA with its 2,670 employees,[268] merged with the pollution control programs for air, radiation, solid waste, and pesticides to form the new EPA.[269] Nixon chose William Ruckelshaus to be EPA's first Administrator. A Harvard-educated lawyer and a rising political star from Indiana, Ruckelshaus had done enforcement work on air and water pollution matters for the Indiana Board of Health and had developed a reputation for being a tough enforcer.[270] He was chosen for the job over George H.W. Bush because Bush's relationship with the Texas oil industry was considered a political liability.[271] Ruckelshaus quickly lived up to his reputation. Shortly after he took office, he issued 180-day notices to Atlanta, Cleveland, and Detroit for violating water quality standards. Other big enforcement cases would soon follow.[272]

though Senator Muskie was its primary author. *See id.* at 99. In fact, Nixon thought the bill so flawed that he seriously considered not signing it. Eventually, however, he signed it in an effort to regain the initiative on environmental matters. But Nixon made sure that Muskie was not invited to the signing ceremony—a snub that was intended to give himself maximum exposure and to limit Muskie's opportunity to bask in the limelight. *See* J. BROOKS FLIPPEN, NIXON AND THE ENVIRONMENT 115-16 (2000).

265. Reorg. Plan No. 3 of 1970, 35 Fed. Reg. 15,623, *reprinted in* 5 U.S.C. app. 184 (2000), *and in* 84 Stat. 2086 (1970) (effective Dec. 2, 1970).

266. *See* Alfred A. Marcus, *EPA's Organizational Structure*, 54 LAW & CONTEMP. PROBS. 5, 8-9 (Autumn 1991). The National Air Pollution Control Administration, for example, was buried as deep within HEW as the FWPCA was within the Interior Department. *See id.* at 8.

267. *See id.* at 9. For a fascinating account of the debate within the Administration—among those favoring only a combination of pollution control activities, those favoring a combination of all pollution control and natural resource programs, and those opposed to any reorganization—see *id.* at 9-21.

268. ROSEMARY O'LEARY, ENVIRONMENTAL CHANGE: FEDERAL COURTS AND THE EPA 5 (1993). At the time of the consolidation, the name of the FWPCA had been changed to the Federal Water Quality Administration, and over 75% of its staff was located in the nine regional offices as they existed at that time. REITZE, ENVTL. LAW 2D, *supra* note 244, at 4-62.

269. EPA began work with a total staff of 5,650 and an annual budget of $1.4 billion. O'LEARY, *supra* note 268, at 4.

270. *See* FLIPPEN, *supra* note 264, at 88; QUARLES, *supra* note 264, at 22-24; U.S. EPA History Program, Oral History Interview with William D. Ruckelshaus iv-v (1993).

271. *See* FLIPPEN, *supra* note 264, at 88.

272. *See* ANDREWS, *supra* note 39, at 230; QUARLES, *supra* note 264, at 37-48. EPA's R

In the meantime, Congress was busy on a number of environmental fronts, including water pollution. In response to the 1969 Santa Barbara oil "blowout" and several tanker incidents, including the grounding of the *Torrey Canyon* in 1967, Congress passed the Water Quality Improvement Act of 1970 (WQIA)[273] to strengthen the federal government's ability to combat oil pollution. The WQIA prohibited the discharge of harmful quantities of oil[274] into the navigable waters of the United States, not simply from boats and vessels, but from all facilities—on land or at sea—and prescribed fines of up to $10,000 for anyone knowingly discharging oil into the water or anyone failing to promptly notify the government of a discharge.[275] The President was authorized to have the oil cleaned up—using a small $35 million revolving fund (a fund replenished, to some extent, by penalties and cost-recoveries)[276]—unless he determined that the responsible parties would properly conduct the removal. If the government had to clean up the spill, the owners and operators of vessels were strictly liable for up to $14 million or $100 per gross ton, whichever was less, of the cost, and the owners and operators of other facilities were responsible for up to $8 million.[277] The WQIA also attempted to increase federal compliance with water quality standards by creating a new requirement for applicants for federal licenses or permits for activities that might result in a discharge into navigable waters of the United States, like construction licenses for a nuclear plant from the old Atomic Energy Commission. Such applicants would have to provide the licensing agency with a certificate from the relevant state stating that the proposed activity would not violate water quality standards; without such a certificate the federal license or permit

aggressiveness in the early years, according to Richard N.L. Andrews, "represented a sudden and extraordinary reversal of the long-standing primacy of business interests in American governance, a loss of leverage from which it took these interests some years to recover." ANDREWS, *supra* note 39, at 231. **R**

273. Water Quality Improvement Act, Pub. L. No. 91-224, 84 Stat. 91 (1970) (superseded 1972). The WQIA was enacted as an amendment to the FWPCA.

274. The implementing regulations of the Department of the Interior defined harmful spills to include all spills that created a visible sheen. *See* Conservation of Power and Water Resources, 35 Fed. Reg. 14,306 (Sept. 11, 1970).

275. *See* Water Quality Improvement Act § 102 (adding § 11(b) to the Federal Water Pollution Control Act).

276. *See id.* § 11(k).

277. *See id.* § 11(f)-(g). Congress would later make use of a number of these concepts—such as strict liability and the use of a revolving fund—in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Pub. L. No. 96-510, 94 Stat. 2767 (1980) (codified as 42 U.S.C. §§ 9601-9657 (2000)).

could not issue.[278]

M. *The Rediscovery of Section 13 of the Rivers and Harbors Act*

Federal enforcement had proved so ineffective under the FWPCA that a number of citizens and U.S. Attorneys acted in 1969 to revive section 13 of the Rivers and Harbors Act of 1899[279] as an additional tool for federal enforcement. Section 13—also known as the "Refuse Act"—had not been an effective enforcement device because it was considered by many to prohibit only the unpermitted discharge of materials that actually obstructed or impeded navigation. However, the Supreme Court held twice during the 1960s that the statute applied more generally to industrial pollution.[280] The Court further held that, although the Act only provided for criminal penalties, the federal courts could issue injunctions to abate violations.[281] U.S. Attorneys could file suit, therefore, without reference to all of the administrative requirements found in the Water Pollution Act. Furthermore, there was no need to prove a violation of stream standards or actual endangerment.

Early in 1969, some environmentalists, who had "despaired of the effectiveness" of FWPCA and state enforcement efforts, asked local U.S. Attorneys to act against hundreds of industrial polluters.[282] Many U.S. Attorneys eagerly filed such suits—sixty-six actions, in fact, were undertaken between October 1969 and April 1970.[283] The FWPCA, however, soon became dismayed at what it perceived to be an end run around the Water Pollution Act.[284] It also became clear that a real permit program—as envisioned by the Refuse Act—ought to be established since judicial enforcement would never make more than a dent in the large number of polluters that needed attention. In addition, it seemed unfair to sub-

278. Water Quality Improvement Act § 102 (adding § 21(b)(1) to the Federal Water Pollution Control Act). This requirement was waived where a state refused to act on a request for a certificate. *Id.*

279. Section 13 prohibited the discharge of "any refuse matter of any kind or description whatever other than that flowing from streets and sewers and passing therefrom in a liquid state" into any navigable water, unless authorized by the Secretary of the Army. 33 U.S.C. § 407 (2000).

280. United States v. Republic Steel Corp., 362 U.S. 482 (1960) (holding that section 13 applied to industrial waste solids, not just to physical structures); United States v. Standard Oil Co., 384 U.S. 224 (1966) (holding that section 13 applied to all foreign substances and pollutants, including petroleum products, unless discharged from a public sewer).

281. *Republic Steel*, 362 U.S. at 491-93.

282. *See* HOLMES, FEDERAL WATER PROGRAMS 1961-1970, *supra* note 28, at 223-24. R

283. *See id.* at 225.

284. *See id.*

ject companies that had complied with existing requirements to possible prosecution for failure to have an unavailable permit.[285] Negotiations between the concerned government agencies ensued, and in December 1970, President Nixon signed an executive order directing the development of a permit program "to regulate the discharge of pollutants and other refuse matter into the navigable waters of the United States or their tributaries."[286]

The final regulations implementing this new program were published by the Corps of Engineers in April 1971.[287] Permits issued by the Corps were required for "all direct and indirect discharges" (other than liquid discharges flowing from streets and sewers) into "a navigable waterway or tributary."[288] Federal jurisdiction was thereby extended to all nonnavigable tributaries regardless of whether a direct link to the pollution of a navigable water could be established.[289] The old concept of navigability was being stretched, and the restrictions upon federal authority were shrinking. The administration of the permit program, however, was complex. Although the Corps of Engineers was responsible for issuing the permits and determining the impact of the discharge upon navigation,[290] the Corps was required to obtain and comply with the newly created EPA's advice concerning compliance with water quality standards and related water quality considerations,[291] including the environmental values reflected by the water quality standards.[292] EPA thus could require permits to contain conditions necessary to meet its water quality concerns and could even, if necessary, block the issuance of a particular permit.[293]

Given the limited technical resources of the time and the paucity of actual stream data,[294] the task of setting permit levels that would protect water quality standards was nearly hopeless.[295] In ad-

285. *See id.* at 225-26.

286. Exec. Order No. 11,574, 3 C.F.R. 188 (1970). An interesting discussion of the Refuse Act Permit Program is found in QUARLES, *supra* note 264, at 98-113. R

287. 36 Fed. Reg. 6564 (1971).

288. 36 Fed. Reg. 6565 (1971) (to be codified at 33 C.F.R. § 209.131(d)(1)).

289. Section 13 provided that it governed discharges "into any navigable water of the United States or into any tributary of any navigable water from which the same shall float or be washed into such navigable water." 33 U.S.C. § 407 (2000).

290. 36 Fed. Reg. 6566-67 (1971) (to be codified at 33 C.F.R. § 209.131(e)).

291. *See* 36 Fed. Reg. 6566 (1971) (to be codified at 33 C.F.R. § 2209.131(d)(7)-(10)).

292. *See id.* (to be codified at 33 C.F.R. § 209.131(d)(5)).

293. *See id.* (to be codified at 33 C.F.R. § 209.131(d)(7)-(10)).

294. *See* Rodgers, *Refuse Act*, *supra* note 32, at 763-64. R

295. *See* Andreen, *Evolution of Water Pollution Control: Part I*, *supra* note 2, at 91-92. R Professor William Rodgers suggested at the time that this task would be easier and more

dition, the joint administration of the program was awkward, and the Refuse Act did not even apply to the second-leading cause of water pollution in the United States—the discharge of municipal sewage.[296] Then, in December 1971, a federal district court forbade the issuance of any permits under the Refuse Act until regulations were promulgated providing for compliance with the environmental assessment requirements found in the new National Environmental Policy Act.[297] Having issued only twenty permits, and with some 23,000 applications still in hand, the program ground to a halt.[298] The time was ripe for an entirely new approach.

