FEDERAL PROGRAMS FOR WATER POLLUTION CONTROL

The federal government has assumed a leading role in America's effort to control water pollution. Generally, the federal programs augment and stimulate rather than preempt state and local efforts. Large sums of federal money are available to state and local governments to enable them to finance necessary waste treatment and sewer facilities. Federal grants are also distributed to encourage basin-wide pollution control planning among the states. Since availability of federal funds is conditioned on the enforcement of strong pollution control laws, state and local enforcement measures are more likely to be taken. The federal program also includes sanctions against polluters, but the sanctions are designed to permit the state and local authorities to retain primary responsibility for pollution abatement. This is accomplished by encouraging the states to strengthen their pollution control laws and by allowing the states to act first in a given pollution situation in preference to immediate federal intervention. Thus the federal government has attempted to become an external force that will goad the state and local governments into action.

Many reasons explain the expansion of national power into an area formerly left almost entirely to the state and local authorities. Perhaps the primary explanation is that the state and local governments have failed to control pollution within their respective jurisdictions.[1] They have frequently been so strongly influenced by industrial forces that even if strong anti-pollution laws were enacted, they were not enforced. An industry might, for example, threaten to relocate if the local officials attempt to enforce water pollution control laws.[2] This threat of relocation can be a powerful weapon if a limited number of industries form the basis of the local economy. Moreover, state and local governments have typically had an inadequate tax base on which to finance the facilities necessary to control water pollution. Because waste treatment facilities are extremely costly and represent little tangible benefit to the taxpayer, they receive low priority in state and local budgets. Availability of federal funds can encourage the state and local governments to undertake these low-priority projects and can supplement inadequate state finances.[3]

Generally, interstate compacts have been ineffective as a regulatory device for water pollution control. These agreements are often reduced to the

[1] *See* Stein, *Problems and Programs in Water Pollution*, 2 NATURAL RES. J. 388, 407 (1962). *See also* Engelbert, *Federalism and Water Resources Development*, 22 LAW & CONTEMP. PROB. 325, 330–35 (1957); Clarenbach, *Water Pollution Policies and Politics*, in WATER POLLUTION CONTROL AND ABATEMENT 73–75 (T. Willrich & N. Hines eds. 1967).

[2] D. CARR, DEATH OF THE SWEET WATERS 145 (1966).

[3] *See generally* LEAGUE OF WOMEN VOTERS, THE BIG WATER FIGHT 71 (1966); COUNCIL OF STATE GOVERNMENTS, WATER-SUPPLY AND SANITATION EXPENDITURES OF STATE AND LOCAL GOVERNMENTS: PROJECTIONS TO 1970, at 41–51 (1966).

HeinOnline 1 U.C.D. L. Rev. 71 1969

"lowest common denominator,"[4] because each state will give up only a minimal amount of its power. The result is a commission with little or no power to enforce a program of water pollution control, even though the commission has the ideal jurisdiction, the river basin.[5]

Similarly the private lawsuit has proven to be an ineffective device for controlling water pollution. Water pollution control calls for long-range planning based on a comprehensive river basin program, not the taming of each polluter on a case-by-case approach. Private actions to abate pollution may involve difficult problems of proof for the plaintiff, and a variety of defenses may be available to the defendant. Plaintiff not only must show that he was materially harmed by the defendant's pollution, but also that the defendant was unreasonably polluting the water. Private court actions do not seek to protect the public interest; they are adversary proceedings with only the interested parties before the court. Even if the plaintiff could prove his case, proof of which generally requires expensive expert testimony, the court might award only compensatory damages and permit the pollution to continue. If injunctive relief were granted, the court could not maintain a surveillance on the activities of the polluter. Thus, at best, private court actions attain only a sporadic halt to isolated instances of pollution and cannot remedy the current national water pollution problem.[6]

The preceeding criticisms of other forms of control suggest that the federal government should take the lead in controlling water pollution. Solutions conceived at the national level are likely to be more effective for two reasons. First, the forces opposed to control of pollution will lose much of their influence. Either they will be met by equally strong conservationist forces or they will find that the scope of the issue has been so broadened as to reduce their relative strengths. Second, many new considerations will be present at the national level and a multitude of new resources become available, with the result that solutions inconceivable locally may be worked out at this higher level.[7] National public opinion obviously favors controlling pollution in the abstract whereas local opinion may vary depending upon the potential impact of pollution control on the local economy. National control of pollution also makes an idle gesture of an industry's threat to relocate, since presumably there would be no sanctuary for the persistent polluter. Moreover, the federal government represents a source of funds necessary to a broad attack on water pollution. Funds obtained from the national government, by their very nature, are drawn from a broader and frequently more progressive tax base. Thus the costs of water pollution control are spread beyond the local property owners. Federal funds can also be used to finance pollution research projects which can be coordinated through a national

[4] F. MOSS, THE WATER CRISIS 263–64 (1967).

[5] *See generally* Hines, *Nor Any Drop To Drink: Public Regulation of Water Quality* (pt. 2), 52 IOWA L. REV. 432 (1966); Engelbert, *supra* note 1, at 341.

[6] *See* Hines, *Nor Any Drop To Drink: Public Regulation of Water Quality* (pt. 1), 52 IOWA L. REV. 186, 196–201 (1966).

[7] E. SCHATTSCHNEIDER, THE SEMISOVEREIGN PEOPLE 11 (1967).

HeinOnline 1 U.C.D. L. Rev. 72 1969

agency to eliminate duplication of efforts while facilitating dissemination of information.[8]

Perhaps the most significant result of injecting federal funds into the fight against water pollution is the impact on state and local expenditures. As was the case with the construction of many of the nation's highways, federal aid can encourage state and local governments to spend their own funds in order to take advantage of available federal grants.[9] Conditions attached to such funds can assure the state and local governments that pollution control within their jurisdictions will not be undone by upper or lower riparian polluters, since all jurisdictions bordering the waterway would be subject to the same general standards.

Although the federal government has begun to regulate water pollution, there are many who oppose the entrance of the federal government into this field. Those in opposition contend that local authorities know local problems best and can act with full knowledge of all relevant considerations.[10] Day-to-day administration is considered to be the unique function of local authorities,[11] and the intrusion of a large federal bureaucracy would only serve to slow progress in the field of pollution control. Further, it is argued that federal control would mean uniform regulations without any consideration of local differences.[12] Although these are legitimate arguments, too often they originate in the petty jealousy of local officials and are backed by industrial forces who feel they can better manipulate state governments for their own economic ends.[13]

As will be seen, most of the opposing arguments have been considered and are reflected in the structure of the current federal approach. Generally, each state and local entity is permitted, and in fact encouraged, to administer its own pollution control program, subject to federal intervention only when it cannot, or does not, cope with the pollution problems within its jurisdiction. Pollution control programs are formulated at these lower levels, and to a considerable extent local economic and geographical peculiarities are taken into account. Only upon failure to make effective progress toward controlling pollution does the federal government attempt to dominate the field.[14]

---

[8] *See* Comm'n on Organization of the Executive Branch of the Government, *The Federal Government and Water Pollution Control,* in 3 TASK FORCE REPORT ON WATER RESOURCES & POWER 1224 (1955).

[9] For an economist's explanation of the impact of federal grants-in-aid upon state and local financing see Brazer, *The Federal Government and State-Local Finances,* 20 NAT. TAX J. 155 (1967).

[10] *See* 23 CONG. Q. WEEKLY REP. 283–84 (Feb. 19, 1965).

[11] Stein, *supra* note 1, at 404.

[12] *See generally* J. SAX, WATER LAW: CASES AND COMMENTARY 301–26 (1965) (includes excerpts from hearings).

[13] *See* F. GRAHAM, DISASTER BY DEFAULT 214–15 (1966). "One state antipollution bill was opposed on grounds that pollution was a Federal and not a State matter. A little while later the same group opposed Federal legislation on grounds that it was an invasion of States rights." J. SAX, *supra* note 12, at 303 (quoting Congressman John Dingell's testimony before the House Committee on Public Works).

[14] Secretary of the Interior Udall explained the federal position: "[T]he way for the States to maintain their principal responsibilities and the way for the States to keep the Federal Government from exercising inordinate domination in this field [water pollu-

HeinOnline 1 U.C.D. L. Rev. 73 1969

There is little doubt that the federal government has the constitutional power to regulate water pollution. The "Commerce Clause,"[15] coupled with the "Necessary and Proper Clause"[16] of the Constitution has been interpreted to give Congress nearly plenary power over this country's navigable waters.[17] "Navigable waters" include not only waters that are navigable in fact, but all waters that could be made navigable by reasonable improvements.[18] Federal jurisdiction over these waters extends also to the nonnavigable tributaries of the navigable waters.[19] This definition obviously encompasses the vast majority of this nation's waterways. Congressional legislation designed to enhance and protect these waters need not be confined to protecting navigation as such since any legislation that promotes the legitimate uses of these waters is acceptable to the courts.[20] That preventing pollution promotes the legitimate uses of water is beyond question. The Supreme Court has not only indicated that national water pollution control legislation is permissible,[21] but also has found ways of adapting other laws to cover current pollution problems.[22] The federal courts, moreover, have consistently denied compensation to a polluter who, for example, is forced to cease or alter his activities, even though an expensive treatment facility must be built.[23]

I. The Current Federal Program

Federal activity in the area of water pollution control is a relatively recent phenomenon. Prior to 1948 there was no comprehensive program for water

---

tion control], in my judgment, is aggressive action." 1 U.S. Dep't of the Interior, Federal Water Pollution Control Administration, Proceedings—Third Meeting on Pollution of Lake Erie and Its Tributaries 85 (June 1966). *See also Hearings on Water Pollution—1967 Before the House Comm. on Public Works,* 90th Cong., 1st Sess. 39 (1967) [hereinafter cited as *1967 Hearings*].

[15] U.S. Const. art. I, § 8, cl. 3. The case for extending the Commerce Clause to permit federal abatement of water pollution is detailed in Edelman, *Federal Air and Water Control: The Application of the Commerce Power To Abate Interstate and Intrastate Pollution,* 33 Geo. Wash. L. Rev. 1067 (1965). *See also* Bermingham, *The Federal Government and Air and Water Pollution,* 23 Bus. Law. 447–81 (1968).

[16] U.S. Const. art I, § 8, cl. 18.

[17] Oklahoma v. Atkinson, 313 U.S. 508, 527 (1941); *Ex Parte* Boyer, 109 U.S. 629 (1884); The Daniel Ball, 77 U.S. (10 Wall.) 557 (1870).

[18] United States v. Appalachian Elec. Power Co., 311 U.S. 377, 407–10 (1940).

[19] United States v. Grand River Dam Authority, 363 U.S. 229, 232 (1960); United States v. Rio Grande Dam & Irr. Co., 174 U.S. 690 (1899).

[20] United States v. Appalachian Elec. Power Co., 311 U.S. 377, 426–27 (1940) ("The Congressional authority under the commerce clause is complete unless limited by the Fifth Amendment"); Philadelphia Co. v. Stimson, 223 U.S. 605, 635 (1912) ("It is for Congress to decide what shall or shall not be deemed in judgment of law an obstruction of navigation").

[21] West Virginia *ex rel.* Dyer v. Sims, 341 U.S. 22, 26 (1951).

[22] United States v. Republic Steel Corp., 362 U.S. 482 (1960). The dissent accuses the majority of stretching a criminal statute to fill the gaps in comprehensive federal pollution control laws.

