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## **Thinking About Nonpoint Sources of Water Pollution and South Dakota Agriculture**

by

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# THINKING ABOUT NONPOINT SOURCES OF WATER POLLUTION AND SOUTH DAKOTA AGRICULTURE

JOHN H. DAVIDSON\*

. . . [I]t is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of . . . [the Clean Water Act] to be met through the control of both point and nonpoint sources of pollution.\*\*

## I. INTRODUCTION

The Clean Water Act<sup>1</sup> provides a complex framework through which we address the full range of water pollution issues. The history of its implementation is this nation's attempt to cure water quality problems. It was begun in 1965 when Congress required states to establish voluntary water quality standards for interstate waters,<sup>2</sup> and develop unenforceable implementation plans.<sup>3</sup> The fact that there was broad resistance to even such modest first steps signaled the enforcement struggle that lay ahead.<sup>4</sup>

The current legislation is based in the Federal Water Pollution Control Act Amendments of 1982 (now, happily, referred to as The Clean Water Act [CWA]),<sup>5</sup> which adopted a goal of no pollution discharges and mandated a system of technology-based, state-of-the-art, effluent limitations to supplement existing state water quality standards. The federal role in establishing water pollution policy was made pre-eminent, and the states were given the role of enforcement agents.

The Act sets out (somewhat unabashedly) a non-enforceable objective "to restore and maintain the chemical, physical and biological integrity of the Nation's waters,"<sup>6</sup> and that "the discharge of pollutants into the navigable waters be eliminated by 1985. . . ."<sup>7</sup> An interim goal is "wherever attainable . . . water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on water" by July 1,

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\*\* Clean Water Act, 33 U.S.C.A. § 1251(a)(7) (West 1986 & Supp. 1988).

1. 33 U.S.C.A. §§ 1251 to 1376 (West 1986).

2. Water Quality Act of 1965, Pub. L. No. 89-234, § 5(a), 79 Stat. 903, 907-908 (1965); 33 U.S.C.A. § 1251 (West 1986).

3. *Id.* at 79 Stat. 907. The Act did provide large appropriations for construction of sewage treatment plants.

4. Pedersen, *Turning the Tide on Water Quality*, 15 *ECOLOGY L.Q.* 69, 74 (1988).

5. 33 U.S.C.A. §§ 1251 to 1376 (West 1986).

6. 33 U.S.C.A. § 1251(a) (West 1986 & Supp. 1988).

7. 33 U.S.C. § 1251(a)(1) (1982).

1983.<sup>8</sup> A further policy goal is the prohibition of "toxic pollutants in toxic amounts."<sup>9</sup>

The tools selected for use in pursuit of these goals include technology-based effluent limitations, a permit program, a massive grant program to support construction of municipal waste treatment facilities, state and regional planning to control nonpoint source pollution and to achieve water quality standards, and a system of permits for dredge and fill operations.

The CWA establishes two basic categories for pollution control and regulation: "point source" and "nonpoint source." Point sources are subject to specific regulations through effluent limitations, ambient water quality standards, and a system of pollution control permits. Nonpoint sources are any source that is not a point source and may, with some exceptions, be roughly analogized to the common law's "diffused surface waters," comprised mostly of runoff from land. During the first fifteen years of experience with the CWA, the regulations attempted almost exclusively to control pollution from point sources. Only in 1987 did Congress revise the Act and add provisions which are intended to begin a process of nonpoint source control.<sup>10</sup> Because agricultural practices are the principal source of nonpoint source pollution, and there is increasing evidence that a substantial percentage of all water pollution falls into the nonpoint source category, these changes are likely to have a disproportionate and significant impact on South Dakota agriculture. With that in mind, this article will first review the basic structure of the CWA, including the new Nonpoint Source Management Program, and then offer some thoughts on possibilities for a sensible resolution of the matter.