III. The Modern Era of Water Pollution Control: The Clean Water Act of 1972

The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.[299]

A. *The Initial Bills*

Recognizing the need to chart a more effective federal strategy to combat water pollution, the Senate began to consider a major legislative overhaul in 1970. Although lengthy hearings were held on twelve proposed bills,[300] the Senate Committee on Public Works decided to postpone any further action until it had completed work on the Clean Air Act—an effort that dominated the rest of 1970.[301] Thus, it was not until 1971 that water pollution was able to move to the top of the congressional agenda.[302] At the same time, it was becoming increasingly clear that the public wanted strong action. "People wanted no more of fishkills, contaminated water, and stench-filled river valleys."[303]

effective if EPA generally based its permit decisions on the level of pollution control which could be achieved by using secondary treatment or its equivalent, or if that were inadequate for an especially polluted area, by using the best available technology. *See* Rodgers, *Refuse Act*, *supra* note 32, at 813-16.

296. *See* 1 Administrator of the EPA, Annual Report, The Cost of Clean Water, S. Doc. No. 92-23, 92d Cong. 59-64 (1971). The states also felt completely ignored, and they criticized the permit program as a "wasteful duplication" of state programs. Kehoe, *supra* note 151, at 126. R

297. Kalur v. Resor, 335 F. Supp. 1 (D.D.C. 1971).

298. Quarles, *supra* note 264, at 110.

299. Clean Water Act § 101(a), 33 U.S.C. § 1251(a) (2000).

300. *See* Andreen, *Clean Water Act Enforcement*, *supra* note 136, at 222 n.125.

301. *See* Quarles, *supra* note 264, at 146.

302. *Id.*

303. *Id.* at 146-47.

Early in February 1971, Senator Muskie introduced a bill to comprehensively revise the existing FWPCA.[304] In his introductory remarks, Muskie lamented a number of shortcomings in the earlier federal program, including the way in which the construction grants program had been hampered by inadequate funding.[305] His bill, therefore, authorized an increase in the construction grants program to $2.5 billion a year for five years and created a much more generous federal match of sixty-six percent.[306]

Senator Muskie also called for tougher and more widely applicable water quality standards.[307] His bill required states to adopt water quality standards for all interstate and intrastate navigable waters and their tributaries[308]—a considerable expansion in scope from the 1965 Act, which had been limited to interstate waters. Furthermore, Muskie's bill required the states to submit these new standards to EPA for approval and ordered them to present implementation plans to translate ambient stream standards into discharge specific limits.[309] These plans—unlike those called for under the 1965 Act—had to include effluent restrictions that would ensure compliance with the standards within three years after EPA's approval. To help the states meet this requirement,[310] the bill directed EPA to issue information on the latest available effluent control technology and alternative methods of prevention.[311] New dischargers, moreover, would be required to install and use the "latest available pollution control techniques."[312]

Feeble enforcement, however, was the principal target of Senator Muskie's ire. He declared that enforcement under the previous

304. S. 523, 92d Cong. (1971), *reprinted in Water Pollution Control Legislation, Pt. 1: Hearings Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works*, 92d Cong. 193-240 (1971) [hereinafter *Senate Hearings 1971, Pt 1*].

305. *See* 117 CONG. REC. 1346-47 (1971).

306. *See* S. 523, § 3, *reprinted in Senate Hearings 1971, Part 1, supra* note 304, at 194-211 (proposing new sections 7 and 8 of the FWPCA). R

307. *See* 117 CONG. REC. 1346-47.

308. *See* S. 523, § 4, *reprinted in Senate Hearings 1971, Part 1, supra* note 304, at 212-15 (proposing amendments to §§ 10(a), (b)(1) of the FWPCA). R

309. *See id.* To end a lengthy controversy about the federal government's statutory authority to insist on anti-degradation provisions in state water quality standards, the bill explicitly provided that no state standards or plans could be approved that allowed any degradation in current stream quality. *See id.*, *reprinted in Senate Hearings 1971, Part 1, supra* note 304, at 214-15 (proposing amendment to § 10(b)(1) of the FWPCA). R

310. *See id.*

311. *See id.*, *reprinted in Senate Hearings 1971, Part 1, supra* note 304, at 213 (proposing amendment to § 10(a)(3) of the FWPCA). R

312. *Id.*, *reprinted in Senate Hearings 1971, Part 1, supra* note 304, at 219 (proposing amendment to §10(e)(1) of the FWPCA). R

program had been so "spotty" and ineffective that polluters had been able to continue spoiling the streams and lakes of the nation with apparent impunity.[313] It was time, therefore, "to require . . . tougher enforcement."[314]

Senator Muskie's proposal abandoned the old conference procedure altogether and streamlined the process for federal enforcement. The EPA was authorized either to issue a compliance order or to bring a civil action whenever the agency found a violation of a water quality standard or an implementation plan, provided the state had neither acted nor responded in an adequate fashion.[315] A citizen suit provision was included that not only permitted private suits for the same kinds of violations against which EPA could act, but also authorized an action against the Administrator for failure "to perform any act or duty under this Act, including the enforcement of [water quality standards and effluent requirements]."[316] Muskie apparently intended to subject EPA's exercise of enforcement discretion to judicial review.

Not long after Muskie's bill was introduced, President Nixon sent his environmental message to Congress, calling for more money for the construction of sewage treatment plants, the imposition of more precise effluent limitations on dischargers, and enhanced federal enforcement authority.[317] Then, in late February 1971, Senator John Sherman Cooper introduced the Administration's bill. It authorized somewhat less money for the construction grants program—$2 billion per year—and for a shorter time span of three years.[318] For the most part, however, the Administration's approach seemed to clone Muskie's, with just a bit less stringency and a bit less certainty.

313. *See* 117 CONG. REC. 1346-47.

314. *Id.* at 1347.

315. *See* S. 523, 92d Cong., § 5, *reprinted in Senate Hearings 1971, Part 1*, *supra* note 304, at 220-22 (proposing a new section 11(b) and 11(c) to the FWPCA). Criminal prosecutions were also available for knowing violations. *See id.*, *reprinted in Senate Hearings 1971, Part 1*, *supra* note 304, at 222-23 (proposing a new § 11(d)(2) to the FWPCA). R

The bill absolutely forbade—unrealistic as it may now seem—the discharge of any hazardous substance and made the owner or operator of any discharging facility strictly liable for damages, including the cost of removal. *See id.* § 8 *reprinted in Senate Hearings 1971, Part 1*, *supra* note 304, at 238-39 (proposing a new § 13(e) to the FWPCA). R

316. *Id.* § 5, *reprinted in Senate Hearings 1971, Part 1*, *supra* note 304, at 230 (proposing amendment to FWPCA § 11(i)(1)). R

317. *See* Special Message to the Congress on Environmental Quality, 2 PUB. PAPERS 96 (Feb. 10, 1970).

318. *See* S. 1013, 92d Cong. (1971), *reprinted in Senate Hearings 1971, Part 1*, *supra* note 304, at 292, 305 (proposing amendment to § 8(c) of the FWPCA). R

Like Senator Muskie, the Administration proposed to extend the ambit of federally mandated water quality standards to all navigable waters and their tributaries.[319] In addition, the Administration's bill envisioned that states would develop implementation plans for their water quality standards once EPA published effluent limitations setting forth minimum acceptable levels of treatment based on "the availability of practicable treatment or control measures."[320] The bill also provided for more direct federal enforcement to be taken at the discretion of the federal government. Unlike Senator Muskie's citizen suit provision, the citizen suit section in the Administration's bill was phrased in what has become traditional fashion. Besides authorizing actions against polluters, it permitted actions against EPA, but only for a failure to perform a mandatory duty, and enforcement decisions were not specifically included.[321]

B. *The Senate Goes to Work*

In March 1971, the Subcommittee on Air and Water Pollution of the Senate Committee on Public Works began to hold hearings on the proposed legislation, and, at the conclusion of the hearings, the subcommittee went into executive session to draft its bill.[322] The subcommittee worked quietly and intensely until July 1971, when it published a staff working print of its bill.[323] This event intensified the struggle among the environmental community, industry, and the subcommittee. In a move that shocked industry, the subcommittee would have required states to comply with a "national minimum water quality standard" by 1980.[324] This minimum

319. *See* S. 1014, 92d Cong. (1971), *reprinted in Senate Hearings 1971, Part 1, supra* note 304, at 308-09 (proposing amendment to FWPCA section 10(c)). Strangely enough considering the traditional relationship of the oil industry to President Nixon's party, the Administration's bill would have applied water quality standards to "ground waters" as well. *Id.* This would have posed possible problems for that industry's practice of injecting underground the naturally occurring brine that is separated from oil in the production of crude petroleum. **R**

320. *Id.*, *reprinted in Senate Hearings 1971, Part 1, supra* note 304, at 311, 313 (proposing new FWPCA sections 10(d)(4), 10(d)(8)). **R**

321. *See id.*, *reprinted in Senate Hearings 1971, Part 1, supra* note 304, at 329 (proposing a new FWPCA section 10(k)). **R**

322. *See* QUARLES, *supra* note 264, at 147.

323. Staff Working Print: Federal Water Pollution Control Amendments 1971, 92d Cong. (1971) [hereinafter Staff Working Print], *reprinted in Water Pollution Control Legislation, Pt. 4: Hearings Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works*, 92d Cong. 1549-1601 (1971) [hereinafter *Senate Hearings 1971, Part 4*].

324. *Id.* at 1570; QUARLES, *supra* note 264, at 149.

water quality standard would require all waters to be clean enough to protect indigenous populations of fish and wildlife and to permit recreational activities in and on the water.[325] In short, the working print mandated that all lakes and streams be fishable and swimmable in nine years. In another dramatic development, the working print endorsed the concept behind the Refuse Act permit program by incorporating a broad permit requirement into the new legislation. The draft bill would prohibit the discharge of any pollutants—including, unlike the Refuse Act, those discharged by municipal wastewater systems—into waters of the United States unless a discharge permit were first issued. Such a permit would be issued by EPA, rather than the Corps, thereby eliminating the difficulties posed by the joint administration of the Refuse Act program. The permit scheme required that the discharge receive a minimum of secondary treatment and that it not violate (1) any water quality implementation plan; (2) a new source effluent limitation; (3) a prohibition on certain toxic discharges;[326] or (4) any requirement found in a state water quality certificate.[327]

With regard to federal enforcement, the working draft contained a number of mandatory directives,[328] and the citizen suit provision authorized an action against the Administrator of EPA to compel the performance of "any act or duty under [the] Act."[329] The draft also strengthened the public works aspect of the bill with authorizations for construction grants of $3 billion a year for five years.[330] The subcommittee had crafted a powerful agent for change, and the environmental community was generally pleased with the results.[331] Industry, on the other hand, was far from smitten.