[23] United States v. 531.13 Acres of Land, 366 F.2d 915 (4th Cir. 1966), *cert. denied,* 385 U.S. 1025 (1967); City of Demopolis v. United States, 334 F.2d 657 (Ct.Cl. 1964); City of Eufaula v. United States, 313 F.2d 745 (5th Cir. 1963). *See also* Lewis, *The Phantom of Federal Liability for Pollution Abatement Actions,* 17 Mercer L. Rev. 364 (1966). It has also been held that legislation requiring the abatement of existing pollution is not *ex post facto* in nature. *See* 1 CCH Clean Air & Water News No. 2, at 4–5 (Jan. 9, 1969).

HeinOnline 1 U.C.D. L. Rev. 74 1969

pollution control at the national level.[24] Today, federal programs include financial and technical assistance, pollution abatement laws, and various antipollution regulations and orders.

A. Financial and Technical Assistance

1. The Federal Water Pollution Control Act

The most comprehensive programs of financial and technical assistance are carried out under the Federal Water Pollution Control Act. This law was originally enacted as a temporary measure in 1948 and was to remain in effect for five years.[25] It was extended for an additional three-year period in 1952.[26] Because the original act was poorly financed and contained no effective enforcement provisions, stronger legislation was passed in 1956.[27] The 1956 law is the basis of the current Federal Water Pollution Control Act (FWPCA) and has been strengthened by amendments in 1961,[28] 1965,[29] and 1966.[30] Programs under the present act are administered by the Federal Water Pollution Control Administration within the Department of the Interior.[31] The Administration maintains nine regional offices throughout the country. Although there are no formal procedures governing the operations

[24] The early federal legislation was designed to preserve the navigability of the nation's waters. Some of this early legislation is still operative. *See* text accompanying notes 210–33 *infra*.

[25] Water Pollution Control Act, 62 Stat. 1155 (1948), as amended, 33 U.S.C. §§ 466–466k (1964). [hereinafter the Federal Water Pollution Control Act in its amended form is cited as FWPCA. The complete current text of the FWCPA is printed in U.S. Dep't of the Interior, Federal Water Pollution Control Administration, Program of the Federal Water Pollution Control Administration (1967). This publication is available on request from local offices of the Federal Water Pollution Control Administration.]

[26] 66 Stat. 755 (1952).

[27] Water Pollution Control Act Amendments of 1956, 70 Stat. 498 (1956).

[28] Water Pollution Control Act Amendments of 1961, 75 Stat. 204 (1961). This Amendment expanded federal jurisdiction to abate pollution and also provided for increased federal financial assistance to the states.

[29] Water Quality Act of 1965, 79 Stat. 903 (1965). This Act amended the Federal Water Pollution Control Act by increasing the financial assistance to the states, expanding federal enforcement jurisdiction, and requiring water quality standards for interstate waters. Administration of the federal water pollution control program was also transferred to the new Federal Water Pollution Control Administration within the Department of Health, Education & Welfare.

[30] Clean Water Restoration Act of 1966, 80 Stat. 1246 (1966). This Act expanded existing research and financial assistance programs. Federal abatement jurisdiction was extended to international pollution situations. Also, incentives to encourage basin-wide planning were established. For a complete history of the present Federal Water Pollution Control Act see Hines, *Nor Any Drop To Drink: Public Regulation of Water Quality*, 52 IOWA L. REV. 799 (1967).

[31] Reorganization Plan No. 2 of 1966, 80 Stat. 1608 (1966), transferred the Federal Water Pollution Control Administration from the Department of Health, Education, & Welfare to the Department of the Interior. *See generally Hearings on Reorganization Plan No. 2 Before a Subcomm. of the House Comm. on Government Operations*, 89th Cong., 2d Sess. (1966). For a discussion of the organization and activities of the Administration see *Hearings on Water Pollution–1967 Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works*, 90th Cong., 1st Sess., pt. 2, at 524–28 (1967).

HeinOnline 1 U.C.D. L. Rev. 75 1969

of the regional offices,[32] it is clear that they operate in close cooperation with state and local pollution control authorities. When a pollution problem is noted, either by complaint or by investigation, the regional office usually refers the problem to the appropriate state or local pollution authority. If the problem requires federal technical assistance or investigation, these services are made available to the state or local authorities. If the local officials are able to cope with the problem, the federal role is limited to financial and technical assistance.

An important aspect of the FWPCA is its broad authorizations for grants and technical assistance to state, local, interstate, and intermunicipal pollution control agencies. These grants and technical assistance programs are designed to promote the construction of waste treatment systems, to encourage long-range planning for entire river basins, and to increase the present state of scientific knowledge in the field of water pollution control.

a. Construction Grants

Water pollution control can best be obtained by removing pollutants after each use of the water. This necessarily requires construction of many new or improved waste treatment facilities and sewer systems. These facilities are quite expensive and can be economically prohibitive for both large and small communities. It is estimated that communities will have to spend over seventeen billion dollars by 1972 in order to meet their waste treatment needs.[33]

Agencies can qualify for varying amounts of federal construction grant funds if they meet certain criteria. All projects must be in furtherance of a pollution control program approved by the Secretary of the Interior.[34] Generally the project will be approved if it is a necessary step in the state's program to enhance the quality of its waters. Assuming adequate federal funds are available, grants are authorized for 30 percent of the estimated reasonable cost of the project.[35] However, this federal share may be increased to 40 percent if the state agrees to pay at least 30 percent of the costs of all such projects in the state.[36] This provides an incentive for the states to aid the local communities by sharing in the costs of construction projects. To encourage the adoption of water quality standards for all waters within a state, the federal share of the cost of a project will be increased to 50 percent if the state agrees to: (1) pay at least 25 percent of the costs of all projects within the state, and (2) set enforceable water quality standards for the waters into which the project discharges.[37] The total federal grant will be further increased by ten percent of the amount of the grant if the project conforms

[32] Letter from John R. Thoman, Director, Southeast Region, Federal Water Pollution Control Administration, to the *U.C.D. Law Review*, Jan. 15, 1968.

[33] 1 U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, THE COST OF CLEAN WATER 9 (1968).

[34] FWPCA § 8b(1).

[35] FWPCA § 8b(2).

[36] FWPCA § 8b(6). Dollar ceilings on these grants were removed by § 203 of the Clean Water Restoration Act of 1966, 80 Stat. 1246 (1966).

[37] FWPCA § 8b(7). This incentive was added by § 203 of the Clean Water Restoration Act of 1966, 80 Stat. 1246 (1966).

HeinOnline 1 U.C.D. L. Rev. 76 1969

to a comprehensive metropolitan plan.[38] Thus, it is possible for a community to receive a maximum of 55 percent of the cost of a project from the federal government and 25 percent from the state government, leaving only 20 percent of the costs to be borne by the local taxpayers.

Because project costs are constantly rising, backlogs of needed facilities are increasing, obsolescence is overtaking existing facilities, and more effluents are being discharged, the federal program encourages immediate construction without waiting for federal assistance. The Act provides for reimbursement to agencies which begin projects with inadequate or no federal aid.[39]

The Act authorizes 450 million dollars in waste treatment construction grants for fiscal 1968, 700 million dollars for fiscal 1969, one billion dollars for fiscal 1970, and one and one-quarter billion dollars for fiscal 1971.[40] Actual appropriations have fallen well short of the authorized amount. For fiscal 1968 only 203 million was actually appropriated[41] and this figure was subject to further reduction by a joint resolution designed to curtail federal spending.[42] The fiscal 1969 appropriation was only 214 million dollars, less than a third of the authorization.[43] Fears of mounting inflation and Viet Nam War spending account for the rather drastic curtailment in federal expenditures for water pollution control.[44]

Over seven thousand municipal waste treatment works have been constructed or expanded with federal assistance. The total cost of these projects was nearly four billion dollars of which 800 million dollars was contributed by the federal government.[45] Clearly, the federal grants have inspired increased spending by the state and local governments well out of proportion to the federal funds spent.

An example of the impact of the construction grant program is the Willamette River Basin in Oregon. Here, in accordance with a plan to clean up the entire river basin, the federal government has paid nearly five million

[38] FWPCA § 8f. Most states are taking full advantage of the various incentives. *See* 2 CCH WATER CONTROL NEWS No. 31, at 10–11 (Dec. 18, 1967).

[39] FWPCA § 8c. *See also Hearings on Water Pollution Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works,* 89th Cong., 1st Sess., pt. 1, at 10 (1965).

[40] FWPCA § 8d. Authorizations, appropriations, and expenditures for past years can be found in 1 CCH WATER CONTROL NEWS No. 20, at 15 (Oct. 3, 1966). The first $100 million is allotted to the states on a combined population-per capita income basis. Additional funds, if available, are allotted strictly according to population. FWPCA § 8c. *See also* 18 C.F.R. § 601.21–601.33 (1968).

[41] 81 Stat. 471 (1967). *See also 1967 Hearings* 36–37.

[42] 81 Stat. 662 (1967). *See also* 2 CCH WATER CONTROL NEWS No. 35, at 4 (Jan. 15, 1968).

[43] 82 Stat. 705 (1968). For a breakdown by state of the appropriation see 3 CCH WATER CONTROL NEWS No. 13, at 2–3 (Aug. 13, 1968). The Federal Water Pollution Control Administration has requested a total budget of $305,972,000 for fiscal 1970. This figure is less than a fourth of the total authorized for waste treatment facilities alone. 1 CCH CLEAN AIR & WATER NEWS No. 5, at 1 (Jan. 28, 1969).

[44] *See* 81 Stat. 662, § 201 (1967); 2 CCH WATER CONTROL NEWS No. 38, at 6 (Feb. 5, 1968).

[45] U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, A NEW ERA FOR AMERICA'S WATERS 11 (1967).

HeinOnline 1 U.C.D. L. Rev. 77 1969

dollars in grants for the construction of waste treatment facilities. These grants offset the total costs to the communities by 22 percent.[46] Grants of this type are available to state, municipalities, and interstate and intermunicipal agencies.[47]

b. Program Grants

Under the FWPCA the primary responsibility for cleaning up the nation's waters is left to state and local authorities.[48] Although the current program is a compromise between no federal intervention and complete preemption, it represents sound reasoning. If the federal government were to administer the water pollution control programs at the lowest levels it would require a force of personnel at least equal to the sum of all state, interstate, and local pollution officials. Furthermore, displacing existing personnel, who are familiar with the circumstances at the lower levels of operation, would make no sense. For these reasons the federal program is designed to bolster the existing state and local agencies and to promote expansion of their pollution control efforts. In accordance with this policy the FWPCA provides financial assistance to state and interstate agencies to defray some of the costs of developing and expanding their water pollution control programs.[49]

In order for a program to receive federal assistance it must first be approved by the Secretary of the Interior.[50] Approval would probably be given if the program provided for the extension or improvement of an agency's existing pollution control program. Programs should contain the agency's plan for the prevention and control of water pollution within its jurisdiction and a statement of how the plan is to be implemented and administered. The Secretary can use the submitted program as a means of coordinating the allocation of other federal grants for the projects encompassed in the program.[51] Agencies are expected to use the federal grant to offset the costs of establishing required water quality standards, improve their existing pollution surveillance systems, and maintain strong enforcement.[52] A large portion of the funds is used to train additional personnel for employment in the state agencies. A recent report indicates a need for over five thousand professional personnel at the state and local levels.[53] The same report recommends that

[46] U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, WILLAMETTE RIVER BASIN: WATER QUALITY CONTROL AND MANAGEMENT 53 (1967).

[47] FWPCA § 8.

[48] FWPCA § 1b.

[49] FWPCA § 7.

[50] FWPCA § 7f.

[51] All construction projects must be included in the comprehensive program in order to be eligible for federal aid. FWPCA § 8b(1).

[52] FWPCA § 7f. The Federal Water Pollution Control Administration has issued guidelines to assist state and interstate agencies in developing comprehensive programs. *See* U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, GUIDELINES FOR PROGRAM PLANS (1967).