## II. THE NONPOINT SOURCE POLLUTION PROBLEM

After nearly twenty years of actively attempting to regulate environmental pollution in the United States, we are only reaching the beginning. There is credible evidence that the quality of the environment is deteriorating rather than improving.<sup>11</sup> During the next several years Congress and federal agencies will reconsider important parts of the environmental quality strategy. Such reconsideration will inevitably stimulate debate over how to deal with two water quality issues which are currently excluded from comprehensive regulation: groundwater<sup>12</sup> and surface-water contamination from nonpoint sources.

It is appropriate to consider groundwater contamination as part of any discussion of nonpoint source pollution. Many states have enacted, or are in the process of enacting, groundwater protection legislation.<sup>13</sup> Additionally,

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8. *Id.* at § 1251(a)(2).

9. *Id.* at § 1251(a)(3).

10. 33 U.S.C.A. § 1251(a) (West 1986 & Supp. 1988).

11. Commoner, *Failure of the Environmental Effort*, 18 ENVTL. L. REP. 10195 (Envtl. L. Inst. 1988); Pedersen, 15 ECOLOGY L.Q. at 69 (cited in note 4).

12. *See, e.g.*, Myers, *Groundwater Issues Emerge as Focus of FIFRA Reform*, 5 AGRIC. L. UPDATE 4 (April 1988).

13. *See, e.g.*, S.D.C.L. § 34A-2-1(12).

Congress will be taking up several groundwater protection bills. EPA has recently published a proposed strategy for protecting groundwater from pollution by agricultural chemicals.<sup>14</sup> The 1987 amendments to the CWA include provisions for states to carry out groundwater protection activities.<sup>15</sup> It is no accident that these amendments are included in the sections which create the new nonpoint source program. Most programs that deal effectively with threats of groundwater pollution will also significantly reduce the threat of nonpoint source pollution of surface waters, and vice versa. A groundwater contaminant is, after all, just a nonpoint source that soaked into the ground rather than flowed to a surface stream. Where, for example, pesticides are found in groundwater, it can be assumed that they are also in surface waters. This is so because only highly soluble pesticides migrate to groundwaters, while far less soluble chemicals will reach surface waters, carried by runoff and sediment. Resulting surface water contamination is thus usually more concentrated than in groundwater polluted from the same source.<sup>16</sup> Both forms of pollution are the result of human activity on the land, and are part of the same whole.<sup>17</sup>

The domestic agricultural industry is a principal source of nonpoint pollutants. Fertilizer application rates increased sixty-eight percent between 1970 and 1981,<sup>18</sup> and nitrates attributable to commercial fertilizers have been found in groundwater in every agricultural region of the United States.<sup>19</sup> California, which uses more groundwater than any other state, has reported significant increases,<sup>20</sup> and Iowa, the second largest consumer of nitrogen fertilizer, has concluded that nitrates in groundwater is a pervasive problem.<sup>21</sup> In the southeastern part of Minnesota, it is reported that twenty to twenty-five percent of the people there use water that does not meet the relevant drinking water standards for nitrates.<sup>22</sup>

While pesticides are not as prevalent as nitrogen in groundwater, monitoring reports offer clear evidence that they are reaching groundwater in in-

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14. See *Agricultural Chemicals in Ground Water: Proposed Pesticide Strategy* (E.P.A., Office of Pesticides & Toxic Substances, 1987).

15. 33 U.S.C.A. § 1329(h) and (i) (West Supp. 1988).

16. Crosson & Ostrov, *Alternative Agriculture: Sorting Out its Environmental Benefits*, RESOURCES 13, 14 (Summer 1988).

17. It has been suggested that the problems of groundwater and nonpoint source surface water contamination should be united under the single heading of "soil pollution."