325. *See* QUARLES, *supra* note 264, at 150.

326. The working draft prohibited the discharge of certain toxics such as arsenic and polychlorinated biphenyls (PCBs) and called for the promulgation of effluent standards for other nonconventional pollutants. Staff Working Print § 4, *reprinted in Senate Hearings 1971, Part 4*, *supra* note 323, at 1577. R

327. *See Senate Hearings 1971, Part 4*, *supra* note 323, at 1588-89. For a discussion of the certification requirement as it existed before enactment of the 1972 Clean Water Act, see *supra* note 278 and accompanying text.

328. After finding a violation, EPA was required to issue a notice to both the polluter and the state. If after thirty days the violation continued and the state had not undertaken vigorous enforcement, EPA was ordered to issue a compliance order or initiate a civil action. Staff Working Print § 4, *reprinted in Senate Hearings 1971, Part 4*, *supra* note 323, at 1579-80. R

329. *See Senate Hearings 1971, Part 4*, *supra* note 323, at 1595. R

330. *See id.* at 1563.

331. *See* QUARLES, *supra* note 264, at 149.

Industry objected to the national minimum water quality standard, contending that it would be too hard to comply with in areas containing heavy industry and high population.[332] It was also troubled by the cost of complying with technology-based standards of performance for new sources. Some trade associations urged that the stringency of the new source standards should be restrained by the addition of two other considerations: (1) the economic burden that the standards would impose on industry and (2) the potential of the standards for actually improving water quality[333]—a factor that would almost be impossible to address. Concern was also expressed about the bill's mandatory language relating to compliance orders and civil actions—with two trade associations urging that "shall" be replaced with "may" in the necessary locations.[334] In addition, industry criticized the citizen suit provision, the ban on the discharge of certain toxics, the anti-degradation policy for water quality,[335] and the authorization of criminal prosecutions for those who knowingly violate certain regulatory requirements.[336]

After a short comment period, the subcommittee approved the draft in early August and forwarded it to the Public Works Committee. Two months later, the full committee voted unanimously to report a revised bill to the Senate floor.[337] The committee report declared that "the national effort to abate and control water pollution has been inadequate in every vital aspect."[338] More specifically, the committee found that the states had been "lagging" in the setting of water quality standards, that the lack of adequate funding

332. Staff Working Print § 4, *reprinted in Senate Hearings 1971, Part 4*, *supra* note 323, at 1663 (comments of American Paper Institute), 1670 (comments of American Petroleum Institute). R

333. *See, e.g.*, *id.*, *reprinted in Senate Hearings 1971, Part 4*, *supra* note 323, at 1636 (comments of the American Iron and Steel Institute), 1666 (comments of the American Petroleum Institute), 1741 (comments of the National Association of Electric Companies relating to cost). R

334. *See, e.g.*, *id.*, *reprinted in Senate Hearings 1971, Part 4*, *supra* note 323, at 1664 (comments of American Paper Institute), 1745 (comments of National Association of Electric Companies). R

335. *See id.*, *reprinted in Senate Hearings 1971, Part 4*, *supra* note 323, at 1632, 1636, 1638, 1656-57 (comments of the American Iron and Steel Institute). R

336. *See id.*, *reprinted in Senate Hearings 1971, Part 4*, *supra* note 323, at 1666 (comments of the American Petroleum Institute). R

337. S. REP. NO. 92-414, 92d Cong. 92 (1971) [hereinafter S. REP. NO. 92-414], *reprinted in* 2 A LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972 1509 (1973) [hereinafter Leg. Hist. 1972].

338. *Id.* at 7, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1425. R

for municipal sewage treatment plants was causing "critical problems," and that there had been "an almost total lack of enforcement."[339] Consequently, according to the committee, "[m]any of the Nation's navigable waters are severely polluted, and major waters near the industrial and urban areas are unfit for most purposes."[340]

The situation was bleak enough that the committee mustered the courage and the wisdom to innovate and create a wholly new regulatory approach—one that focused directly and unapologetically upon the discharge of pollutants rather than the link between pollution and water quality. This new focus was necessary because "[w]ater quality standards . . . often [could not] be translated into effluent limitations—defendable in court tests, because of the imprecision of models for water quality and the effects of effluents in most waters."[341] Effective implementation, therefore, was virtually impossible since dischargers often operated without precisely defined discharge limitations.

Another factor in the committee's decision was more philosophical than practical. The committee rejected the notion that dischargers had a right to pollute the nation's waters so long as they did not impair existing uses.[342] In other words, no one should be able to rely upon the assimilative capacity of a receiving stream as a justification for continued discharges of untreated or inadequately treated wastes.[343] Dilution was neither an equitable nor an adequate solution to the nation's problem—and all too often an exclusively water quality-oriented approach would permit dilution to be just such a solution. Henceforth, the driving force in the Act's strategy, at least if the committee had its way, was to devise absolute limits based upon more easily defined "best" technology. Unlike the 1965 water quality program, there would no longer be any "requirement for evidence that such control was needed to protect water quality in the receiving waters."[344]

As in the working print, the discharge of pollutants would be

339. *Id.* at 4-5, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1422-23. **R**

340. *Id.* at 7, *reprinted* in 2 LEG. HIST. 1972, *supra* note 337, at 1425. **R**

341. *Id.* at 8, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1426. Uncertainty and delay, of course, were also produced by the disputes which arose between the states and the federal government over the way in which the 1965 water quality program was to be implemented. *Id.* **R**

342. *See id.* at 42-43, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1460-61. **R**

343. *See id.* at 8, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1426. **R**

344. QUARLES, *supra* note 264, at 150. **R**

prohibited unless a permit were issued under the National Pollutant Discharge Elimination System (NPDES).[345] While state agencies could seek and obtain EPA approval to administer the NPDES program, state permits, as a general matter, could not be issued unless EPA was satisfied that the permit met the requirements of the Act.[346] The reach of this regulatory scheme was extended to a broadly conceived concept of "navigable waters"[347] because "[w]ater moves in hydrologic cycles and it is essential that discharge[s] of pollutants be controlled at the source."[348] The Act, therefore, would apply to "the navigable waters of the United States, portions thereof, and the tributaries thereof, including the territorial seas and the Great Lakes."[349] The jurisdictional constraints of the 1965 Act would thus be broken.[350]

EPA or an approved state agency would derive permit conditions primarily from uniform, technology-based effluent limitations—not from water quality implementation plans. These new uniform effluent limits would be implemented in a two-phase program. Phase I would require all existing industrial sources to meet effluent limitations based upon best practicable technology (BPT) by 1976, while municipal sewage treatment plants would have to have secondary treatment construction programs approved by June 30, 1974.[351] Phase II would tighten the regulatory ratchet—demanding the elimination of discharges from industrial sources by 1981 if this was "attainable at a reasonable cost."[352] If not, the default limitation would be predicated upon the best available tech-

345. *See* S. 2770, 92d Cong. § 301(a) (1971) [hereinafter S. 2770], *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1608. The bill also apparently gave EPA permitting authority over any dredge and fill activities that would violate the discharge prohibition found in section 301(a). However, the Corps would presumably retain concurrent jurisdiction with EPA to the extent that the activity involved the placement of an obstruction in navigable waters or otherwise implicated section 10 of the Rivers and Harbors Act of 1899. *See* 33 U.S.C. § 403 (2000). R

346. *See* S. 2770, § 402(d)(2), *reprinted in* 2 LEG. HIST. 1972, *supra* note 336, at 1690.

347. *See id.* § 502(n), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1699. R

348. S. REP. NO. 92-414, at 77, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1495. R

349. S. 2770, § 502(h), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1698. R

350. The committee report complained that the scope of the 1965 Act had been "severely limited" due to a "narrow interpretation" of "interstate waters." S. REP. NO. 92-414, at 77, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1495. R

351. *See id.* § 301(b)(1), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1608-09. R

352. *Id.* § 301(b)(2)(A), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1609. The committee believed that the no-discharge goal could be met in some instances by using "closed cycle systems, recycling, and waste reclamation techniques." S. REP. NO. 92-414, at 45, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1463. R

nology (BAT).[353] Municipal plants, meanwhile, would have to apply best practicable waste treatment technology that would go beyond secondary treatment and include methods to recycle water and reduce nutrient loadings (such as land treatment application of municipal waste).[354]

New sources would—as the subcommittee print provided—still have to meet BAT-based limits,[355] but discharges of toxic pollutants would not necessarily be banned under the committee's bill. Rather, the bill would subject them to effluent standards (including possible discharge prohibitions) designed to protect human health and the environment with an "ample margin of safety."[356] And finally, industrial facilities that discharge to a municipal sewer system rather than directly to a waterway would be subject—as in the working print—to pretreatment standards for those pollutants that were incompatible with secondary treatment technology because they would either pass through the plant untreated or "interfere with the operation" of the plant.[357]

While the bill no longer required states to establish or implement water quality standards, the committee explicitly recognized the importance of water quality as a way to measure the performance of the new technology-based approach. Thus, the bill called for achievement of an interim goal of swimmable and fishable water, wherever attainable, by 1981, with an ultimate goal of eliminating all discharges by 1985.[358] The committee also recognized that Phase I requirements based upon BPT might not be adequate to meet water quality standards established under the 1965 Act or under similar state statutes for intrastate waters.[359] The bill, consequently, obligated regulators to tighten Phase I permit requirements against a discharger or group of dischargers whenever necessary to meet (1) water quality standards established under the 1965 Act or (2) any standards which states had promulgated under

353. *See* S. 2770, § 301(b)(2)(A), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1609. R

354. *See id.* §§ 301(b)(2)(B), 201(d)(2)(A), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1610, 1580, 1610. R

355. *See id.* § 306, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1623-27. R

356. *Id.* § 307(a), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1628-29. R

357. *See id.* § 307(b), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1630. R

358. *See id.* § 101(a)(1)-(2), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1535. R

359. *See* S. REP. NO. 92-414, at 9, 44, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1427, 1462. R

state law for purely intrastate waters.[360]

The committee, moreover, understood that Phase II limits based on BAT might not be stringent enough to meet the 1981 interim goal for fishable and swimmable streams.[361] Section 302 thus authorized the imposition of water quality driven "effluent" limitations, but only after EPA or the state held a hearing to examine the costs and benefits of the additional restrictions.[362] These special limitations might be rather "drastic" since they would go beyond what had been defined as BAT.[363] The committee, therefore, envisioned that alternative control strategies might have to be developed which would focus on in-plant processes (presaging today's emphasis on pollution prevention) or the transportation of wastes to less affected waters.[364] Even production cutbacks were seen as a possibility.[365] However, the bill would have forbidden the imposition of additional restrictions if the affected source could demonstrate "no reasonable relationship between the economic and social costs and the benefits to be obtained."[366]