[53] *See* U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, MANPOWER AND TRAINING NEEDS IN WATER POLLUTION CONTROL, S. DOC. No. 49, 90th Cong., 1st Sess. 17 (1967).

HeinOnline 1 U.C.D. L. Rev. 78 1969

training of personnel be a primary concern of the states in using program grant funds.[54]

Program grants are allocated to the state agencies under a two-step formula. First, a division is made on the basis of population and financial need. From the funds so allocated, each state receives an amount equal to its "federal share" of the costs of pollution control and prevention measures. The amount of the "federal share" is determined solely on the basis of the state's relative per capita income.[55] Grants to interstate agencies are made on a similar basis taking account of the states involved. For fiscal years 1968–1971 the FWPCA authorizes ten million dollars for program grants.[56] The fiscal 1968 appropriation, equal to the authorization, has been allotted to state (nine million dollars) and interstate (one million dollars) agencies.[57] These federal funds are expected to be matched by over 22 million dollars in state funds and one and one-quarter million dollars from interstate agencies.[58]

c. Research and Demonstration Grants

Because successful control of pollution depends on achieving an advanced state of technology, the FWPCA authorizes grants to promote research in water pollution control.[59] These grants are available to any state, interstate, municipal, or intermunicipal agency for the development of projects that will demonstrate new or improved methods of controlling sewage discharged from combined storm-sanitary sewers.[60] Projects designed to demonstrate advanced methods of treating both municipal and industrial wastes are also eligible for federal grants.[61] Following approval by the state water pollution control agency and the Secretary,[62] the federal government will pay up to 75 percent of the costs of the demonstration project.[63] An example of this type

[54] *Id.* at 37.

[55] The "federal share" will not exceed two-thirds of the costs of the program nor be less than one-third. FWPCA § 7h. *See also* 18 C.F.R. § 601.5 (1968); Hines, *supra* note 30, at 841.

[56] Clean Water Restoration Act of 1966 § 202 amended § 7a of the Federal Water Pollution Control Act to increase the authorization for program grants from $5 million to $10 million. For previous years' appropriations and expenditures see 1 CCH WATER CONTROL NEWS No. 20, at 13–14 (Oct. 3, 1966).

[57] *See* 81 Stat. 471 (1967); 2 CCH WATER CONTROL NEWS No. 41, at 9–11 (Feb. 26, 1968).

[58] *See* 2 CCH WATER CONTROL NEWS No. 41, at 10 (Feb. 26, 1968).

[59] For a discussion of the general aims of water pollution research see McCallum, *The State of Research in Water Pollution and Its Direction in the United States,* in 1 ADVANCES IN WATER POLLUTION RESEARCH xxvii (B. Southgate ed. 1964).

[60] FWPCA § 6a(1). Section 6e(1) and section 5a(2) of the FWPCA permit research to be carried out by municipalities, states, universities, industries, and individuals under contract with the Administration. *See* 2 CCH WATER CONTROL NEWS No. 20, at 5 (Oct. 2, 1967). Fiscal 1968 and 1969 authorizations for combined sewer research projects are $20 million annually.

[61] FWPCA § 6a(2). Grants are made to educational institutions to develop training programs in water pollution control. A limited number of graduate research fellowships are also available. FWPCA § 5a(2)4. *See also* 18 C.F.R. § 601.70–601.125 (1968).

[62] FWCPA § 6c(1).

[63] FWCPA § 6c(2). Projects are selected on the basis of scientific and technical merit. *See* 18 C.F.R. § 601.66 (1968)

HeinOnline 1 U.C.D. L. Rev. 79 1969

of grant is a recent federal contribution to the Orange County, Florida, Department of Water Conservation to conduct field research and evaluate the effectiveness of reaerating surface waters to control pollution.[64] Demonstration grants are also available to private industries whose projects will be of industry-wide application in preventing industrial pollution.[65] Grants to industry have a dollar ceiling of one million dollars or 70 percent of the project cost, whichever is less.[66] An example of this type of grant is a recent contribution to the Crown-Zellerbach Corporation for the construction and evaluation of aerated lagoons for treating ammonia base sulphite liquor discharged from its pulp and paper mill.[67] Information gained through federally supported research projects is expected to be promptly made available to the scientific public. An index to such projects is published by the Federal Water Pollution Control Administration.[68]

d. Grants for Comprehensive Basin Planning

In order to promote a coordinated approach to controlling water pollution in entire river basins, the FWPCA authorizes grants to help pay the administrative expenses of basin planning agencies.[69] The purpose of these planning grants is to support the development of blueprints for pollution control throughout an entire river basin.[70] This program is designed to encourage states, municipalities, and private interests to join in formulating water quality management plans. To qualify for these grants, planning agencies must provide adequate representation for all appropriate interests in the basin and be capable of developing a pollution control plan consistent with the water quality standards established for the basin. Grants are limited to 50 percent of the agency's administrative expenses for a maximum of three years.[71] The appropriation for fiscal 1968 basin planning grants is 500 thousand dollars.[72]

e. Direct Operations

In addition to its program of financial assistance, the FWPCA authorizes

[64] *See* 2 CCH WATER CONTROL NEWS No. 39, at 13 (Feb. 12, 1968).

[65] FWPCA § 6b. For a discussion of the state of technology to abate pollution by industry see page 121 *infra.*

[66] FWPCA §§ 6d(1), 6d(2).

[67] *See* 2 CCH WATER CONTROL NEWS No. 39, at 12 (Feb. 12, 1968).

[68] *See, e.g.*, U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, WATER POLLUTION CONTROL RESEARCH AND TRAINING GRANTS: 1965 INDEX (1967).

[69] The Secretary is directed to encourage the states to form interstate compacts. FWPCA § 4. The regional approach to pollution control offers many advantages if the administrative agency has sufficient powers. *See generally* Hart, *Creative Federalism: Recent Trends in Regional Water Resources Planning and Development*, 39 U. COLO. L. REV. 29 (1966).

[70] FWPCA § 3c(2). "Basin" includes rivers and their tributaries, streams, coastal waters, sounds, estuaries, bays, lakes, as well as the lands drained thereby. FWPCA § 3c(3). The nation has been divided into twenty major basins for purposes of administering program grants.

[71] FWPCA § 3c(1). Grants must be requested by the state governor or the majority of governors if more than one state is to be represented by the planning agency.

[72] 81 Stat. 471 (1967).

HeinOnline 1 U.C.D. L. Rev. 80 1969

certain direct operations to be carried on within the Federal Water Pollution Control Administration.[73] These operations include:

(a) Independent research,
(b) Technical assistance to aid in solving specific pollution problems,
(c) Studies in specific pollution problem areas,
(d) Preparation and development of comprehensive programs for entire river basins,
(e) Training personnel in water pollution control,[74] and
(f) Programs of public information.

Basic and applied research is carried out by the Federal Water Pollution Control Administration staff.[75] At present, research is concentrated in three major areas: development of an advanced means of treating municipal wastes, improvement of methods to identify and measure pollutants, and augmentation of streamflows as a means of controlling pollution.[76] Examples of recent projects include research into problems of fresh water pollution carried on at a new two million dollar laboratory in Duluth, Minnesota,[77] and the launching of a laboratory-ship to conduct on-the-spot studies of estuarial pollution.[78]

Technical assistance is rendered by the Federal Water Pollution Control Administration to both public and private concerns to aid them in solving specific problems of water pollution.[79] A major technical assistance project is now underway on the Columbia River, in cooperation with the Columbia Basin Interagency Committee and the Pacific Northwest River Basins Commission, to develop a means of predicting the impact of hydroelectric projects on water temperature.[80] Technical assistance is also being rendered to assist the states in formulating required water quality standards.

The FWPCA directs the Administration to conduct extensive studies in certain pollution problem areas. Because the Great Lakes are of particular importance to the health and welfare of citizens of many states, a study of

[73] Authority for direct operations is found in FWPCA §§ 3, 5, 16–18. The fiscal 1968 authorization for direct operations is $60 million and for fiscal 1969, $65 million. FWPCA § 5h.

[74] FWPCA § 5a(5).

[75] When research can be conducted more economically and efficiently outside the Administration, contracts and grants are made for the research by institutions, individuals, and public or private concerns. *See generally* 1 CCH WATER CONTROL NEWS No. 50, at 1 (May 1, 1967). Federal research activity has been criticized for its lack of coordination and direction. *See* 1 CCH WATER CONTROL NEWS No. 28, at 6–7 (Nov. 28, 1966).

[76] FWPCA § 5d. *See generally* U.S. DEP'T OF HEALTH, EDUCATION & WELFARE, SYMPOSIUM ON STREAMFLOW REGULATION FOR QUALITY CONTROL (1965).

[77] *See* 2 CCH WATER CONTROL NEWS No. 12, at 2 (Aug. 7, 1967).

[78] This vessel is presently operating off the Atlantic coast. *See* 2 CCH WATER CONTROL NEWS No. 22, at 12–13 (Oct. 16, 1967).

[79] FWPCA § 5b. Technical assistance is rendered on request of a state or interstate water pollution control agency.

[80] *See* U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, NORTHWEST REGION, COLUMBIA RIVER TEMPERATURE STUDY: QUARTERLY REPORT (July–Sept. 1967).

HeinOnline 1 U.C.D. L. Rev. 81 1969

their present and future water quality is underway.[81] These lakes represent the nation's finest source of fresh water and they have been badly polluted by industry and municipalities alike. Several federal abatement conferences have also been held in an effort to save the lakes. Because of the total lack of knowledge concerning the costs of cleaning up the country's waters, a cost estimate study was undertaken.[82] The results of this study will be an invaluable aid in determining the financial needs of communities and industries. A further study is being conducted in the field of estuarial pollution.[83] Pollution of estuaries poses difficult problems because the pollutants remain stagnated in one area and cause harmful changes in the environment of aquatic life. Recently the Administration completed a study of the manpower and training needs in water pollution control to aid in long-range personnel planning.[84] The *Torrey Canyon* disaster prompted a recently completed study of the problem of waste discharged from watercraft.[85] This report will be used by Congress to determine the need for further legislation to control avoidable spills from watercraft. Finally, the Administration is studying the feasibility of offering federal incentives to industry as a means of controlling industrial pollution in response to suggestions that some form of federal assistance should be given to the private sector to offset the costs of pollution control.[86]

To achieve a cleanup of entire river basins, the Federal Water Pollution Control Administration is working with state and local agencies to develop basin-wide pollution control programs.[87] This includes encouraging the formation of basin planning agencies, advising the state and local authorities on necessary steps to be taken to abate the pollution in the basin, and participation in federal interagency planning of all federal water resource projects.[88] Basin projects are now underway in thirteen of the nation's major river basins. These include the Mississippi, Missouri, Columbia, and Ohio River basins.

---

[81] FWPCA § 5f. Secretary of the Interior Stewart Udall states: "The Great Lakes represent the finest freshwater resource that this Nation has. The lakes are in trouble." U.S. DEP'T OF THE INTERIOR, *supra* note 14, at 7. *See also* F. Moss, *supra* note 4, at 55–59.

[82] Authority for this study is found in FWPCA § 16a. The study has been completed and consists of three parts. Part one is a general estimate of the costs of pollution. Part two provides a detailed analysis of those costs. Part three is an inquiry into the costs of waste treatment in ten major industries. *See* 2 CCH WATER CONTROL NEWS Nos. 37, 44, 48, 52; 3 CCH WATER CONTROL NEWS No. 6, at 9–10 (June 24, 1968).

[83] Plans for conducting this study have been made. *See* 2 CCH WATER CONTROL NEWS No. 17, at 2 (Sept. 11, 1967). *See also* F. Moss, *supra* note 4, at 62–63.

[84] *See* U.S. DEP'T OF THE INTERIOR, *supra* note 53.