18. Smith, Alexander & Wolman, *Water-Quality Trends in the Nation's Rivers*, 235 SCIENCE 1607, 1612 (1987).

19. Hallberg, *From Hoes to Herbicide: Agriculture and Groundwater Quality*, 41 J. SOIL & WATER CONSERVATION 356 (1986).

20. P. HOLDEN, PESTICIDES AND GROUNDWATER QUALITY: ISSUES AND PROBLEMS IN FOUR STATES 16 (1986).

21. Interview with George R. Hallberg, Chief, Geological Studies, Iowa Geological Survey Bureau, in Iowa City (June 17, 1987).

22. Minn. Dep't of Health and Minn. Dep't of Agric., *Minnesota Pesticide Monitoring Surveys: Interim Report*, paper presented at Conference on Pesticides and Groundwater: A Health Concern for the Midwest, Oct. 16, 1986, St. Paul.

Information on South Dakota is in Meyer, *A Summary of Groundwater Pollution Problems in South Dakota* (Office of Water Quality, Dep't of Water and Natural Resources, April 1986).

creasing amounts.<sup>23</sup> The occurrence of pesticides from routine agricultural use has been noted in a growing number of states, including New York, Wisconsin, Florida, Nebraska, Pennsylvania, South Dakota, Maryland, Ohio, and California.<sup>24</sup> A recent report out of Minnesota sampled over 500 wells in an agricultural region where groundwater was known to be susceptible to contamination. One or more pesticides were detected in thirty-eight percent of the wells sampled. Fourteen compounds, including eleven herbicides and three insecticides, were found. Although concentrations were low, the frequency of positive findings and the number of compounds detected were "higher than anticipated."<sup>25</sup> Geologists in Iowa recently reported regular findings of pesticides in susceptible aquifers "state wide."<sup>26</sup>

It has been estimated that annual soil loss in the United States exceeds six billion tons, with twenty percent of the loss attributable to wind erosion and the balance caused by various forms of water erosion.<sup>27</sup> While most of this soil loss comes from agricultural lands,<sup>28</sup> erosion is not uniform across the country. On sixty-six percent of the nation's 413 million acres of cropland, erosion averages less than five tons per acre per year. On another twenty-two percent of the cropped acreage, soil loss ranges from five to fourteen tons per acre per year. On the remaining twelve percent of cropland, annual soil loss exceeds fourteen tons per acre.<sup>29</sup> An annual loss of five tons per acre translates into the loss of an inch of topsoil every thirty years.<sup>30</sup> Unfortunately, much of the nation's most productive cropland is highly erodible.<sup>31</sup>

For the last eighty years at least, nonpoint sources of surface water pollution have been recognized as a major source of water pollution in many parts of the United States.<sup>32</sup> They have been estimated to be responsible for as

23. Crosson & Ostrov, in *RESOURCES* at 13 (cited in note 16): "Chemical pesticides are a key component of conventional agriculture. To the extent that pesticides pose environmental problems, conventional agriculture is the culprit. . . ."

24. E. Nielsen & L. Lee, *The Magnitude and Costs of Groundwater Contamination from Agricultural Chemicals: A National Perspective* 1 (U.S. Dep't of Agric., Econ. Res. Serv., Agric'l Econ. Rep. No. 576, 1987). See also U.S. Envtl. Prot. Agency, Office of Pesticides and Toxic Substances, *Agricultural Chemicals in Groundwater: Proposed Pesticide Strategy* (Dec. 1987); U.S. Envtl. Prot. Agency, Office of Ground-Water Protection, *Pesticides in Ground Water: Background Document* (May 1986).

25. See *Minnesota Pesticide Monitoring Surveys: Interim Report* (cited in note 22).

26. See Hallberg, 41 *J. SOIL & WATER CONSERVATION* at 358-59 (cited in note 19).

27. E. CLARK, J. HAVERKAMP & W. CHAPMAN, *ERODING SOILS: THE OFF-FARM IMPACTS* 2 (1985).

28. *Id.* at 3. See R. BEASLEY, J. GREGORY & T. MCCARTY, *EROSION AND SEDIMENT POLLUTION CONTROL* 3 (2d ed. 1984); Arts and Church, *Soil Erosion—The Next Crisis?* 1982 *WIS. L. REV.* 535, 542.