Section 302 was not the only way to push the envelope beyond BAT. The committee bill retained a provision from the Water Quality Improvement Act of 1970—section 401—which required state water quality certification as a condition precedent to the issuance of any federally-issued permit.[367] As the committee wrote: "[T]he provision makes clear that any water quality requirements estab-

360. *See* S. 2770, § 301(b)(1)(C), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1608-09. R

361. *See* S. REP. NO. 92-414, at 46, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1464. R

362. S. 2770, § 302, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1610-12. *See also* Gaba, *supra* note 249, at 1183-84 (discussing this aspect of the Senate bill). R R

363. WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW: AIR AND WATER § 4.18, at 286 (1986).

364. *See* S. REP. NO. 92-414, at 46-47, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1464-65. The committee thus acknowledged that dilution was occasionally a solution. The movement of a particular discharge to another stream is not necessarily an expensive or difficult task where, for example, a plant has been discharging to a creek rather than to a nearby river that has much greater assimilative capacity. *See, e.g.*, Water Quality Standards; Navigable Waters of North Carolina (EPA Dissolved Oxygen Rule for Welch Creek, North Carolina), 45 Fed. Reg. 21,246 (1980). In that case, the nearby river was the Roanoke. *Id.* R

365. *See* S. REP. NO. 92-414, at 47, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1465. R

366. S. 2770, § 302(b)(2), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1611-12. R

367. *See id.* § 401, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1679-85. Section 401 was designed to give effect to section 510 of the bill, which expressly saved more stringent state requirements from federal preemption. *See id.* § 510, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1714. R

lished under State law, more stringent than those requirements established under this Act, also shall through certification become conditions on any Federal license or permit."[368] In such a case, neither the state nor EPA had to inquire into the cost-benefit relationship. The state, however, would have to opt to impose the tighter limits.

The bill's design reflected the committee's intent to strengthen enforcement. One of the main reasons to create a system in which polluters would be assigned precise, technology-based permit limitations was to make the statute more easily enforceable. No longer would the Act limit enforcement to instances in which public health or welfare was endangered or where the government could show proof that a particular discharge had caused a particular violation of water quality standards. The bill further removed the procedural barriers that had so effectively hampered federal enforcement action. In doing so, the committee gave the federal government tremendous authority to enforce the statute by administrative action as well as by access to the courts to obtain injunctive relief, civil monetary penalties, and even criminal sanctions.[369] To supplement as well as encourage government enforcement, the committee also included a citizen suit provision—modeled after the one enacted in the Clean Air Act Amendments of 1970—giving private citizens a civil right of action to enforce the statute.[370]

Mandatory language was also freely sprinkled around the primary provision dealing with federal enforcement. Section 309(a)(1), for instance, would require EPA, upon the finding of a violation, to notify both the polluter and the relevant state. If, after thirty days, the state had not taken appropriate action, EPA "shall issue" an administrative compliance order or "shall bring a civil action."[371] In addition, section 309(a)(3) gave EPA a mechanism for immediate enforcement. Whenever the agency finds a violation, EPA "shall" order compliance or bring suit.[372] Section 309(b) also provided that EPA "shall" commence a civil action whenever a compliance order was violated or an unpermitted discharge took place.[373] The citizen suit provision, meanwhile, would allow suits against EPA to compel the performance of "any act or duty under

368. S. REP. NO. 92-414, at 69, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1487. R
369. *See* S. 2770, § 309, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1633-39. R
370. *See id.* § 505, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1703-07. R
371. *Id.* § 309(a)(1), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1633-34. R
372. *Id.* § 309(a)(3), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1635. R
373. *Id.* § 309(b), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1636-37. R

this Act which is not discretionary" with the agency.[374]

The committee expressed its sincerest intentions, therefore, when it wrote: "The Committee believes that if the timetables established throughout the Act are to be met, the threat of sanction must be real, and enforcement provisions must be swift and direct."[375] Did the committee, however, create a mandatory duty to act in the face of a violation? The language appears to suggest as much, and so does the committee report when it states that EPA would possess limited discretion to determine whether a violation had occurred because "[e]nforcement . . . under this Act should be based on relatively narrow fact situations requiring a minimum of discretionary decision making or delay."[376] Nevertheless, the committee also wrote that "the authority of the Federal Government should be used judiciously by the Administrator [of EPA] in those cases [that] deserve Federal action because of their national character, scope, or seriousness. The Committee intends the great volume of enforcement be brought by the State[s]."[377] While this statement suggests that EPA retains discretion to set enforcement priorities, the committee went on to emphasize that the citizen suit provision would enable actions to "lie against the Administrator for failure [to] exercise his duties under the Act, including his enforcement duties."[378] Perhaps the committee intended to give the agency some discretion in finding violations and more discretion in determining appropriate targets—but not completely unfettered and hence unreviewable discretion. The committee also raised the stakes on the construction grants side, proposing to appropriate a total of $14 billion over a four-year period.[379]

The bill was met with widespread praise. The environmental community eagerly endorsed it, and newspaper editorials applauded the committee's efforts.[380] Less than two weeks after

374. *Id.* § 505(a)(2), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1703-04. **R**

375. S. REP. NO. 92-414, at 65, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1483. **R**

376. *Id.* at 64, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1482. **R**

377. *Id.*

378. *Id.* at 81, *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1499. During a colloquy between Senators Muskie and Proxmire, Senator Proxmire asked whether section 309(b) meant "that EPA must sue wherever a violation occurs" or whether EPA would "have discretion to go after some polluters, and leave others to continue discharging." The sponsor of the bill, Senator Muskie, replied that EPA is "mandated to enforce . . . wherever a pollution [violation] occurs." 117 CONG. REC. 38,831 (1971), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1331 (Senate debate on S. 2770, Nov. 2, 1971). **R**

379. S. 2770, § 207, *reprinted in* 2 LEG. HIST. 1972, *supra* note 345, at 1591-92. **R**

380. *See* QUARLES, *supra* note 264, at 149. **R**

emerging from committee, the bill reached the floor of the Senate. While the debate was brief, one significant amendment was adopted on the floor. As reported from the committee, the bill would require either EPA or a state agency to issue permits for the discharge of dredged and spoil material into waters of the United States. The only role in the committee's bill for the U.S. Army Corps of Engineers was the power to veto such permits if anchorage and navigation were substantially impaired.[381] Such a limited role, not surprisingly, was neither favored by the Corps nor by a number of Senators who were favorably disposed towards the Corps. Consequently, Senator Ellender of Louisiana, supported by Senator Stennis of Mississippi, offered an amendment to give the Corps sole permitting authority over the discharge of dredged materials.[382] The proposal astounded Senator Muskie:

> [M]ission-oriented agencies whose mission is something other than concern for the environment simply do not adequately protect environmental values. That is not their mission. They would do a disservice to their mission if they would try to act as environmental protectors. The mission of the Corps of Engineers is to protect navigation. Its mission is not to protect the environment.[383]

Despite Senator Muskie's mounting anger, those concerned about the potential for slowing down Corps projects were strong enough to secure his agreement to a substitute, which was adopted. The substitute, section 402(m), left the permitting authority in EPA's hands or that of a delegated state program, but provided that permits would have to issue unless EPA found that adverse environmental impacts would follow.[384]

No serious challenge to the bill was mounted in the Senate, since no one seemed inclined to oppose such a popular measure during the autumn of 1971. When the Senate voted, the bill passed by the overwhelming margin of 86 to 0.[385]

C. *Counterattack in the House*

The House of Representatives had been slower to act and less

381. *See* S. 2770, § 402(b)(6), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1688. R

382. *See* 2 LEG. HIST. 1972, *supra* note 337, at 1386. In identifying disposal sites, the Corps was required to apply certain environmental criteria and was required to consult with EPA to determine whether the use of such sites would adversely affect fisheries, shellfish beds, or recreation. *See id.* R

383. *Id.* at 1389.

384. *Id.* at 1392-93.

385. *Id.* at 1414.

innovative. Representative Dingell had introduced the leading bill among two hundred separate bills introduced in the House to amend the FWPCA.[386] In many respects, his bill resembled Senator Muskie's original bill. He tried to strengthen the water quality standard program by demanding that implementation plans contain effluent requirements for all dischargers.[387] The bill also strengthened EPA's enforcement authority[388] and authorized citizen suits.[389] With regard to the construction grants program, however, Representative Dingell outdid them all, authorizing the expenditure of $5 billion a year over a five-year period.[390] Late in the summer of 1971, the House Committee on Public Works—a more conservative panel than its counterpart in the Senate—held hearings on the various proposals.[391] At the close of the hearings, however, the committee seemed reluctant to go into executive session to draft its own bill. If the committee was waiting to see what the Senate would pass, it did not have long to wait; the Senate acted on November 2.[392]

An attack was soon mounted on the Senate bill. The Administration announced on November 8 that it was so dissatisfied with the Senate's action that it would seek additional hearings before the House Public Works Committee[393] to air its critique of the Senate bill.[394] Without such a hearing, the Administration was afraid that the House would simply and quickly adopt the Senate ver-

386. *See* H.R. 6722, 92d Cong. (1971), *reprinted in Senate Hearings 1971*, *Part 1*, *supra* note 304, at 396-442. R

387. *Id.* § 201(c)(3), *reprinted in Senate Hearings 1971*, *Part 1*, *supra* note 304, at 420. R

388. For example, whenever EPA found a violation of water quality requirements, the bill provided that the agency "shall notify" both the polluter and the appropriate state agency. *Id.* § 202(a)(1), *reprinted in Senate Hearings 1971*, *Part 1*, *supra* note 304, at 425-26. R Unless the state agency acted effectively to abate the violation within 20 days, EPA "shall immediately issue or cause to issue" a compliance order. *Id.* In the event a polluter failed to abide by such order, then the agency "shall commence a civil action for appropriate relief." *Id.* § 202(d)(1), *reprinted in Senate Hearings 1971*, *Part 1*, *supra* note 304, at 428. R

389. *Id.* § 205, *reprinted in Senate Hearings 1971*, *Part 1*, *supra* note 304, at 435. Such R suits would lie against persons who violated water quality standards or implementation plans and would also lie against EPA for a failure "to perform any act or duty under this Act, including the enforcement of any water quality standard . . . [or implementation] plan[s] . . . ." *Id.* § 205(a).

390. *Id.* §104(a), *reprinted in Senate Hearings 1971*, *Part 1*, *supra* note 304, at 405. R

391. *Water Pollution Control Legislation—1971: Hearings on Proposed Amendments to Existing Legislation Before the House Comm. on Public Works*, 92d Cong. (1971).