[85] *See* U.S. DEP'T OF THE INTERIOR, WASTES FROM WATERCRAFT, S. DOC. No. 48, 90th Cong., 1st Sess. (1967). Legislation is pending which would require installation of sanitation devices on vessels. *See* S. 544, 91st Cong., 1st Sess. (1969).

[86] FWPCA § 18. For a discussion of incentives to assist industry to control its pollution see page 133 *infra*. *See generally* 1967 *Hearings* 45–47.

[87] FWPCA § 3a.

[88] U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, PROGRAM OF THE FEDERAL WATER POLLUTION CONTROL ADMINISTRATION 17 (1967).

HeinOnline 1 U.C.D. L. Rev. 82 1969

2. Other Sources of Federal Assistance

Although the FWPCA constitutes the largest source of assistance, various other federal agencies carry on programs relating to water pollution control. Grant or loan assistance is available for constructing waste treatment facilities and sewer systems under the Housing and Urban Development Act of 1965,[89] the Public Works and Economic Development Act of 1965,[90] the Appalachian Regional Development Act of 1965,[91] and the Act of October 7, 1965,[92] amending the Consolidated Farmers Home Administration Act of 1961. Considerable confusion has developed because of a lack of coordination among the various federal agencies in processing applications for financial assistance.[93] Local officials cannot be sure what programs are available or what programs have the best chance of being funded. Further, acceptance or rejection of applications is subject to frequent delays in processing.[94]

Other programs of research and planning assistance are carried on under the Public Health Service Act,[95] the Water Resources Research Act of 1964,[96] the National Science Foundation Act,[97] the Solid Waste Disposal Act,[98] the Demonstration Cities and Metropolitan Development Act of 1966,[99] and the Water Resources Planning Act.[100]

B. Federal Sanctions

Although the principal federal approach to water pollution control has been to provide financial and technical assistance, the federal program includes certain sanctions which are used when cooperation fails. Formal sanctions range from criminal statutes prohibiting water pollution to procedures

[89] 79 Stat. 490 (1965), 42 U.S.C. § 3102(a) (Supp. II, 1965–1966). This program primarily benefits communities of less than 50 thousand population. *See* 1 CCH WATER CONTROL NEWS No. 50, at 4–5 (May 1, 1967).

[90] 79 Stat. 554 (1965), 42 U.S.C. § 3136 (Supp. II, 1965–1966). In fiscal 1966, 250 projects were approved for a total federal investment of $131.9 million. 1 CCH WATER CONTROL NEWS No. 34, at 10 (Jan. 9, 1967).

[91] 79 Stat. 16 (1965), 40 U.S.C. § 214 (Supp. II, 1965–1966). These grants may be combined with grants under the FWPCA. *See* 1 CCH WATER CONTROL NEWS No. 30, at 13–14 (Dec. 12, 1966).

[92] 79 Stat. 931 (1965), 7 U.S.C. § 1926(a) (Supp. II, 1965–1966). Eligibility requirements are found in 1 CCH WATER CONTROL NEWS No. 40, at 7 (Feb. 20, 1967).

[93] *See* NATIONAL ASSOCIATION OF COUNTIES, COMMUNITY ACTION PROGRAM FOR WATER POLLUTION CONTROL 116–17 (1967). An interagency council has been formed to work out a means of coordinating federal assistance programs. 2 CCH WATER CONTROL NEWS No. 29, at 6 (Dec. 4, 1967). *See also 1967 Hearings* 47–56.

[94] *See 1967 Hearings* 66–67.

[95] 58 Stat. 691 (1944), as amended, 42 U.S.C. § 241 (1964).

[96] 78 Stat. 329 (1964), as amended, 42 U.S.C. §§ 1961–1961c-6(1964). Fiscal 1968 projects have been selected. 2 CCH WATER CONTROL NEWS No. 1, at 10 (May 22, 1967).

[97] 64 Stat. 149 (1950), as amended, 42 U.S.C. §§ 1861–81 (1964).

[98] 79 Stat. 997 (1965), 42 U.S.C. §§ 3258–59 (Supp. II, 1965–1966).

[99] 80 Stat. 1255 (1966), 42 U.S.C. §§ 3301–74 (Supp. II, 1965–1966).

[100] 79 Stat. 244 (1965), 42 U.S.C. §§ 1962–1962d-7 (Supp. II, 1965–1966). Forty-eight states will receive planning assistance grants in fiscal 1968 for a total federal expenditure of over $2 million.

HeinOnline 1 U.C.D. L. Rev. 83 1969

designed to force cooperation. Perhaps the most effective sanction, using public opinion to pressure a stubborn polluter to clean up, is nowhere written in the federal laws. Former Interior Secretary Udall has suggested that whenever an industry fails to cooperate or whenever a city fails to pass needed bond issues without valid reasons, it should be placed on a "filthy industry" or "filthy city" list which would be communicated to the nation. This so-called "pitiless publicity" is designed to embarrass an industry or a city into acting to control its pollution.[101] For example, when neither federal nor state efforts were succeeding in convincing the people of Kansas City, Missouri, to pass a needed bond issue for the financing of waste treatment facilities, the combined efforts of radio, television, newspapers, and interested citizens were able to convince the people to approve the issue.[102]

1. Federal Water Pollution Control Act: Jurisdiction

Pollution of any interstate or navigable water that also endangers the health or welfare of any person is subject to abatement under the FWPCA,[103] as is pollution which originates in a tributary of these waters.[104] "Interstate waters" is broadly defined in the act to include all rivers, lakes, and other waters which flow across or form part of a state boundary.[105] Coastal waters are also included[106] but there is some disagreement as to the scope of this term. The federal government insists that the term includes bays and estuaries, whereas an alternative definition would limit the term to the open sea.[107]

"Pollution" is not defined in the FWPCA. However, the federal position is probably consistent with the definition in the Suggested State Water Pollution Control Act which defines pollution as any actual or potential interference with the legitimate uses of the water.[108] To show "endangering" pollution, the federal government would not be required to wait for an actual consequence of the pollution.[109] Thus, for example, the government would

[101] *See* U.S. DEP'T OF THE INTERIOR, *supra* note 14, at 83–84.

[102] *See* LEAGUE OF WOMEN VOTERS, *supra* note 3, at 40–45; F. GRAHAM, *supra* note 13, at 146–47.

[103] FWPCA § 10a.

[104] *Id.*

[105] FWPCA § 13e.

[106] *Id.*

[107] The federal government and California disagree as to the definition of coastal waters. The federal position is that coastal waters include all inland waters in which the ebb and tide flows. California argues that only the waters beyond the low mark of the sea are coastal waters. *See Hearings on Water Pollution—Central and Northern California Before a Subcomm. of the House Comm. on Government Operations,* 90th Cong., 1st Sess. 39–50 (1967).

[108] U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, SUGGESTED STATE WATER POLLUTION CONTROL ACT ix (Rev. ed. 1965). This definition is reinforced by the fact that the FWPCA requires the Secretary to find that pollution affects the legitimate uses of the water before acting in cases in intrastate pollution. FWPCA § 10d(1).

[109] " 'Endanger the safety' is a common expression to signify jeopardy without actual injury inflicted." Marchese v. United States, 126 F.2d 671, 674 (1942). *See also* U.S. DEP'T OF HEALTH, EDUCATION, & WELFARE, PUBLIC HEALTH SERVICE, TRANSCRIPT OF HEARING, POLLUTION OF INTERSTATE WATERS: MISSOURI RIVER 414–15(1959).

HeinOnline 1 U.C.D. L. Rev. 84 1969

be able to establish jurisdiction without awaiting an epidemic or fish-kill. The fact that pollution must endanger a person's health or welfare is not a significant limitation on the federal jurisdiction. Although neither "health" nor "welfare" is defined in the act, in light of its broad definition of "persons" to include inanimate entities, injury to health or welfare includes economic injury and is not limited to physical injury.[110] Furthermore, a person's "welfare" could be endangered merely because he is unable to enjoy recreational activities because of the pollution.

Despite the broad jurisdictional base, the federal government is limited in its authority by procedural restraints. First, federal authority is limited in cases of intrastate pollution, that is, cases in which the pollution does not endanger persons in another state. Second, abatement proceedings involve three steps: a conference, a public hearing, and court action.[111] These formalities can limit the effectiveness of federal power because they are time-consuming and cumbersome.

Federal abatement proceedings can originate under any of the following circumstances.

a. Interstate Pollution: Federal Initiative

The Secretary must call a conference when, on the basis of his own reports, surveys, or studies, he has reason to believe that pollution of an interstate or navigable waterway is occurring and that the pollution is endangering the health or welfare of persons in a state other than that in which the discharges are originating.[112] If neither the conference nor the subsequent hearing suffices to secure abatement, the Secretary may, in his own discretion, request the United States Attorney General to institute court action.[113] The FWPCA does not make provision for a polluter to seek judicial intervention. However, by failing to abate, the polluter could usually generate court action.

b. Shellfish Contamination: Federal Initiative

The Secretary must call a conference when he finds that pollution is causing substantial economic injury because of inability to market shellfish or shellfish products in interstate commerce.[114] The Secretary's finding does not have to be based upon his own independent investigation, but may be based upon an order of contamination by another governmental authority.[115] The pollution must, however, be occurring in an interstate or navigable water. Under this authority, the Secretary may use the conference and hear-

[110] FWPCA § 10j(1). *See also* Gindler, *Federal Water Quality Control,* IN 3 WATER & WATER RIGHTS 375–76 (R. Clark ed. 1967).

[111] For a detailed discussion of the abatement procedures see text accompanying notes 137–74 *infra.*

[112] FWPCA § 10d(1). This type of pollution is referred to as interstate pollution. Twenty-four such actions had been initiated by the federal government as of July, 1967. *See* U.S. DEP'T OF THE INTERIOR, *supra* note 88, at 24–29.

[113] FWPCA § 10g(1).

[114] FWPCA § 10d(1). Pollution of shellfish beds can cause economic harm and create health hazards. *See* F. GRAHAM, *supra* note 13, at 85–106.

[115] *See* FWPCA § 10d(1).

HeinOnline 1 U.C.D. L. Rev. 85 1969

ing stages of the abatement proceedings.[116] However, the pollution would have to be endangering the health or welfare of persons in another state before he could initiate court action without the written consent of the governor of the state in which the pollution is occurring.[117] A finding of interstate effect should not be difficult, however, since the pollution would be endangering the economic welfare of persons in another state because of the inability to market the shellfish.[118]

c. Interstate Pollution: State Initiative

The Secretary must call a conference if he is requested to do so by the governor of any state, or by a state pollution control agency (with the concurrence of the governor) or by a municipality[119] (with the concurrence of both the state pollution control agency and the governor). The request must refer to pollution of interstate or navigable waters which is endangering the health or welfare of persons in a state other than that in which the discharges are occurring.[120] Acting under such a request the Secretary is authorized to use all three stages in the federal abatement procedure.[121] As of July, 1967 eight such requests had been made to the Secretary.[122]

d. International Pollution: Federal Initiative

The Secretary must call a conference whenever pollution is endangering the health or welfare of persons in a foreign country and he is requested by the United States Secretary of State to abate it.[123] The Secretary of the Interior will not abate the pollution unless he determines that the foreign country is also doing its part to abate pollution emanating from that country.[124] Although a unilateral abatement would reduce the pollution, bilateral pollution elimination is felt to be the more logical objective. Clearly, both the conference and hearing proceedings are available to the Secretary in cases of international pollution; however, it is not clear that he has the authority to initiate court action against the polluter. Before suit may be brought, a finding that the pollution is endangering the health or welfare of persons in another *state* is required.[125] "State" is defined to include only the states, the District of Columbia, Puerto Rico, the Virgin Islands, and Guam.[126] Thus pollution which only endangered persons in Canada or Mexico would not

[116] This is true even though the Act and the regulations promulgated by the Secretary seem to envisage the use of a public hearing only in cases of interstate pollution. *See* FWPCA § 10f(1); 18 C.F.R. §§ 606.1–606.13 (1967).