In six of the ten E.P.A. regions, pollution from such nonpoint sources as farms is the principal cause of water quality problems. Note, *Nonpoint-Source Water Pollution*, *RESOURCES* 25 (Winter 1984).

*National Water Quality Inventory: 1986 Report to Congress* 80 (E.P.A., Office of Water 1987). "By far the most common nonpoint source reported by the States in 1986 is agricultural runoff." *Id.* at 80.

See generally Smith, Alexander, & Wolman, 235 *SCIENCE* at 1611-12 (cited in note 18).

29. E. CLARK, J. HAVERKAMP AND W. CHAPMAN, *ERODING SOILS* at 5 (cited in note 27).

30. *Id.*

31. Arts & Church, 1982 *WIS. L. REV.* at 545-52 (cited in note 28).

32. Williams, *Soil Conservation and Water Pollution Control: The Muddy Record of the United*

much as seventy-three percent of the total biochemical-oxygen-demand loadings, ninety-nine percent of the suspended solids, eighty-three percent of the dissolved solids, eighty-two percent of the nitrogen, eighty-four percent of the phosphoric, and ninety-eight percent of the bacteria loads in the United States waterways today.<sup>33</sup> Soil erosion is undoubtedly the major cause of such nonpoint source pollution and the majority of soil erosion can now be traced to agricultural practices.<sup>34</sup>

Twenty-seven states designate agriculture as the most widespread primary cause of nonpoint source problems on rivers, and twenty-four states find agriculture the largest nonpoint source polluting lake acres.<sup>35</sup> More specifically, this cause of nonpoint pollution accounts for sixty-four percent of the pollution on all impacted river miles, and fifty-seven percent of the pollution from nonpoint sources on affected lake acres.<sup>36</sup> *Soil erosion and nonpoint source pollution are the same issue.*

### III. THE CLEAN WATER ACT AND NONPOINT SOURCE POLLUTION

#### A. *The Clean Water Act*

(1) **Navigable Waters.** The goal of the CWA is to restore the "Nation's waters,"<sup>37</sup> and to eliminate "the discharge of pollutants into the navigable waters. . . ."<sup>38</sup> "Navigable waters" are defined as "the waters of the United States, including the territorial seas."<sup>39</sup> By regulation, the United States Environmental Protection Agency (EPA) has defined "waters of the United States" to include:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; . . .

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, 'wetlands,' sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. . . .<sup>40</sup>

The pollution permit program established by the CWA forbids any discharge "into the navigable waters" without a permit.<sup>41</sup>

The definition of navigable waters determines jurisdiction under the Act.

*States Department of Agriculture*, 7 ENVTL. AFF. 365, 366 (1979) [hereinafter Williams]. See also V. Novotny & G. Chesters, *HANDBOOK OF NON-POINT POLLUTION* (1981).

33. E. CLARK, J. HAVERKAMP AND W. CHAPMAN, *ERODING SOILS* at xiii (cited in note 27).

34. *Id.* at 3.

35. C. MEYERS, A. TARLOCK, J. CORBRIDGE & D. GETCHES, *WATER RESOURCES MANAGEMENT: A CASEBOOK IN LAW AND PUBLIC POLICY* 320 (2d ed. 1988).

36. *America's Clean Water: The States' Nonpoint Source Assessment* 7-8 (Assoc. of State & Interstate Water Pollution Control Admin. 1985).

It is worth noting that sediment in surface water costs the nation \$4 billion to \$16 billion annually. Crosson & Ostrov, *RESOURCES* at 15 (cited in note 16).

37. 33 U.S.C. § 1251(a) (West 1986 & Supp. 1988).

38. 33 U.S.C. § 1251(a)(1) (1982); "Waters of the United States" are also defined at 40 C.F.R. § 122.2 (1987).