392. *See* 2 LEG. HIST. 1972, *supra* note 337, at 1414. R

393. *See Current Developments*, 2 Env't Rep. (BNA) 815 (Nov. 12, 1971) (announcement by White House Press Secretary Ron Ziegler).

394. E.W. Kenworthy, *House Unit Reopening Hearings on a Water Pollution Measure*, N.Y. TIMES, Nov. 20, 1971, at 62, col. 7.

sion—a prospect that alarmed the White House for three reasons. First, it would dramatically expand federal authority at the expense of state programs. Second, it would impose strict new standards—a burden that industry did not relish. Third, it would greatly increase federal spending on the construction grants program, causing budgetary consternation within the Nixon White House.[395] Lobbyists, phone calls, and letters soon descended upon the Hill.[396] Despite the pressure, the Chair of the House committee, John Blatnik, refused to yield.[397] Although he believed that a number of changes needed to be made in the Senate bill, he was already on record as being in general agreement with it.[398] Above all, Blatnik nursed a grudge against the Senate committee; throughout the 1960s it had appeared as the environmental hero while his House committee had taken on the villain's role by demanding and obtaining compromise. This contrast did not sit well with Blatnik who, since 1956, had fought in general for stronger water pollution programs. He, therefore, did not want his committee to look as if it had sold out to special interests once again, but his fellow committee members were not so sure about what to do. Before they could resolve the matter, Representative Blatnik suffered a heart attack.[399]

Without Blatnik at the helm, the committee quickly succumbed to the pressure. On November 19, 1971, a bill was introduced that was remarkably similar to the Senate bill—with the co-sponsorship of the entire Public Works Committee.[400] The bill, of course, did not signal agreement with the Senate; it was merely a "vehicle to reopen [the] hearings" in early December.[401]

Opponents of the Senate bill had a field day during the second round of House hearings. "Witness after witness attacked the cost

395. *See* QUARLES, *supra* note 264, at 151-52. R

396. To press its attack, the Administration enlisted aid from industry, many state governments, and a number of Republicans and southern Democrats on the House Public Works Committee. Kenworthy, *supra* note 394. R

397. *See Current Developments*, 2 Env't Rep. (BNA) 847 (Nov. 19, 1971) (quoting Rep. Blatnik as saying that "he does not think 'anything is to be gained by rehashing the testimony [they had] been examining for the past six months'").

398. *Id.* at 815 (Nov. 12, 1971).

399. *See* QUARLES, *supra* note 264, at 153-54.

400. H.R. 11,896, 92d Cong. (1971) [hereinafter H.R. 11,896], *reprinted in Water Pollution Control Legislation, 1971: Hearings Before the House Comm. on Public Works, House of Rep., on H.R. 11,896 and H.R. 11,895*, 92d Cong. (1971) [hereinafter *Reopened House Hearings 1971*].

401. *See Current Developments*, 2 ENV'T REP. (BNA) 879 (Nov. 26, 1971) (referring to statements by the Acting Chair, Robert Jones of Alabama).

of the standards [and] State officials criticized the disruption of their programs . . ."[402] A common theme was that water quality standards—the protection of established uses for fish and wildlife or for industry—allowed for an appropriate balancing of the nation's economic needs with those of the environment, a balancing which technology-based effluent limitations would disrupt.[403]

The Administration, however, did not directly attack the creation of what EPA described as mandatory enforcement requirements in section 309 of the bill.[404] Instead, the agency objected to the fact that the duties which followed the finding of a violation were inconsistent: one required issuance of a notice of violation and waiting thirty days before taking further action; another required immediate issuance of an order or the filing of suit.[405] Administrator Ruckelshaus, therefore, suggested that thirty-day notices should precede most EPA enforcement actions—except for unpermitted discharges and instances where a compliance order was disobeyed.[406] His suggestion would, in many instances, avoid some unnecessary conflict between EPA and the states; in other instances, however, it would merely delay the inevitable day of reckoning. It was perhaps also an attempt—albeit somewhat disguised—to infuse EPA enforcement decisions with enough discretion so that courts would dismiss any mandamus-like requests to compel agency action.

After the second round of House hearings, the committee members moved with surprising haste to resolve their differences, announcing on December 17, 1971, that they had approved a bill.[407] The task of drafting the requisite language—which was left

402. QUARLES, *supra* note 264, at 154. Several industrial interests even suggested the elimination of the citizen suit provision. *See Reopened House Hearings 1971*, *supra* note 382, at 613 (statement of John Coffey, U.S. Chamber of Commerce), 631 (statement of J. William Haun, National Association of Manufacturers), 800 (testimony of J. Allen Overton, American Mining Congress).

403. *See, e.g.*, *Reopened House Hearings 1971*, *supra* note 400, at 610 (statement of John J. Coffey, U.S. Chamber of Commerce). R

404. *See id.* at 301 (letter from EPA Administrator William Ruckelshaus responding to request for comments); *id.* at 338 (testimony of John Quarles, EPA Assistant Administrator for Enforcement and General Counsel). During his appearance, Quarles stated that section 309 contained some "mandatory requirements . . . to take enforcement action" and that "a citizen suit could be brought" for failure to comply with those duties. *Id.*

405. *See id.* at 302 (Ruckelshaus letter), 338 (Quarles testimony).

406. *See id.* at 302; *see also id.* at 337-38 (Quarles recommending that section 309 be drafted to give EPA some discretion to determine whether state actions were adequate before mandating federal enforcement).

407. *See* QUARLES, *supra* note 264, at 154-55. R

to the committee staff—was not so easy, however, and the bill was not reported to the full House until March 11, 1972.[408] The bill revealed two major differences in approach between the Senate and the House committee. First, the House committee was not eager to abandon water quality standards as a regulatory instrument, and second, its members were extremely anxious about the economics of the Senate's technology-based effluent limitations. So, although the committee adopted the use of technology-based effluent limitations, they were watered down. However, the House committee used the Senate's permit concept as a way to implement both water quality standards and effluent limitations.

The committee's bill retained the mandate found in the 1965 Act requiring states to have water quality standards.[409] There were several modifications, however. State standards would have to apply to all waters—intrastate as well as interstate.[410] States were also required to engage in triennial reviews of their standards, and the procedures EPA had to follow were simplified in cases where EPA was required to promulgate state standards.[411] Instead of an implementation plan, the House committee required states: (1) to identify waters that were not meeting standards after the application of Phase I effluent limitations; (2) to set a "total maximum daily load" designed to get those streams into compliance; and (3) to establish a "continuing planning process."[412] The water quality standards program, therefore, was not just retained, but strengthened.

The committee bill incorporated the NPDES permit program from the Senate bill as the primary way in which to implement the new technology-based effluent limitations that the Senate had proposed.[413] But the House committee also looked to these discharge permits as the primary way to implement water quality standards. NPDES permits could only issue upon condition that a discharger comply with various effluent limitations including those found in section 301,[414] and section 301(b)(1)(C) required compliance by

408. H.R. 11,896, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 893. R

409. *See id.* § 303, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 969. R

410. *See id.* § 303(a), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 969-71. R

411. *See id.* § 303(c), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 972-74. R

412. *See id.* § 303(d), (e), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 974-84. R

413. *See id.* § 402, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1052-61. The House was more restrictive in defining the "navigable waters" to which the program applied. According to the House committee, the term simply referred to "navigable waters of the United States, including the territorial seas." *Id.* § 502(8), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1069. R R

414. *See id.* § 402(a)(1), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1052-53. R

1976 with any more stringent limitations necessary to meet stream standards. This requirement was not limited to the Phase I, BPT step of regulation. Instead, section 301(b)(1)(C) was phrased broadly enough to apply at any stage of regulation—Phase I or Phase II.[415] This was consistent with the new scheme for water quality standards, a scheme in which standards could evolve over time—in conjunction with the aspiring goals of the Act[416]—through the triennial review process. Somewhat confusingly, however, the House committee also inserted an alternative provision modeled along the lines of section 302 from the Senate bill for the establishment of more stringent water quality related effluent limitations if Phase II effluent limits—based upon BAT—proved inadequate to protect fish and wildlife uses. The House committee version, however, would require EPA to jump through a number of burdensome procedural hoops before setting those tougher limits.[417]

The environmental community was most disturbed by the way the House committee, through a little tinkering here and there, had managed to weaken the Senate's effluent limitation program. Although the committee maintained the 1976 deadline for achieving compliance with best practicable control technology, secondary treatment for municipal sewage plants, and any more stringent limits necessary to meet water quality standards, it inserted a waiver provision. EPA could extend the deadline for up to two years with regard to any of those limitations provided that it was physically impossible for the discharger to complete any necessary construc-

415. The subsection provided that there shall be achieved "not later than January 1, 1976, any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance, establish[ed] pursuant to any other State or Federal law or regulation, or required to implement any applicable water quality standard established pursuant to this Act." *Id.* § 301(b)(1)(C), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 963. R

416. This refers to the national goal that pollutant discharges be eliminated by 1985 and the interim goal that waters be clean enough by 1981 to be fishable and swimmable. *See id.* § 101(a), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 894. R

417. *See id.* § 302, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 966-67. EPA was required to notify the Council of Economic Advisors, the Council on Environmental Quality, and the Office of Science and Technology and was required to respond to their recommendations before even holding a public hearing to consider setting more stringent effluent limits under section 302. *See id.* The House committee thereby provided an excellent early example of how procedure can be used to slow or obstruct the accomplishment of certain ends which a statute otherwise seemingly promises. States, by contrast, only had to hold a public hearing before acting. *Id.* § 302(b)(2), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 968. R R

tion by the statutory time limit.[418] The committee also kept the 1981 limitations, but added a twist. The 1981 limitations would never take effect unless Congress enacted a separate piece of legislation reaffirming those limitations after receiving studies from the National Academy of Sciences and the National Academy of Engineering analyzing the economic, social, and environmental effects of applying the 1981 limits.[419] In addition, the House would require EPA to establish special thermal discharge regulations—thus taking heat out of the technology-based effluent limitation scheme—and even these presumably weaker limits could be waived on the basis of a site-specific cost-benefit analysis.[420]

The House committee also eased up on approved state permit programs—omitting the Senate's general requirement that EPA approve each state-issued permit. Nevertheless, the bill gave EPA the authority to veto specific state permits.[421] The House committee also created a special permit program that the Corps of Engineers would administer for the discharge of dredged or fill materials into waters of the United States.[422] While the Corps would have to apply EPA-promulgated guidelines, it could override any EPA veto of a Corps issued permit if the Secretary of the Army "certifie[d] that there is no economically feasible alternative reasonably available."[423]