[117] FWPCA § 10g(2).

[118] The Secretary has made use of this shellfish provision to institute abatement proceedings. *See 1967 Hearings* 33.

[119] FWPCA § 10d(1). "Municipality" is defined as any city, town, borough, county, parish, district, or other public body created pursuant to state law. FWPCA § 10j(2).

[120] FWPCA §§ 10a, 10d(1).

[121] FWPCA § 10g(1).

[122] U.S. DEP'T OF THE INTERIOR, *supra* note 88, at 24–29.

[123] FWPCA § 10d(2). For a discussion of international pollution see Brown, *Legal Implications of Boundary Water Pollution*, 17 BUF.L.REV. 65(1967).

[124] FWPCA § 10d(2).

[125] *See* FWPCA § 10g(1).

[126] FWPCA § 13d.

HeinOnline 1 U.C.D. L. Rev. 86 1969

be interstate pollution under the present definition. It seems clear that Congress intended to fully remedy the problems of international pollution.[127] Therefore specific authorization for court action should be added to the FWPCA.

e. Intrastate Pollution: State Initiative

The Secretary must call a conference in cases of intrastate pollution if he is requested to do so by the governor of the state,[128] but he cannot act on his own initiative if the pollution is wholly intrastate and does not affect the marketing of shellfish in interstate commerce or violate federal water quality standards.[129] The pollution must be occurring in interstate or navigable waters and endanger the health or welfare of persons. It must also be of sufficient significance to warrant federal intervention.[130] Only the conference and hearing proceedings may be used by the Secretary unless the state governor also consents to the use of court action.[131] As of July 1967 only five such invitations have been received and no court proceedings have been requested.[132]

f. A Critique of Jurisdictional Limitations

In summary, federal initiative is generally limited to cases of interstate pollution.[133] There is no persuasive reason for such a limitation.[134] It cannot rest on the Constitution, since federal power to regulate even intrastate pollution of navigable waters seems clear.[135] Nor can it rest on the rationale that intrastate pollution has less severe effects than interstate pollution. For example, the Klamath River in Oregon is badly polluted by the lumber industry, yet because the water is impounded in a reservoir at the California border and the pollution settles out, the federal government is powerless to initiate abatement actions. However, since states are also legitimately engaged in pollution control, and since they have primary responsibility for intrastate affairs, federal intervention in purely intrastate pollution problems should probably await a finding that the state and local authorities are unable or unwilling to act. The present requirement that the governor of the affected state must consent, criticized by one authority as a mere formality,[136] probably should be supplemented by a provision for federal intervention after

[127] *See Hearings on Water Pollution—1966 Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works*, 89th Cong., 2d Sess. 435–40 (1966) [hereinafter cited as *1966 Hearings*].

[128] FWPCA § 10d(1).

[129] This represents a rather large exception. *See* text accompanying notes 201–09 *infra*.

[130] FWPCA § 10d(1).

[131] FWPCA § 10g(2).

[132] *See 1966 Hearings* 435.

[133] For a discussion of the prospects of finding interstate pollution emanating from Hawaii see Kaito, *The Federal Water Pollution Control Act as Applied to the City and County of Honolulu*, 1 NATURAL RESOURCES LAW. 70 (1968).

[134] *See 1966 Hearings* 125–27, 436–38.

[135] *See* Edelman, *supra* note 15, at 1074.

[136] *See* Kaito, *supra* note 133, at 73–75 (failure to consent would likely result in the cutoff of federal funds).

HeinOnline 1 U.C.D. L. Rev. 87 1969

a finding of state inactivity. Even in such a case the first federal step could be a conference designed to give the state and local authorities a final opportunity to act on their own.

2. Federal Water Pollution Control Act: Abatement Proceedings

Once federal jurisdiction has been established, the next step is federal abatement proceedings. Because of congressional reluctance to permit the federal government to preempt the field of water pollution control,[137] rather cumbersome proceedings are followed in bringing a federal abatement action. These proceedings are designed to permit the state and local authorities to exercise their powers, while at the same time recognizing that the federal government must have adequate power in reserve to bring the abatement action to a successful conclusion should state and local authorities fail to act effectively. Pollution abatement under the FWPCA is generally a three-step process, proceeding from conference to hearing and ultimately to court.

a. First Step: Conference

With but one exception,[138] federal abatement of a water pollution problem begins with a conference. The conference brings together the various state and local pollution control authorities concerned with the specific pollution problem and representatives of the federal government.[139] At the conference, the federal government presents results of investigations carried out by the Federal Water Pollution Control Administration. These would consist of exhibits and testimony concerning the nature of the pollution and its sources.[140] In the face of objective scientific data there is usually no question about the condition of the water. Thus the issue is, what is being done and what must be done to eliminate the pollution? A major problem raised in defense by municipal officials is the financing of treatment facilities. Funding such projects usually requires a public election to authorize the sale of bonds. Thus the conferees are faced with the task of convincing the people to tax themselves. Members of the private sector are also invited to make a statement to the conferees concerning their pollution activities. Such a statement may be required by a vote of the majority of the conferees.[141] In addition to submission of scientific data regarding effluent discharges, an industry may

[137] "In connection with the exercise of jurisdiction over the waterways of the Nation and in consequence of the benefits resulting to the public health and welfare by the prevention and control of water pollution, it is hereby declared to be the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of the States in preventing and controlling water pollution . . . ." FWPCA § 1b. *See also* Hines, *supra* note 30, at 849–50.

[138] Federal abatement procedures are modified in cases of water quality standards violations. The conference and hearing stages are eliminated. *See* text accompanying notes 201–09 *infra*.

[139] FWPCA § 10d(1). If the pollution affects a foreign country, that country may also be invited to send a delegate to the conference. FWPCA § 10d(2).

[140] *See* F. GRAHAM, *supra* note 13, at 55–59.

[141] The conferees cannot demand information that would require the witness to reveal trade secrets or secret processes. FWPCA § 10k.

HeinOnline 1 U.C.D. L. Rev. 88 1969

state what it is doing to abate its own pollution and the problems it is encountering in doing so.[142]

The objective of the conference is to devise a schedule of the steps necessary to abate the pollution. The schedule will usually set deadlines for the completion of any additional studies of the problem, any necessary bond elections, and construction of waste treatment facilities. It is the duty of the Secretary, at the conclusion of the conference, to recommend to each pollution control agency the necessary remedial actions to be taken.[143] However, since his department is the controlling force at the conference, the recommendations are usually those of the conferees.[144] Following receipt of the Secretary's formal recommendations each agency is given at least six months to take effective steps toward the abatement of the pollution.[145] The federal government will often reconvene a conference at periodic intervals to check the progress being made under the schedule.[146] If the Secretary believes that the recommended remedial steps are not being taken he must call for a public hearing, the second stage in the federal enforcement procedure.[147] For example, a public hearing may be convened if a city fails to hold a bond election or pass a necessary bond issue or if state authorities are unable to force compliance by private polluters.[148] As of July, 1967 only four federal enforcement actions have proceeded beyond the conference stage.[149] This attests either to the remarkable success of the conference technique or a lack of aggressiveness on the part of the federal authorities. Both conclusions are probably partly true. A good deal of progress has been made toward the abatement of some of the nation's toughest pollution areas. It is also a fact, however, that some enforcement actions have been going on for over eight years and have not proceeded beyond the conference stage. Fearful of sapping state initiative, the federal government has only reluctantly proceeded beyond the conference stage.

b. Second Step: Hearing

The public hearing is conducted in a manner not unlike formal litigation.[150] Witnesses testify under oath and exhibits are received into evidence. Hearings are conducted at a location near the source of the pollution problem[151]

[142] *See* F. GRAHAM, *supra* note 13, at 52–84.

[143] FWPCA § 10e.

[144] Address by Murray Stein, Former Assistant Commissioner for Enforcement, Federal Water Pollution Control Administration, Iowa Division of the Izaak Walton League of America, June 10, 1967.

[145] FWPCA § 10e.

[146] For example, five conferences have been held regarding the pollution of the Colorado River. *See* U.S. DEP'T OF THE INTERIOR, *supra* note 88, at 25.

[147] FWPCA § 10f(1).

[148] This case involved the pollution of the Missouri River. The hearing was actually requested by the Missouri Water Pollution Board. *See* F. GRAHAM, *supra* note 13, at 69.

[149] U.S. DEP'T OF THE INTERIOR, *supra* note 88, at 24–29.

[150] Procedures followed in public hearings are found in 18 C.F.R. §§ 606.1–606.13 (1968).

[151] FWPCA § 10f(1).

HeinOnline 1 U.C.D. L. Rev. 89 1969

and, since press coverage is encouraged, the public can be alerted to the scope of local pollution problems.

These hearings are conducted before a board consisting of at least five members.[152] Each state which causes or contributes to the pollution may select one member of the board, and each state adversely affected by such pollution may select one member.[153] Another member of the board represents the Department of Commerce[154] and one member may be a representative of the Department of Health, Education, and Welfare.[155] The Secretary may select further members of the board so long as a majority of the board is not representing the Department of the Interior.[156] Generally, the board is dominated by state representatives, consistent with the federal attitude that the states have the primary responsibility for pollution abatement. Sitting as a quasi-judicial body, the board hears evidence presented by the federal government concerning the nature of the pollution, the sources of the pollution, and the failure of action being taken to abate it.[157] The government presents its case through expert testimony of chemists, biologists, and engineers as well as by testimony of visual observations made by its investigators.[158] The polluters are allowed to present any evidence in support of their position and in rebuttal to government evidence. Witnesses are subject to cross-examination by the opposing party and the hearing board.[159] On the basis of all the evidence presented, the board makes findings as to the occurrence of the pollution and whether effective measures are being taken to abate it. In addition, the board submits its recommendations for remedial action to the Secretary, the state pollution control agencies, and the polluters.[160] Parties are also notified of the time allotted to secure an abatement of the pollution. At least six months must be allowed.[161] If the polluters, be they municipalities or industries, fail to comply with the recommendations of the hearing board within the allotted time, the Secretary may, in cases of interstate pollution, request the United States Attorney General to initate court action.

c. Third Step: Court

Resort to court action is within the discretion of the Secretary, and prose-

[152] FWPCA § 10f(1).

[153] FWPCA § 10f(1).

[154] FWPCA § 10f(1).

[155] Reorganization Plan No. 2 of 1966, 80 Stat. 1608 (1966), permits the Secretary of Health, Education, and Welfare to select a member of the hearing board if he so desires. This member of the board is concerned with the health aspects of the pollution problem.

[156] FWPCA § 10f(1).

[157] FWPCA § 10f(1).

[158] *See generally* U.S. DEP'T OF HEALTH, EDUCATION, & WELFARE, *supra* note 109.

[159] *See* 18 C.F.R. § 606.10d (1968). The Secretary may require an alleged polluter to file a report of his discharges. Failure to file a requested report is punishable by a fine of $100 per day of delay. FWPCA § 10f(2)–(3).

[160] FWPCA § 10f(1). Should a party fail to appear before the board, action that affects him may still be taken. 18 C.F.R. § 606.8e (1968).

[161] FWPCA § 10f(1).

HeinOnline 1 U.C.D. L. Rev. 90 1969

cution is within the discretion of the United States Attorney General.[162] Only when all efforts toward good faith compliance have failed is judicial intervention sought by the Secretary. To date, there has been only one pollution case carried to the courts under the FWPCA. The case involved the city of St. Joseph, Missouri, and has proceeded as far as the issuing of orders, without trial, by the Federal District Court.[163] The basic problem confronting the court was the appropriate remedy should the city voters continue to reject bond issues necessary to finance treatment facilities. The court concluded that should its orders be disobeyed, it had the power to impose an accumulating fine on the city for contempt.[164] As the case now stands, the city is under court order to abate its pollution and satisfactory progress is being made toward that end. Over 70 percent of the ordered sewage treatment projects have been completed and the rest are under construction.[165] The existence of this one case can serve to warn polluters that the federal government can and will pursue a case through the courts in order to attain a satisfactory solution. In prosecuting its anti-pollution action, the government has the difficult burden of proving the existence of the pollution and that it emanates from the defendant. [166] This is done in part by submitting the transcript and recommendations of the hearing board into evidence. The court may also consider additional evidence. In formulating its orders, the court is granted broad discretion under the FWPCA. It must consider the physical and economic feasibility of securing an abatement.[167] Thus the court may order that the defendant comply with a schedule of abatement, but it is not required to order an immediate halt to the pollution activities.

The present three-step federal abatement procedure obviously limits the effectiveness of federal authority in the field. Polluters can enjoy at least a one-year respite before the government can prosecute an action. Rather than the two six-months minimum waiting periods, perhaps it would be more reasonable to allow the Secretary to determine the time necessary to secure an abatement. With this power, he could act as soon as he feels that effective progress is not being made.[168] Also, when pollution presents itself in the form of an immediate threat to the public health or to aquatic life, the Secretary should have emergency powers to prosecute the polluters after a short

[162] FWPCA § 10g.

[163] United States v. City of St. Joseph, No. 1077, W.D. Mo., October 31, 1961. For the background of this case see F. GRAHAM, *supra* note 13, at 52–84.

[164] *See* United States v. City of St. Joseph, No. 1077, W.D. Mo., Transcript of Conference (Nov. 18, 1960). The government based its argument on the Supreme Court decision in New Jersey v. New York City, 290 U.S. 237 (1933). In that case the defendant was enjoined from dumping garbage into the waters, subject to a $5000 fine for each day of its failure to comply.

[165] United States v. City of St. Joseph, No. 1077, W.D. Mo., Transcript of Proceedings (Mar. 27, 1967).

[166] Preparation of a water pollution case has been analogized to the complex antitrust cases. *See Hearings on Water Pollution Before the Special Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works,* 89th Cong., 1st Sess., pt. 1, at 115 (1965).

[167] FWPCA § 10h.

[168] *See 1966 Hearings* 111.

HeinOnline 1 U.C.D. L. Rev. 91 1969

notice period.[169] Thus the pollution could be enjoined with no unnecessary delay. During the notice period the state and local authorities could take swift action and thus avoid any federal intervention. The threat of a swift federal prosecution would be a powerful preventive weapon against a polluter, and if it were used only after state and local authorities failed to act there could be no legitimate claim of federal preemption. In short, the conciliatory nature of the present federal abatement procedures should give way to the public interest in securing a halt to pollution.

Despite the rather cumbersome nature of the federal abatement proceedings, they have had considerable success. As of July, 1967 forty-two separate enforcement conferences have been convened. These actions were aimed at some of the nation's worst pollution situations, which included the Missouri River,[170] Raritan Bay,[171] and the Mississippi River.[172] A total of over seven thousand miles of waterway are being cleaned up as a result of federal enforcement actions. Also, more than one thousand municipalities and twelve hundred industries have been forced to abate their pollution as a result of the current cooperative approach.[173] In the future, the present general enforcement procedures will diminish in their importance because of the availability of streamlined procedures to abate pollution which violates federal water quality standards.[174]

C. Federal Water Pollution Control Act: Water Quality Standards

In addition to the general pollution abatement proceedings discussed above, the FWPCA provides for water quality standards.[175] The Water Quality Act of 1965[176] amended the FWPCA to require the states to set enforceable water quality standards for all interstate waters or portions thereof. Before the 1965 enactment there was much debate about whether the federal government should attack water pollution directly through the use of receiving water standards,[177] and there was a fear that federal standards would be uniformly set for the nation without sufficient consideration of each river's natural condition and the uses to which it is put.[178] It was also believed that national water quality standards would stifle the economic development of many areas by imposing an inflexible standard that could not be changed to permit new industry on the waterway. Furthermore, many felt that federal standards would mean the end of state and local control

[169] *See 1966 Hearings* 111, 116.

[170] *See* F. GRAHAM, *supra* note 13, at 52–84 (case history).

[171] *See id.* at 84–106 (case history).

[172] *See id.* at 107–35 (case history).

[173] A total of over $10 billion will be spent by public and private entities to comply with the enforcement recommendations. *See 1966 Hearings* 441–49. See also U.S. DEP'T OF THE INTERIOR, *supra* note 88, at 24–29.

[174] *See* text accompanying notes 201–09 *infra*.

[175] FWPCA § 10c.

[176] § 5, 79 Stat. 903.

[177] *See generally Hearings on Water Quality Act of 1965 Before the House Comm. on Public Works*, 89th Cong., 1st Sess. (1965).

[178] *See* CONG. Q. WEEKLY REP., *supra* note 10, at 283.

HeinOnline 1 U.C.D. L. Rev. 92 1969

of water pollution.[179] The forces which advocated the use of federal standards maintained that they would provide a means of preventing pollution because each potential polluter would know what is required of him.[180] They also argued that federal standards could eliminate the earlier case-by-case attack on pollution by requiring water quality control across the board on interstate waters.[181] National standards would also eliminate most, if not all, of the sanctuaries in which an industry could relocate should it be dissatisfied with local pollution control laws.[182] Finally, it was felt that a system of national standards would assure those who clean up their pollution that similar action would be taken by all cities and industries along the river.[183] For example, downstream communities justifiably demanded that the upstream cities and industries halt the pollution of the Missouri River before taking action to abate their own pollution. The theory was that if Omaha was to be permitted to pollute, Kansas City and St. Joseph should not be forced to pay the entire cleanup bill.[184]

The advocates of federal water quality standards prevailed by compromise. As will be seen, federal standards are a reality but, in deference to those who feared a federal takeover, the states are given the opportunity to set them, and federal enforcement of these standards is limited.

Section 10c of the FWPCA requires each state to set enforceable water quality standards for every portion of an interstate waterway within its jurisdiction.[185] Interstate waters include all rivers, lakes, and other waters that flow across or form part of a state boundary, including coastal waters.[186] The standards-setting process is begun by the states, which are required to submit water quality criteria for all interstate waters to the Secretary.[187] Although the act is not clear, "criteria" is not synonymous with "standard." "Criteria" refers to the scientific characteristics necessary to maintain the water at a quality which permits the desired uses of the water. "Standard" refers to the criteria, coupled with a plan for the implementation and enforcement of the criteria. Thus each state must submit materials that indicate the use to be made of the waters, the criteria necessary to attain that use, a plan that discloses how the state will control its pollution to maintain the desired use, and a description of the measures available to enforce pollution

[179] *Id.*

[180] *See* U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION ADMINISTRATION, WATER QUALITY STANDARDS: QUESTIONS AND ANSWERS 2 (1967).

[181] *Id.*

[182] *Id.*

[183] *See Hearings on Reorganization Plan No. 2 Before a Subcomm. of the House Comm. on Government Operations*, 89th Cong., 2d Sess. 7 (1966). *See also* F. Moss *supra* note 4, at 68–69.

[184] *See* F. GRAHAM, *supra* note 13, at 77.

[185] *See generally* U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, GUIDELINES FOR ESTABLISHING WATER QUALITY STANDARDS FOR INTERSTATE WATERS (rev. ed. 1967).

[186] FWPCA § 13e. *See also* note 107 *supra.*

[187] FWPCA § 10c(1).

HeinOnline 1 U.C.D. L. Rev. 93 1969

violations.[188] The total of these four constitutes the water quality standard. In setting standards, the states must meet two general requirements. First, no waters may have as their designated use the carrying of wastes.[189] Second, the water quality standards must be designed to enhance the present quality of the waters.[190] This second requirement has caused considerable debate. Assume, for example, a given stretch of water is of a very high quality. If standards cannot permit any degradation in quality, industrial development in the area may be stifled. The Secretary has stated that if it can be affirmatively demonstrated that a degradation of water quality is justifiable as a result of necessary economic or social development it will be permitted. Such a change cannot, however, interfere with any of the assigned uses of the water.[191] Once the Secretary receives the state standards he may either approve them as the federal standards,[192] or he may disapprove them and call for a conference with the state authorities.[193] At the conference, the Secretary presents his reasons for not approving the standards and suggests measures to be taken to make the standards acceptable. For instance, the state standards may be lacking because the implementation plan does not call for the construction of secondary treatment facilities necessary for the enhancement of the water quality. After the conference, the Secretary will prepare regulations setting forth what he feels the standards should be.[194] The state is then allowed six months to submit acceptable standards or petition for a public hearing.[195] Should the state fail to do either, the standards proposed by the Secretary will become the federal standards for the waters under consideration.[196] If a timely request is made by the state, a public hearing will be held. A hearing board composed of representatives of each state and federal agency affected by the standards will review the evidence presented and make findings on whether the standards proposed by the Secretary should be approved or modified.[197] If the board concludes that the Secretary's standards are acceptable they become the applicable federal standards.[198] Should the board conclude that the Secretary's standards must be modified, the Secretary must modify them and, as revised, they become the federal standards.[199] The same procedure is followed if the

[188] U.S. DEP'T OF THE INTERIOR, *supra* note 180, at 1–2; 2 CCH WATER CONTROL NEWS No. 50, at 11 (April 29, 1968).

[189] U.S. DEP'T OF THE INTERIOR, *supra* note 185.

[190] The water's use and value for public water supplies, propagation of fish and wildlife, recreational purposes, agricultural, industrial, and other legitimate uses must be considered in setting standards. FWPCA § 10c(3).

[191] *See* 2 CCH WATER CONTROL NEWS No. 39, at 9–10 (Feb. 12, 1968).

[192] FWPCA § 10c(1). The Secretary is assisted in his task of evaluating standards by five National Technical Advisory Committees. *See* 2 CCH WATER CONTROL NEWS No. 10, at 5–10 (July 24, 1967).

[193] FWPCA § 10c(2). All interested persons may attend.

[194] FWPCA § 10c(2).

[195] FWPCA § 10c(4).

[196] FWPCA § 10c(2).

[197] FWPCA § 10c(4).

[198] *Id.*

[199] FWPCA § 10c(2).

HeinOnline 1 U.C.D. L. Rev. 94 1969

Secretary or the governor of any state affected by the standards should later desire a revision.[200]

Once federal standards have been promulgated, any discharge which reduces the water quality below these standards is subject to abatement by a relatively streamlined procedure.[201] Discharges into wholly intrastate tributaries of the interstate waters are likewise subject to abatement if they are causing or contributing to the violation of the federal water quality standards.[202] Under the streamlined procedures, the conference and hearing stages of the general enforcement machinery are dispensed with and, after a 180-day notice period, the Secretary may request the United States Attorney General to institute court action.[203]

Two strict limitations have been placed on the effectiveness of court action. First, the Secretary cannot request it without the consent of the governor of the state in which the discharges are occurring unless the pollution is also endangering the health or welfare of persons in another state.[204] Thus, despite a clear violation of the federal standards, the Secretary cannot act in intrastate pollution situations. Clearly then, the primary benefit of the water quality standards provision is its motivating impact on the states to revise their laws, rather than a broad extension of federal powers, since cases of interstate pollution were already subject to federal abatement.