Federal enforcement remained largely similar to the Senate version. Were a state-issued permit violated, EPA would have three options: it "shall" issue a notice of violation; "shall issue" a compliance order; or "shall" bring a civil action."[424] For other violations, EPA was told that it "shall" either issue a compliance order or bring suit. The major change came in section 309(b). It merely "authorized" EPA to commence civil enforcement actions for violations for which EPA was "authorized" to issue a compliance order.[425] Whether the committee intended to require action or just authorize it was an apparent ambiguity with which neither the committee

418. *See id.* § 301(b), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 962. R

419. *See id.* § 315(a), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1042. R

420. *See id.* § 316, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1043-45. R

421. *See id.* § 402(d)(2), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1058-59. R

422. *See id.* § 404(a), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1063. R

423. *See id.* § 404(b), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1063-64. The House followed the lead of the Senate in expanding the scope of the oil spill provision to include hazardous substances. *Id.* § 311, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1008-11. R R

424. *Id.* § 309(a)(1), (3), *reprinted in* 1 LEG. HIST. 1972, *supra* 337, at 1000-01. R

425. *Id.* § 309(b), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1002. R

report nor the House debate ever came to grips.[426]

Although the citizen suit provision largely resembled the Senate's version, the committee tried to limit the number of persons and organizations that could claim standing to enforce the Act. It did so by defining "citizen" to mean (1) those persons who live in the "geographic area" and have "a direct interest which is or may be affected" and (2) "any group of persons which has been actively engaged in the administrative process and have thereby shown a special interest in the area in controversy."[427]

While the House committee had yielded to the Administration on a great many issues and weakened the bill in numerous respects, it never lost sight of the fact that politics are basically local in nature. Consequently, spending for the construction grants program climbed from the $14 billion found in the Senate bill for a five-year period to $18 billion to be spent in just three years,[428] an increase that made the White House "boil."[429] After a debate that ranged over two days, the House on March 29, 1972 passed the bill in resounding fashion, 380 to 14.[430] Environmentalists were dismayed. Some proposed withdrawing from the field and waiting until the next Congress when their chances for success might improve. "'Better no bill than the House bill.'"[431] And the White House, of course, was unhappy with the proposed spending, which tripled the amount advocated by the Administration.

Officials at EPA were "anxious" that the effort to pass the amendments was on the verge of collapse.[432] "The condition of the water was deplorable, and getting worse."[433] The permit program under section 13 of the Rivers and Harbors Act was completely stalled while awaiting enactment of these new amendments. And polluters were refusing to spend money to build treatment facilities

426. *See* Andreen, *Clean Water Act Enforcement*, *supra* note 136, at 238-39. R

427. H.R. 11,896, § 505(g), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 1077. The committee report claimed this definition was based upon the "private attorney general" doctrine as it was recognized in Scenic Hudson Preservation Conference v. Federal Power Commission, 354 F.2d 608 (2d Cir. 1965). H. REP. NO. 92-911, 92d Cong. 134 (1972), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 821. R R

428. *See* H.R. 11,896, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 950. R

429. *See* QUARLES, *supra* note 264, at 157. R

430. 118 CONG. REC. 10,803 (1972).

431. QUARLES, *supra* note 264, at 156 (recounting a typical comment made by many of the youthful environmental leaders with whom Quarles had spoken). R

432. *Id.* at 157.

433. *Id.*

until they knew the requirements of the new law.[434] Fortunately, the conference committee began working in mid-May to resolve the differences between the House and Senate.[435]

D. *The Conference Committee*

The conference committee worked long and hard over the course of the summer, interrupted by breaks for both the Republican and Democratic National Conventions. After four months and a total of thirty-nine meetings, the conference finally reached agreement in late September 1972,[436] despite backroom maneuvering by the White House to kill the bill.[437] The bill the conference produced, not surprisingly, presented a series of substantial compromises on most issues that had divided the two houses.

The design of the new NPDES permit program—the keystone of the Act—clearly reflected its origin in the Senate. The Senate conferees, for example, succeeded in broadening the scope of the permit program by setting aside the "traditional limits of navigability" as the measure of federal jurisdiction.[438] The conference, therefore, defined "navigable waters" expansively to mean "the waters of the United States, including the territorial seas."[439] In doing so, the conference declared that it "fully intend[ed]" to give the term "the broadest possible constitutional interpretation."[440] The scope of this approach was confirmed on the floor of the House by Representative Dingell who had introduced the leading House bill on the subject and was a recognized authority on water pollution matters despite his not being a member of the conference. Accord-

434. *Id.*

435. *See* Andreen, *Clean Water Act Enforcement*, *supra* note 136, at 239 n.259. R

436. S. REP. NO. 92-1236, 92d Cong. 99 (1972), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 282. Senator Muskie later reported that he had never before experienced such an "arduous" conference. 118 CONG. REC. 33,692 (1972). R

437. *See* FLIPPEN, *supra* note 264, at 180-81. Nixon, in fact, had approached one of the Republican Senate conferees, Howard Baker of Tennessee, and apparently asked him to help create an impasse on the committee. Baker, to his credit, refused. *See id.* at 181. R

438. *See* WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW 332 (2d ed. 1994).

439. *See* Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, § 502(7), 86 Stat. 816, 886 [hereinafter Pub. L. No. 92-500], *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 73. The conference committee thus went further than the Senate, which had fairly broadly defined "navigable waters" to mean "navigable waters of the United States, portions thereof, and the tributaries thereof, including the territorial seas and the Great Lakes." S. 2770, § 502(h), *reprinted in* 2 LEG. HIST. 1972, *supra* note 337, at 1698. R R

440. S. REP. NO. 92-1236, 92d Cong. 144 (1972), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 327. R

ing to Dingell, the "new and broader" definition included "all 'the waters of the United States' in a geographical sense,"[441] and thus "encompass[ed] all water bodies."[442] The House conferees, however, secured one major concession. Actual EPA approval was no longer a condition precedent to the effectiveness of any state-issued permits. Instead, EPA was authorized to veto state-issued NPDES permits in instances where they failed to comply with the Act's guidelines and requirements.[443]

The conference also basically adopted the Senate's approach to effluent limitations, but with several significant twists. It extended the initial deadline date to July 1, 1977 for compliance with BPT limits for industrial categories, secondary treatment for publicly owned sewage plants, and any more stringent requirements necessary to meet water quality standards.[444] The conference retained the deadline for the second turn of the screw; no additional congressional action was required to make it effective. The date, however, was pushed back to July 1, 1983, and the concept of "no discharge," although retained as a goal to be achieved by 1985, was no longer the starting point for this stage of regulation. Instead, all industrial sources were to meet limits based upon BAT unless the elimination of all discharges became technologically and economically achievable.[445] In an additional bow to the House, the conferees inserted two variances—one concentrating on the polluter's economic capacity, and the other dealing with thermal discharges, focusing on water quality.

The first variance provision authorized EPA to modify otherwise applicable BAT limits on a showing that the modification would "represent the maximum use of technology within the economic capability" of the discharger while still resulting "in reasona-

441. 118 CONG. REC. 33,756 (1972), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 250. R

442. *Id.* at 33,757, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 250. R

443. *See* Pub. L. No. 92-500, § 402(d)(2), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 69. R

444. *See id.* § 301(b)(1), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 31-32. During Senate debate, Senator Muskie stressed that the BPT limits were designed to impose "nationally uniform effluent limitations" on "each polluter within a category or class of industrial sources." 1 LEG. HIST. 1972, *supra* note 337, at 162. R R

445. *See* Pub. L. No. 92-500, § 301(b)(2), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 32. Publicly owned treatment works were required by section 301(b)(2)(B) to apply "the best practicable waste treatment technology over the life of the works." *Id.* § 201(g)(2), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 21. R R

ble further progress" toward ceasing all discharges.[446] A thermal discharge variance was also included, but in a tighter form than the House had envisioned. This new section gave EPA the power to establish a water quality-based effluent limitation governing the discharge of heated water whenever a discharger demonstrated that a technology-based limitation was "more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and other wildlife."[447]

Although the application of BAT limitations in 1983 would not depend upon any additional affirmative action by Congress or upon the completion of a study by the National Academies of Science and Engineering, the conference did agree to establish a National Study Commission. The Commission was charged with investigating the environmental, economic, and social effects of achieving or failing to achieve compliance with BAT limitations by 1983.[448] Armed with this report, Congress could, if it chose, enact "mid-course corrections" to the BAT program. However, the elimination of the default mechanism found in the House bill represented a significant victory for the Senate conferees; Congress would have to act to alter BAT, rather than act to trigger it.

With regard to water quality standards, the conferees resolved their differences by retaining, albeit with some minor changes, the provisions found in both the Senate and House versions. The federally-mandated water quality standards program would continue, but with triennial reviews, total maximum daily loads (TMDLs), and continuous planning—as the House wished.[449] The conferees also retained the House's broad formulation in section 301(b)(1)(C), giving permit writers the authority to use water quality standards to tighten permit conditions well into the future.[450] The Senate's version of section 302, with its cost-benefit provisions, was also kept although it was modified to allow only EPA, and not the states, to use it to establish water quality-related effluent limitations exceeding BAT limits.[451] Section 302 was not, however, the sole way to establish limits more stringent than BAT. The obligation in section 301(b)(1)(C) to comply with whatever limitations were necessary for water quality purposes would literally apply to

446. *See id.* § 301(c), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 32. R
447. *See id.* § 316, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 63. R
448. *See id.* § 315, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 62-63. R
449. *See id.* § 303, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 33. R
450. *See id.* § 301(b)(1)(C), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 31-32. R
451. *See id.* § 302, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 33. R

limits beyond BAT as well as BPT. It was phrased as an independent obligation—not conditioned upon the use of section 302,[452] and imposed on all permit writers, state as well as federal, through the operation of section 402.[453]

Representative Harsha of Ohio, the ranking minority member of the House committee and a House conferee, stressed that the retention of the water quality standards program was not intended to detract in any way from the new technology-driven approach. Instead, as he explained to the House, water quality standards were to "supplement . . . the 1977 and 1983 requirements" through the application of section 301(b)(1)(C).[454] Senator Muskie nevertheless was clearly worried about the possibility that the water quality program could distract EPA from the monumental task of implementing the technology-based limitations. He thus encouraged the Administrator of EPA to "assign secondary priority" to section 303 whenever staffing and funding constraints would otherwise hamper "the early and effective implementation of the effluent limitation-permit program."[455] As Professor Jeff Gaba has noted, it was "an admonition that EPA faithfully followed."[456]

With regard to federal enforcement, the conference adopted the House version of section 309. According to Senator Muskie, the Senate conferees had "receded to the House in not making civil enforcement mandatory" despite their belief that "mandatory civil enforcement [was] far preferable to a discretionary responsibility."[457] Nevertheless, "the provisions requiring the Administrator [of EPA] to issue an abatement order whenever there is a violation were mandatory in both the Senate bill and the House amendment, and the conference agreement contemplates that the Administrator's duty to issue an abatement order remains a mandatory one."[458] This duty, moreover, could not be easily

452. *See* Gaba, *supra* note 249, at 1202; 2 Op. Gen. Counsel, U.S. EPA, No. 37, 111 (1976).