Second, in any court action brought under the standards provision, the court is given broad powers to review the standards.[205] In such circumstances the government cannot be sure of obtaining a judgment even though it can prove the occurrence of the interstate pollution and a violation of the existing standards. It should be noted, however, that the government could still use the general conference-hearing approach to abate the pollution even though the pollution also violates the water quality standards. Perhaps the law should be amended to deny the court the power to make a complete review of the standards and limit the review to a determination of whether the standards promulgated by the federal government are reasonable.[206] The courts lack the expertise necessary to review water quality standards and therefore should accept a reasonable determination by the experts who established the standards. Limiting judicial review and thereby strengthening federal control in this area would not significantly intrude on the state and local control of water pollution because the 180-day notice period allots them ample time to pursue an abatement action in the state courts.

Despite these limitations, federal water quality standards will have a far-

[200] *Id.*

[201] FWPCA § 10c(5). The Administration makes use of monitoring equipment to check on water quality. A watchful eye is also kept to insure that construction timetables contained in the implementation plan are met. *See* U.S. DEP'T OF THE INTERIOR, *supra* note 180, at 6.

[202] FWPCA § 10c(5).

[203] *Id.*

[204] *Id.*; FWPCA § 10g.

[205] FWPCA § 10c(5).

[206] For a discussion of judicial review of evidence see K. DAVIS, ADMINISTRATIVE LAW TEXT 521–38 (1959).

HeinOnline 1 U.C.D. L. Rev. 95 1969

reaching impact on state pollution control programs. All of the states have had to revise their pollution control programs to ensure that water quality standards are met and maintained.[207] Standards may well be set for intrastate waters in the process of setting standards for interstate waters. Such action is encouraged by the federal government by offering additional financial assistance to states setting standards for intrastate waters.[208]

As of January 1969, five states have not had their standards approved although all states have submitted them.[209] If the states implement and strictly enforce their standards the quality of the nation's waters should be greatly enhanced. However, if the states fail to effectively abate pollution within their respective jurisdictions, the federal government will be forced to assume more authority in the field.

D. Rivers and Harbors Act of 1899

The Rivers and Harbors Act of 1899[210] (Refuse Act) represented the first broad federal legislation relating to the field of water pollution control.[211] Designed primarily to ensure the navigability of the country's developing waterways,[212] it was not formulated to cope with modern pollution.

Jurisdiction under the Refuse Act extends to all navigable waters and their tributaries.[213] Section 10 prohibits the "creation of any obstruction . . . to the navigable capacity of any of the waters of the United States."[214] Section 12 makes any violation of section 10 a misdemeanor and authorizes the use of an injunction to force removal of "any structures or parts of structures."[215] Section 13 makes it unlawful to "throw, discharge, or deposit . . . 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 . . . or into any tributary of any navigable water."[216] Section 13 also prohibits placing material of any kind on the banks of waters if it might be washed into the water and thereby impede or obstruct navigation. Section 16 provides that a violation of section 13 is a misdemeanor,

[207] *See* 2 CCH WATER CONTROL NEWS No. 13, at 7 (Aug. 14, 1967).

[208] *See, e.g.*, FWPCA § 8b(7).

[209] 1 CCH CLEAN AIR & WATER NEWS No. 4, at 1 (Jan. 22, 1969).

[210] 30 Stat. 1151 (1899), 33 U.S.C. §§ 403–04, 406–09, 411–16, 418 (1964) [hereinafter cited as Refuse Act]. The Refuse Act is administered by the Army Corps of Engineers in close cooperation with the Department of the Interior. *See* Memorandum of Understanding Between the Secretary of the Army and the Secretary of the Interior, July 13, 1967.

[211] Other early legislation was limited to the protection of specific waters. *See, e.g.*, Act of August 5, 1886, 24 Stat. 329, superseded by 25 Stat. 209, 33 U.S.C. §§ 441–51 (1964) (still in effect for the protection of New York Harbor); Act of June 23, 1910, 36 Stat. 593, 33 U.S.C. § 421 (1964) (still in effect for the protection of Lake Michigan near Chicago); Act of March 1, 1893, 27 Stat. 507, 33 U.S.C. §§ 661–87 (1964) (still in effect for the protection of the Sacramento and San Joaquin Rivers in California).

[212] *See* Comm'n on Organization of the Executive Branch of the Government, *supra* note 8, at 1221.

[213] Refuse Act § 13, 33 U.S.C. § 407 (1964).

[214] Refuse Act § 10, 33 U.S.C § 403 (1964)

[215] Refuse Act § 12, 33 U.S.C. § 406 (1964).

[216] Refuse Act § 13, 33 U.S.C. § 407 (1964).

HeinOnline 1 U.C.D. L. Rev. 96 1969

punishable by fine, imprisonment, or both.[217] Section 17 states the broad proposition that "the Department of Justice shall conduct the legal proceedings necessary to enforce the [foregoing] provisions . . . ."[218]

Since the provisions specifically exclude sewage in a liquid state from abatement, and speak in terms of impeding or obstructing navigation, it would seem that this law should have very little significance as a pollution control device. However, by judicial interpretation, it has been expanded to cover many instances of modern-day pollution. In *United States v. Republic Steel Corp.*,[219] the Supreme Court held that the discharge of industrial solid wastes suspended in liquid was an obstruction to the navigable capacity of the waters in violation of section 10 and was not saved by the exception of liquid sewage in section 13. The court limited the liquid sewage exception to include only those wastes that would decompose in the water. Injunctive relief was also granted under the broad authority of section 17 despite the absence of such a remedy in section 13. In view of the fact that the court was construing a criminal statute, it was an unusually broad interpretation. The dissenters felt that the statute should have been strictly construed but recognized the need for strong antipollution legislation.[220]

In a more recent case the court held that "refuse" in section 13 means anything not specifically excepted in the law itself.[221] Considering this definition, and the fact that the requirement of an actual obstruction to navigation has been read out of the law,[222] it would seem that it is unlawful to cast a stone into the navigable waters of the United States. Maximum fines of $2,500 may be levied, although a lower court has held a polluter liable for the costs of removing the pollution.[223]

The Refuse Act is an effective means of punishing some polluters; however, it is not the kind of large-scale, preventive legislation needed ultimately to control water pollution. Fines levied under this law can be insignificant to large corporations, and the use of an injunction in isolated instances does not significantly further a planned pollution control effort.

E. Oil Pollution Act of 1924

In 1966 over seven hundred oil spills were reported across the nation and the number of such spills is increasing.[224] Oil pollution is difficult to clean up and can spread across large bodies of water causing problems of considerable magnitude.[225] The Oil Pollution Act of 1924 was designed to deal

[217] Refuse Act § 16, 33 U.S.C. § 411 (1964).

[218] Refuse Act § 17, 33 U.S.C. § 413 (1964).

[219] 362 U.S. 482 (1960).

[220] *Id.* at 493–510.

[221] United States v. Standard Oil Co., 384 U.S. 224, 225–26 (1966) ("We cannot construe § 13 of the Rivers and Harbors Act in a vacuum.").

[222] *See* United States v. Esso Standard Oil Co. of Puerto Rico, 375 F. 2d 621 (3rd Cir. 1967); United States v. Ballard Oil Co., 195 F. 2d 369 (2d Cir. 1952).

[223] United States v. Perma Paving Co., 332 F. 2d 754 (2d Cir. 1964).

[224] U.S. DEP'T OF THE INTERIOR, *supra* note 85, at 54.

[225] For a discussion of the effects of oil pollution see page 174 *infra.*

HeinOnline 1 U.C.D. L. Rev. 97 1969

with this specific problem.[226] This law prohibits the discharge of oil from any boat or vessel into the navigable waters of the United States or adjoining coastlines.[227] If a violation is found, the polluter is required to remove the oil from the water, or, should he refuse, the federal authorities will remove the oil and require the polluter to reimburse the United States for all costs incurred in the process.[228] In addition, the responsible parties may be prosecuted. Persons convicted are subject to a fine of up to $2,500, and a lien of $10,000 may be imposed upon the vessel.[229] Because of a 1966 amendment to the law, there have been no prosecutions since the enactment of the amendment.[230] The amendment redefined the term "discharge" to mean "any grossly negligent, or willful spilling, leaking, pumping, pouring, emitting, or emptying of oil."[231] As so defined, a negligent spilling of oil does not violate the Act, and because most spills occur anonomously the government is not able to prove that the oil was willfully discharged.[232] Legislation is currently pending that would redefine "discharge" to include simple negligence as well as to expand the coverage of the Act to discharges of oil from shore installations.[233]

F. Regulations

There are several federal regulations which deal with fragmentary aspects of water pollution control. These regulations are exclusively concerned with specific types of pollution or with pollution occurring in specific waters. In order to prevent the spread of communicable diseases the Public Health Service has established drinking water standards which have been voluntarily adopted by the states.[234] Standards have also been promulgated to

[226] 43 Stat. 604 (1924), as amended, 33 U.S.C. §§ 431–36 (1964) [hereinafter cited as Oil Pollution Act]. Clean Water Restoration Act of 1966, § 211, 80 Stat. 1252, transferred the responsibility for administering the Oil Pollution Act from the Secretary of the Army to the Secretary of the Interior.

[227] Oil Pollution Act § 3.

[228] *Id.*

[229] *Id.* § 4.

[230] *See Hearings on S. 1591 and S. 1604 Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works,* 90th Cong., 1st Sess., pt. 1, at 248–49 (1967). The River and Harbors Act of 1899 is presently being used to prosecute oil pollution cases. *See* United States v. Standard Oil Co., 384 U.S. 224 (1966).

[231] *Compare* Clean Water Restoration Act of 1966, § 211a, 80 Stat. 1252, *with* Oil Pollution Act of 1924, § 3, 43 Stat. 605.

[232] Before the 1966 Amendments, the only defenses to prosecution under the Oil Pollution Act of 1924 were emergency, unavoidable accident, and collision. *See* United States v. The Catherine, 212 F. 2d 89 (4th Cir. 1954); The Pan-Am, 148 F. 2d 925 (3d Cir. 1945). The congressional documents are silent concerning the insertion of the damaging amendment. However, columnist Drew Pearson has alleged that it was inserted by Congressman James Wright of Texas at the behest of the Texas oil lobby. Congressman Wright had been noted for his conservationist view. *See* San Francisco Chronicle, Feb. 7, 1969, at 45, col. 4.

[233] H.R. 3837, 91st Cong., 1st Sess. (1959); *see* 2 CCH WATER CONTROL NEWS No. 22, at 11–12 (Oct. 16, 1967). *See also Hearings on S. 1591 and S. 1604 Before the Subcomm. on Air anl Water Pollution of the Senate Comm. on Public Works,* 90th Cong., 1st Sess., pt. 1, at 240 (1967); U.S. DEP'T OF THE INTERIOR, *supra* note 85, at 54.

[234] 42 C.F.R. §§ 72.201–72.207 (1968). *See also* Comm'n on Reorganization of the Executive Branch of the Government *supra* note 8, at 1221–22.

HeinOnline 1 U.C.D. L. Rev. 98 1969

prevent the contamination of water by radioactive materials.[235] These standards must be met by all licensees of the Atomic Energy Commission. Other specific federal regulations forbid the pollution of waters on national game ranges and wildlife refuges.[236] In addition, federal regulations prohibit the discharge of garbage of foreign origin into the territorial waters of this country.[237] Finally, federal antipollution regulations have been promulgated to protect the Great Lakes,[238] the St. Lawrence Seaway, [239] and waters near federally owned areas.[240]

G. Executive Order 11,288

> If we are going to set high standards, the Federal Government must lead the way. I think this should apply both to the facilities that it owns and to the facilities that it leases.[241]

Ironically, the federal government itself is one of the country's worst polluters. An estimated 46.1 million gallons of untreated sewage are discharged into ground and surface waters each day from over seventeen thousand federal installations.[242] Much of this pollution flows from the nation's military establishments. For those concerned with national defense, water pollution control is not considered part of their mission.[243]

To alleviate the problems of pollution from federal facilities, President Johnson issued Executive Order 11,288 on July 2, 1966.[244] The thrust of this order is aimed at requiring each federal department, agency, or establishment to equip its existing and planned establishment with secondary treatment facilities. [245] These federal agencies are also required to consult with the Secretary of the Interior to develop a plan for water pollution control.[246] All plans for future federal projects and new installations are to be reviewed by the Secretary of the Interior to determine the project's impact on water quality control.[247] Project plans of the Department of the Army, Department of Agriculture, Tennessee Valley Authority, and the International Boundary and Water Commission must now be reviewed by the Secretary of the Interior.[248] The order also sets out general standards to be met by the federal agencies. Among these are the requirement that all

[235] 10 C.F.R. §§ 20.301–20.305 (1968).
[236] 43 C.F.R. § 4251.2(j) (1968).
[237] 9 C.F.R. § 94.5 (1968); 7 C.F.R. § 330.400 (1968).
[238] 36 C.F.R. § 3.17 (1968).
[239] 33 C.F.R. § 401.21 (1968).
[240] 36 C.F.R. §§ 311.13, 313.14 (1968).
[241] Statement of Secretary of the Interior Stewart Udall, in U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, *supra* note 14, at 20.
[242] *See 1967 Hearings* 66.
[243] *See* D. CARR, *supra* note 2, at 50–51; F. MOSS, *supra* note 4, at 65. However, the Department of Defense has recently agreed to consult with the Federal Water Pollution Control Administration concerning the need for waste treatment facilities on defense installations. *See* 3 CCH WATER CONTROL NEWS No. 24, at 1–2 (Oct. 29, 1968).
[244] Exec. Order No. 11,288, 3 C.F.R. §§ 628–32 (1968).
[245] *Id.* § 4, 3 C.F.R. 629–30 (1968).
[246] *Id.*
[247] *Id.* §§ 2–3, 3 C.F.R. 629 (1968).
[248] *Id.* § 6, 3 C.F.R. 631 (1968).

HeinOnline 1 U.C.D. L. Rev. 99 1969

installations have secondary waste treatment facilities, that no waste harmful to health be discharged, and that discharges that cause thermal pollution be prevented.[249]

An important part of the order is encouragement to all federal departments, agencies, and establishments to prescribe regulations that will induce their borrowers, grantees, and contractors to reduce water pollution.[250] If each agency were to make full use of its powers in this respect it would have a significant impact on water quality. For example, the Bureau of Reclamation is inserting a uniform provision in its contracts with water user organizations. [251] The provision requires the user organization and all of its contractors to comply with all water pollution control laws or forfeit its contract. Other federal agencies have not seen fit to make water pollution control a part of their activities. For example, the Atomic Energy Commission recently granted a license to a power company over vigorous objection by the downstream water users. The Commission might have forced the company to install cooling towers to prevent thermal pollution before granting the license.[252]

Executive Order 11,288 was vitally necessary in light of the magnitude of the pollution from federal sources. Implementation of the order should follow if the Bureau of the Budget makes the required funds available. Plans are completed and timetables have been established by the Federal Water Pollution Control Administration for the abatement of pollution from federal facilities.[253] The total cost of cleaning up the federal sources of pollution is estimated at 130 million dollars of which the fiscal 1968 budget provides 51 million.[254]

II. Analysis of the Current Federal Program

There can be little doubt that the federal government is now committed to solving the problem of water pollution. Federal presence in this field is justifiable in light of the failure of the states to halt the deterioration of this country's waterways. This is particularly true in cases of interstate pollution

[249] *Id.* § 4, 3 C.F.R. 629–30 (1968).

[250] *Id.* § 7, 3 C.F.R. 631 (1968).

[251] *See* U.S. Department of the Interior, Press Release, April 9, 1967.

[252] The AEC contended that it lacked jurisdiction to require the power company to prevent thermal pollution. Senator Edmund Muskie of Maine argued that Executive Order 11,288 required the AEC to prevent pollution by its licensees. *See* 2 CCH Water Control News No. 27, at 3–6 (Nov. 20, 1967). The First Circuit upheld the AEC on this issue. The Court held that the AEC had no regulatory jurisdiction to consider evidence of thermal pollution under the Atomic Energy Act of 1954. AEC jurisdiction was limited to considerations of radiation hazards. Moreover, the Court held that nothing in the Water Quality Act of 1965 or Executive Order 11,288 required the AEC to deny the license. New Hampshire v. Atomic Energy Commission, 406 F.2d 170 (1st Cir. 1969). Legislation is pending which would require all federal licensing agencies to obtain assurances that water quality standards would not be violated by a prospective licensee. *See* S. 7, 544, 91st Cong., 1st Sess. (1969).

[253] *See Hearings on Water Pollution—Central and Northern California Before a Subcomm. of the House Comm. on Government Operations,* 90th Cong., 1st Sess. 163–69 (1967).

[254] *See 1967 Hearings* 66–67.

HeinOnline 1 U.C.D. L. Rev. 100 1969

where the states have been unable to form effective multistate agreements to control pollution. Assuming the necessity of federal intervention to achieve a cleanup of the nation's waters, it is questionable whether the current federal effort is capable of achieving this objective.

Federal programs are designed to support and stimulate the existing state and local efforts rather than preempt the field. There are two principal reasons for this approach. First, local control of water pollution is felt to be more efficient than national control. Second, Congress has been strongly influenced by the arguments of those who contend that water pollution is a uniquely local problem and the federal government should not intrude upon state prerogatives. Neither of these arguments seems supportable in light of past experience. The primary reason for federal intrusion into the field was the failure of the states to act effectively. Thus, under the current federal approach the primary responsibility for abating pollution is left to those who have proved incapable of solving the problem. Furthermore, the matter of water pollution is not a local, but rather a national problem. Nearly all of this country's major waters cross state boundaries and pollution occurring in one state has an impact on several states. Securing to its people an adequate supply of usable water would seem as important to the national government as assuring the aged an income under the Social Security Act.

Because the federal government has relegated itself to a supportive role, the federal enforcement procedures are less efficient than they might otherwise be. The general federal abatement authority is aimed primarily at stimulating the states rather than attaining a rapid abatement of pollution. Thus the federal government always awaits a default by the state authorities before initiating any direct action. A minimum waiting period of one year is built into the FWPCA to permit the states time to abate the pollution. Thus a polluter can count on a substantial period of repose while two or more states try to agree on a course of action. If the federal objective is rapidly to eliminate pollution, the need for the waiting periods should be evaluated in terms of achieving this objective.

The recent federal requirement that the states set water quality standards, coupled with streamlined federal abatement procedures, may indeed have stimulated the states to revise their pollution control laws,[255] but most of the states have always had effective pollution control laws which have not been enforced. The problem of achieving a rapid abatement of pollution may still not be solved as long as the states retain the responsibility for initiating the abatement action. Federal initiative under the standards provisions is still limited to interstate pollution problems and requires a six-months waiting period. Three years have passed since the passage of the water quality standards provisions and there have been no abatement actions taken under them. Once again, the objective is the rapid cleanup of the waters and this has not been achieved because the federal government desires to play only a secondary role.

As an integral part of its supportive role the federal government provides

[255] *See* 2 CCH WATER CONTROL NEWS No. 20, at 1 (Oct. 2, 1967).

HeinOnline 1 U.C.D. L. Rev. 101 1969

financial assistance to the state and local governments to offset costs of pollution facilities and program administration. The assumption is that if the states are given financial backing they can effectively control water pollution. Although this assumption is meritorious, the current federal assistance program is inadequate in both sum and in distribution. It is estimated that over 26 billion dollars will have to be spent over the next five years to control water pollution in this country.[256] The 1968 appropriation to assist the states was approximately 200 million dollars.[257] Thus, if this represents the average federal share for the next five years the total federal expenditure toward the 26 billion dollar figure will be one billion dollars. Even if the states were to spend three dollars to every one dollar of federal aid, the desired objective would not be realized in less than 50 years.

Federal financial assistance is limited to grants to governmental agencies and is not available to the private sector. [258] Industry strongly resists governmental regulation of water quality chiefly because it is so costly to install the necessary treatment facilities. The federal program could include a method of assisting industry to offset these costs. Federal loans could be made available to industry. In the alternative, the federal tax laws could be revised to permit industry more rapidly to amortize the costs of pollution abatement facilities.[259] Such programs are subject to attack because it is repulsive to assist one who is committing a wrong. However, the need to achieve a rapid cleanup of this nation's waters is more persuasive.

Noting the fact that by 1980 this country will suffer a deterioration of its standard of living unless the current pace of pollution is halted,[260] the federal government should reevaluate its present policies. Clearly the federal government has the potential to achieve an elimination of water pollution. Consideration should be given to strengthening the current federal enforcement laws. Authority to bring court action immediately to secure an abatement could be a powerful weapon in the federal arsenal.[261] Such a provision, coupled with adequate financial assistance to all polluters, could facilitate a rapid elimination of pollution. Alternatively, consideration should be given to the establishment of a federal water resources agency. Such an agency

---

[256] U.S. DEP'T OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, THE COST OF CLEAN WATER 9(1968).

[257] 81 Stat. 471 (1967).

[258] Industry is now permitted a seven percent investment tax credit toward the costs of pollution abatement facilities. INT. REV. CODE of 1954, §§ 38, 48(h) (12).

[259] For a discussion of the device of providing industry with financial incentives see page 000 *infra*. SUBCOMM. ON AIR AND WATER POLLUTION OF THE SENATE COMM. ON PUBLIC WORKS, 89TH CONG., 2D SESS., STEPS TOWARD CLEAN WATER 14–15 (1966). Most state governors favor a program of tax relief or other financial incentive to industry. HOUSE COMM. ON GOVERNMENT OPERATION, 89TH CONG., 2D SESS., VIEWS OF THE GOVERNORS ON TAX INCENTIVES AND EFFLUENT CHARGES. (Comm. Rep. No. 1330, 1966). Legislation is pending that would provide financial incentives to industry. *See* H.R. 299, 417, 544, 754, 91st Cong., 1st Sess. (1969). For a criticism of incentives to industry see 1 CCH WATER CONTROL NEWS No. 42, at 1 (Mar. 6, 1967).

[260] *See* J. WRIGHT, THE COMING WATER FAMINE 20 (1966).

[261] Such legislation has been proposed. *See* H.R. 494, 90th Cong., 1st Sess. (1967); *1967 Hearings* 240.

HeinOnline 1 U.C.D. L. Rev. 102 1969

could be modeled after the TVA and could have authority to develop and enforce a plan of total pollution control for each of the nation's major watershed areas.[262] If the agency exercised its powers judiciously there would be a minimal loss of power to the states and a vast improvement in the quality of the waters.

In summary, the federal government does have a role to play in this country's effort to control water pollution. The present supportive role is probably insufficient to achieve the rapid elimination of the problem.[263] Because water pollution is emerging as one of the nation's most urgent concerns, the national government should not hesitate to take all steps necessary to solve the problem. If an imbalance in federal-state relations is the price that must be paid to avoid a water crisis, it seems well worth the cost.

Joseph D. Abkin

---

[262] *See* BARTON, INTERSTATE COMPACTS IN THE POLITICAL PROCESS 121–22 (1967); ZIMMERMAN & WENDELL, THE INTERSTATE COMPACT SINCE 1925, at 113–21 (1951); Hines, *supra* note 5, at 456.

[263] J. WRIGHT, *supra* note 260, at 150.

HeinOnline 1 U.C.D. L. Rev. 103 1969

HeinOnline 1 U.C.D. L. Rev. 104 1969