453. *See* Pub. L. No. 92-500, § 402(a)(1), (b)(1)(A), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 67-68. States also could require limitations more stringent than either BPT or BAT in EPA-issued permits through the use of section 401 certifications (*see id.* § 401, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 64), a process that was originally introduced in the 1970 amendments. *See supra* note 278 and accompanying text. R R

454. 1 LEG. HIST. 1972, *supra* note 337, at 246. R

455. *Id.* at 171.

456. Gaba, *supra* note 249, at 1185.

457. 1 LEG. HIST. 1972, *supra* note 337, at 174. R

458. *Id.*

shirked—at least in Senator Muskie's view—by simply refusing to find that a violation had occurred.

> It is expected, of course, that upon receipt of information giving the Administrator reason to believe that a violation has occurred, he has an affirmative duty to take the steps necessary to determine whether a violation has occurred, including such investigations as may be necessary, and to make his finding as expeditiously as practicable.[459]

No Senator or Senate conferee took exception to Senator Muskie's explanation. While one might wonder whether anyone in the chamber had actually focused closely upon this portion of his statement, it is certainly consistent with the actual language found in section 309 and the pattern of compromise followed by the conference.

The conferees rejected the restrictions on standing that the House had placed on citizen suits. But instead of simply authorizing any person to bring suit as the Senate had done, the conference agreement explicitly granted standing to a "citizen," which, in turn, was defined as "a person or persons having an interest which is or may be adversely affected"[460]—an attempt to reflect the Supreme Court's recent decision in *Sierra Club v. Morton.*[461]

The House conferees, however, carried the day with regard to the magnitude of the construction grants program. Eighteen billion dollars were authorized—five billion for FY 1973, six billion for FY 1974, and seven billion for FY 1975.[462] They also liberalized the federal grants for construction costs, covering seventy-five percent of the cost of construction in every case.[463] In order to qualify for a grant, however, a project would have to be included in a section 208 area-wide waste treatment management plan; would have to conform to any water quality plan adopted under section 303(e); and would have to be certified by the state as entitled to priority.[464]

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459. *Id.*

460. Pub. L. No. 92-500, § 505(g), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 76. **R**

461. 405 U.S. 727 (1972).

462. *See* Pub. L. No. 92-500, § 207, *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 26. **R** The $18 billion figure was almost twice as much as the total of all previous federal grant assistance from 1956 through 1972. *See* National Commission on Water Quality, Staff Report at V-33 (April 1976) (between 1956, when Congress switched from a loan program to a grant-in-aid program, and 1972, Congress had authorized a total of $9.67 billion for construction assistance).

463. *See id.* § 202(a), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 21-22. **R**

464. *See id.* § 204(a), *reprinted in* 1 LEG. HIST. 1972, *supra* note 337, at 22-23. **R**

E. *Final Passage*

Although the White House lobbied hard against the $18 billion funding authorization for the construction grants, no further opposition to the bill arose.[465] With the presidential election looming ever larger and the desire to return home to campaign gaining urgency with every passing day, Congress acted with dispatch. On October 4, 1972, the Senate passed the conference substitute by a margin of 74 to 0.[466] The vote in the House was almost as lopsided, 366 in favor to 11 opposed.[467]

Although President Nixon was not pleased with the appropriations for the construction grants program and several other provisions including the requirement that industry achieve compliance with BAT limits by 1983,[468] most observers thought Nixon would swallow hard and sign a bill that was politically very popular. After all, the November election was rapidly approaching. EPA Administrator William Ruckelshaus, moreover, strongly urged the President to sign the bill in a letter that, although confidential, was leaked to the press[469] and eventually placed in the *Congressional Record* by Senator Muskie.[470] Poised on the brink of a landslide victory over Senator George McGovern, however, Nixon gave way to his fiscal and other concerns, and his considerable anger over the Senate's last-minute rejection of a debt ceiling bill,[471] and vetoed the bill in the wee hours of October 17, 1971.[472] The veto was challenged later that morning in the Senate where the vote to override

465. *See* QUARLES, *supra* note 264, at 159.

466. 1 LEG. HIST. 1972, *supra* note 337, at 222-23. R

467. *Id.* at 276-79.

468. *See* FLIPPEN, *supra* note 264, at 181; LIEBER, *supra* note 245, at 80. President Nixon had never been "an enthusiast for the environment." UNGER, *supra* note 199, at 336; *see also* MARC K. LANDY ET AL., THE ENVIRONMENTAL PROTECTION AGENCY 33-39 (1994) (describing the "hostile relations" which Nixon had had with EPA). In fact, in a 1971 diary entry, Bob Haldeman remembered Nixon as saying: "The environment is not an issue that's worth a damn to us." H.R. HALDEMAN, THE HALDEMAN DIARIES: INSIDE THE NIXON WHITE HOUSE 245-46 (1994). Nixon could not, however, completely resist the demands of the environmental movement. But he could try to "tame and deflect [them]." UNGER, *supra* note 199, at 340. R

469. *See* QUARLES, *supra* note 264, at 160.

470. *See* 1 LEG. HIST. 1972, *supra* note 337, at 141-58. R

471. In a demonstration of congressional independence, the Senate had just rejected a debt ceiling bill that would have given the president the power to limit budget expenditures to $250 billion during the next fiscal year. LIEBER, *supra* note 245, at 82. R

472. 1 LEG. HIST. 1972, *supra* note 337, at 137-39; *see also* QUARLES, *supra* note 264, at 160-61 (describing the events of those tense days in marvelous detail). To lessen the political fallout, Nixon had wanted to simply pocket veto the bill, but Congress was determined to thwart his plan by staying in session until he acted. *See* FLIPPEN, *supra* note 264, at 182. R

was 52 to 12.[473] The next day, October 18, shortly before adjourning for the year, the House also voted to override—247 to 23.[474] After years of hearings, months of struggle, and decades of experience, the Clean Water Act was finally law.

IV. CONCLUSION

Early in the Environmental Decade of the 1970s, Congress enacted one of the most complex and significant pieces of legislation in its history. The Clean Water Act of 1972 was revolutionary in many ways. It made the federal government the dominant authority in an area where the states had long held sway. It instituted a new system of technology-based effluent limitations that would demand the same basic level of treatment for a particular industry, regardless of whether it was located in Georgia or New York, Louisiana or Wisconsin. No longer could an industry so effectively block state pollution control efforts by threatening to relocate to a more lenient jurisdiction. And no longer could discharge limitations be based solely upon the assimilative capacity of the receiving waterway and its ability to meet a designated use—which might well be only industrial or agricultural usage.

To implement and monitor compliance with the new technology-based limitations, and any more stringent limits needed to meet state water quality standards, every discharger, municipal as well as industrial, was required to obtain a permit and comply with its terms. These permits transformed most of the Act's requirements into specific numerical limits that greatly simplified the enforcement process. No longer would one have to demonstrate actual endangerment or prove that a specific polluter had violated stream standards; instead one need only compare permit limits with a permittee's performance at the point of discharge. The Clean Water Act also expressed Congress' skepticism about EPA's ability or even the willingness of EPA or any expert administrative agency to continuously and vigorously perform its regulatory mission. The Act thus limited administrative discretion by imposing a long series of mandatory duties, regulatory schedules, and deadlines, and by creating a judicial mechanism through which citizens could seek to compel administrative action and supplement, perhaps even stimulate, agency enforcement.

473. 1 LEG. HIST. 1972, *supra* note 337, at 135-36. R

474. *Id.* at 109-13.

Although the Clean Water Act was a watershed event in the history of water pollution control, it would be a mistake to believe that it only represented an isolated moment in history, a product of unique political and social forces that coalesced in the early 1970s and have since receded. The Clean Water Act was no fad. Despite repeated claims that it is too centralized, too fixated upon governmental solutions, too rigid, and too expensive, it has endured for over thirty years. The Act has endured because it was based, in so many ways, upon nearly two centuries of American history.

From the beginning of the Republic, Americans have turned to government to address problems of water pollution. At first, water pollution was exclusively local in nature, as was the response to it. When private water supplies, such as wells and ponds, were contaminated in the late eighteenth and early nineteenth centuries and stagnant pools of filthy water gave rise to outbreaks of yellow fever, a number of city governments either built or facilitated the construction of our earliest municipal water systems. The cholera epidemics that afflicted so many cities from the 1830s through the 1860s prompted even more government action. New municipal water systems were built and existing ones were expanded. Unfortunately, the rising use and availability of water produced a tremendous amount of wastewater that, without the construction of new sewer systems, collected in the gutters, back yards, and open drains of nineteenth century American cities and, perversely enough, led to yet more disease. At the urging of the new sanitary reform movement, cities began building sewer systems and organizing health departments to fight unsanitary conditions, and the streets of our cities soon became cleaner. In the process, however, American cities had radically transformed the nature of the pollution problem in the United States. Instead of dumping human and industrial waste in our backyards, we were now dumping massive amounts of untreated waste into flowing rivers and streams. What had been an exclusively local problem was now being exported to neighboring communities.

Although some nineteenth century reformers warned that these untreated discharges would produce serious health effects, their warnings were generally ignored until typhoid fever began to ravage downstream cities. Upstream cities, nevertheless, had little incentive to spend vast sums to treat their wastewater for the benefit of their neighbors downstream, and municipal health departments had no authority to regulate upstream sources of pollution.

So, between 1869 and 1909, again at the behest of sanitary and civic reformers, state boards of health were created all across the country. Most were weak, ineffectual, and poorly funded, but by the turn of the century, a few were obtaining authority to regulate sewage discharges. Even the federal government began getting involved. When yellow fever hit the Mississippi Valley in 1879, Congress heeded public demands for federal action—many of which came from the South—and created a National Board of Health. While support subsided after the epidemics ended, the Board managed to do some innovative work during its brief life, performing sanitary surveys and helping design new water and sewer systems. More enduring was the growing American penchant for turning to the federal government for help in dealing with pollution problems that seemed to overwhelm state and local authorities.

State health and local authorities faced a real dilemma in the first decade of the twentieth century. City governments had continued to spend huge sums on sewers—by 1911, all major American cities had them—and typhoid and waterborne diseases continued to plague cities and towns that drew water from sewage-tainted rivers and lakes. By the turn of the century, public health and municipal authorities knew that the pathogens found in human waste caused disease. A number of new techniques for treating sewage had also been developed. At the same time, however, new filtration systems were being devised to treat drinking water, and by 1908, chlorine had been introduced in the United States as an effective way to disinfect municipal water. So a basic question had to be answered: should cities treat their drinking water and continue to dump growing amounts of untreated sewage into the nation's waterways, or should they treat their waste and, since sewage treatment could not guarantee the absence of dangerous pathogens, also treat their drinking water?

Many public health physicians and some Progressive-era politicians pushed for sewage treatment not only to protect drinking water, but also, at least in some cases, to protect recreational values. Former President Theodore Roosevelt even called for federal water pollution control legislation in 1910. Nevertheless, the nascent pollution control movement failed to gain much ground despite occasional efforts by state health departments to force cities like Pittsburgh to build sewage treatment plants. Their efforts ran aground on opposition from both city officials and the new sanitary engineering profession, both of whom contended that sewage

treatment was a needless expense since the treatment of drinking water supplies could curtail, even eliminate, the threat of waterborne disease. Cities, therefore, opted to just filter and disinfect their water supplies and managed to parry most attempts to make them do more. When, by 1920, death rates from typhoid had fallen dramatically, the crisis appeared to be over. Those who had argued for the most cost-effective approach to safeguarding public health appeared vindicated.

Nevertheless, without regulation or treatment, water pollution from municipal sources worsened, while industrial pollution—largely ignored by state health authorities—exploded as production demands rose during World War I. As the 1920s progressed, some communities found that chlorination was no longer a viable option because chlorine's reaction with certain industrial chemicals produced foul odors and tastes. Many other communities had to add more and more chlorine to deal with rising levels of bacteria. In response to these growing problems, some highly industrialized states created more centralized water pollution control agencies and introduced early, rudimentary versions of what we now know of as water quality standards. Whatever regulation resulted, however, was generally directed at protecting drinking water supplies, and all too often aimed at only the aesthetic quality of the water, since little was known about the health impact of dilute amounts of various toxic materials and other industrial wastes.

Meanwhile, the federal government had not completely abandoned the field following the demise of the National Board of Health in 1883. In fact, the successful battles the federal government had waged against malaria, yellow fever, and various waterborne diseases following the Spanish-American War and during the construction of the Panama Canal had greatly enhanced its prestige in matters concerning public health. Nevertheless, the federal government continued to maintain a secondary role vis-à-vis state and local government. In the early twentieth century, Congress rejected bills providing for federal investigation of water pollution's impact on drinking water and calls for the creation of a national department of health. However, in 1912, a less ambitious bill was finally passed creating the U.S. Public Health Service and authorizing it to study water pollution as well as drinking water and sewage disposal problems. As a result, the PHS, from a very early date, provided state and local governments with advice and assistance on all of these problems, and it even helped facilitate a num-

ber of early interstate agreements on pollution. But the PHS had no regulatory authority over water pollution.

In contrast to the PHS, the U.S. Army Corps of Engineers had actually been given some regulatory authority over discharges of refuse into navigable waters. However, the Corps read the proscription contained in section 13 of the 1899 Rivers and Harbors Act as limited to refuse that could obstruct navigation, an interpretation that it did not jettison until 1970. Congress returned to the question of regulation in the early 1920s when many Americans complained that oil pollution was fouling coastal beaches, killing commercially valuable fish, and causing tremendously destructive harbor fires. The public also voiced concerns about other forms of chemical pollution, and various bills were introduced including one to ban the unpermitted discharge of any kind of refuse into navigable waters, and another to ban the discharge of acid. In the end, Congress rejected those bills and even the modest suggestion to ban the discharge of oil in inland as well as coastal waters because all of these proposals were perceived as placing too great a burden upon industry. As enacted, the Oil Pollution Act of 1924 only prohibited the discharge of oil from vessels into coastal waters, and the Corps of Engineers failed to vigorously enforce even this limited approach. Nevertheless, it is interesting to note that Congress actually debated, in the midst of the business-oriented, politically-conservative 1920s, a significant expansion in federal regulatory authority—a question that would never completely fade from sight, and that would return as a much more serious proposition in the mid-1930s.

Water quality continued to decline as the nation entered the 1930s. The Depression-era public works programs of Roosevelt's New Deal, however, offered some relief. Between 1932 and 1938, nearly 1,200 sewage treatment plants were built with federal financial aid, and for the only time before the 1970s, sewage treatment construction actually managed to keep pace with urban growth. The states, meanwhile, did little to regulate industrial pollution and shunned enforcement in favor of education and persuasion. Frustrated with the lack of effective state action and convinced that most states would never act forcefully for fear that industries would move to friendlier states, conservationists turned to Congress for action. They urged Congress either to create a federal program that would directly regulate pollution in interstate watersheds or at least to strengthen the existing federal statutes.

An innovative bill, introduced by Connecticut Senator Augustin Lonergan, soon embodied their wishes. The bill envisioned the establishment of federal water quality standards and certain minimum treatment requirements on a watershed basis around the entire country. The Lonergan bill also would have created federal enforcement authority, although it was concurrent with the enforcement power to be granted to new regional watershed committees. The bill faced strong opposition from industry, most state agencies, and those federal agencies, such as the Corps of Engineers and the PHS, whose power and prestige would suffer were the bill to pass. These forces supported a series of alternative bills that—despite all their grandiloquent supporting claims—would have done little more than produce more PHS studies and some additional sums for wastewater treatment facilities.

The two sides were fairly evenly matched in those pre-war days, and both enjoyed some success. In 1937, the Senate passed most of the important provisions in the Lonergan proposal, and in 1940, the House approved a bill requiring federal approval for any new industrial or municipal discharge to navigable waters. The modest, more symbolic bills offered by the opposition received greater support overall—one such bill would have become law in 1938 had President Roosevelt not vetoed it—but the last pre-war attempt to enact such legislation died in 1940 at the hands of those insisting upon a stronger federal role.

While World War II brought a temporary halt to congressional efforts to deal with water pollution, it led to a huge increase in industrial pollution and a lull in the construction of municipal treatment facilities. After the war, therefore, the problem was more urgent than ever before, and Congress soon revisited the issue. The post-war bills were similar to those of the late 1930s and 1940, but the political environment was changing. Congress in 1948 was a much more conservative institution than it was during the latter years of the New Deal, and in that year, it enacted a bill of modest dimension—the Federal Water Pollution Control Act of 1948. The Act expanded federal research activities, provided additional aid to state agencies and loans to build sewage treatment plants, and set up a cumbersome, ineffectual mechanism for federal enforcement. The opponents of strong federal action had finally won an often bitter, but largely forgotten struggle that had lasted, off-and-on, for over twelve years. The drive to achieve substantial reform at the

federal level was largely spent and at least symbolically satisfied by the passage of the 1948 legislation.

The primary responsibility for water pollution control remained at the state level for the next twenty-four years. During those years, many states tried to deal with the rising tide of water pollution by passing new laws and reorganizing their pollution control agencies. By 1963, nearly half of the states had established some form of water quality standards program. In many instances, however, the standards were set at extremely low levels, and in almost all cases, the standards were extremely difficult to implement. These problems prompted a few states like Pennsylvania to make some use of uniform effluent limitations—an approach that drew great ire from industry. In most states enforcement remained a major weakness. This weakness stemmed not so much from a lack of available enforcement tools as from a cautious regulatory philosophy. This philosophy stressed voluntary cooperation over formal enforcement, reflecting the limited political power of the state agencies, the conservative professional values of the engineers who so often ran them, and the anxiety that stringent enforcement would mean loss of jobs and business to other states. Some progress, nevertheless, was made during these years, but it was not nearly enough to cope with the staggering amount of pollution produced by the booming post-war economy or to satisfy the growing demand for clean rivers, lakes, and beaches.

By the early 1960s, Americans were becoming increasingly impatient with the disgraceful condition of the nation's waters, and many began to demand action. In contrast to the state agencies that often seemed stodgy and defensive, the federal government appeared to offer some hope. In 1961, President Kennedy signed amendments that increased federal spending for municipal wastewater facilities and strengthened federal enforcement, albeit ever so slightly. Federal water pollution officials began to emphasize the importance of vigorous enforcement, and many young Democratic members of Congress—such as Edmund Muskie of Maine—were convinced that an even more aggressive approach was needed to combat what they considered a pressing national problem. In 1963, the Senate passed a bill introduced by Muskie that would have given the federal government the power to set water quality standards for interstate waters. The bill, nevertheless, failed in the House.

In January 1965, immediately following Lyndon Johnson's land-

slide victory, the Senate once again passed Muskie's bill, but—despite Presidential prodding—the House refused to do more than just require states to agree to set standards. After a tough conference, the House and Senate finally reached agreement on a compromise bill. The resulting amendments to the FWPCA took a major, but halting, step towards the nationalization of water pollution control efforts by requiring states to adopt water quality standards and implementation plans, all subject to review and approval by the new Federal Water Pollution Control Administration. Enforcement of the new scheme, however, would prove difficult.

The Johnson Administration soon proposed a number of measures to strengthen federal enforcement of the FWPCA, including one to supplement government efforts with private, citizen suit enforcement. In addition, Johnson resurrected Senator Lonergan's vision of watershed management by calling for the development of pollution control plans on a watershed basis and the establishment of permanent river basin organizations. Congress was not prepared for such massive revisions so soon after passing the 1965 amendments, but it was ready to spend more money on urban infrastructure. The 1966 amendments, therefore, authorized a very ambitious federal program to help finance the construction of sewage treatment plants over the next four years and eliminated the program's earlier bias against large municipal systems. The construction program was soon scaled back, however, a victim of the budgetary strains caused by the Vietnam War.

Although all the states submitted water quality standards by the 1967 deadline, federal-state disagreements over anti-degradation policy and minimum treatment levels for sewage treatment plants stalled the approval process. State standards, moreover, were often weak, and so were state enforcement efforts. The federal government also found it difficult to enforce water quality standards since it was often virtually impossible to determine which particular polluter was responsible for violating ambient standards in a specific water body.

Water quality, meanwhile, continued to decline, and a number of environmentalists, almost as a last resort, turned to their local U.S. Attorneys and asked them to enforce section 13 of the Rivers and Harbors Act of 1899. Since the Supreme Court had now held that section 13 applied to industrial pollution and no industrial dischargers possessed the requisite permit, dozens of actions were soon filed. The enforcement campaign soon slowed, however,

when the federal government decided that it was only fair to establish a permit program before prosecuting companies for discharging without a permit. An awkward program was eventually established allowing the Corps of Engineers to issue the permits but requiring the Corps to follow the new EPA's advice on how to comply with water quality standards. Drafting permits based on water quality standards would prove exceedingly difficult, however, due to the limited technical resources of the time and the lack of actual stream data. Section 13, moreover, did not even regulate the discharge of municipal sewage. The stage was thus clearly set—after decades of trial-and-error in trying to cope with the effects of urban growth and industrialization—for the enactment of a new and much more powerful federal initiative in the fight against water pollution: The Clean Water Act of 1972.