39. 33 U.S.C. § 1362(7) (1982).

40. 40 C.F.R. § 122.2 (1988).

41. 33 U.S.C. § 1342(a)(4) (1982).

While "navigable waters" has been used in the past to define the scope of traditional federal power over water resources in a variety of legal settings, including admiralty, allocation of title to submerged lands, and identification of public waters under state law,<sup>42</sup> it is clear that in the CWA Congress expanded the traditional definition of navigable waters, thus expanding federal jurisdiction over water pollution. Moreover, the courts have held not only that Congress intended to do this but also that it had the constitutional authority to do so.<sup>43</sup> The result is that "waters of the United States" now encompasses the widest reach of the commerce clause, thus enabling the CWA to protect virtually every component of the hydrologic system, including wetlands.<sup>44</sup>

(2) Effluent Limitations. The CWA establishes three primary regulatory devices for controlling point sources of pollution: effluent limitations, water quality standards, and pollution discharge permits. Effluent limitations are industry-specific standards which specify the maximum amount of particular pollutants allowed to enter water from point sources in a particular industrial category. The CWA defines them as "any restriction . . . on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters. . . ."<sup>45</sup> They are better described, however, as "technology-based effluent limitations," thus reflecting the statutory objective of demanding that polluters invest in pollution reduction technology capable of reaching the ultimate goal of complete elimination of water pollution from point sources. Effluent limitations are, then, standards designed to restrict the discharge of particular pollutants, the limit being determined by a specified number of pounds per day or week, or by some other measure appropriate for the particular pollutant, as, for example, biological oxygen demand, pH, or fecal coliform. Drafted on an industry-by-industry basis, effluent limitation regulations fill an entire volume of the Code of Federal Regulations.<sup>46</sup> The revised CWA now establishes at least eleven principal categories of effluent limitations, and the tendency is to develop new limitations which go well beyond basic effluent limitations in order to achieve water quality goals.<sup>47</sup> Even where a single type of pollutant is involved, limitations on its discharge from a point source may vary from one

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42. See, for a full discussion of the Commerce Clause, J. NOWAK, R. ROTUNDA & J. YOUNG, CONSTITUTIONAL LAW 150-65 (2d ed. 1983). A description of the expansion of the navigability concept under the CWA is at W. RODGERS, ENVIRONMENTAL LAW 401 (1977). For a discussion of the application of the CWA to groundwater, see Wilson, *Groundwaters: Are They Beneath the Reach of the Federal Water Pollution Control Act Amendments?* 5 ENVTL. AFF. 545 (1976).

43. *United States v. Ashland Oil & Transp. Co.*, 504 F.2d 1317 (6th Cir. 1974) held that the CWA intentionally expands the definition of navigability and that Congress had the power to carry out this intent. Since then the CWA has been extended to wetlands, *Avoyelles Sportsmen's League, Inc. v. Alexander*, 511 F. Supp. 278 (W.D.La. 1981), and to the most remote, intermittently flowing tributaries. *United States v. Texas Pipeline Co.*, 611 F.2d 345 (10th Cir. 1979).

44. See also *Natural Resources Defense Council, Inc. v. Callaway*, 392 F. Supp. 685 (D.D.C. 1975); and 33 U.S.C. § 1251(g). The latter provision contains the usual language that Congress does not intend to abrogate state recognized water rights.

45. 33 U.S.C. § 1362(11) (1982).

46. 40 C.F.R. §§ 400 to 424 (1987).

47. See, e.g., 33 U.S.C.A. § 1312 (West Supp. 1988) (water quality related effluent limitations);

industry to another, depending upon industrial processes, available control technology and cost.<sup>48</sup>

(3) **Water Quality Standards.** Water quality standards, the second regulatory device for controlling point sources of pollution, are a distinct set of regulatory standards which address the level of pollution in the receiving body of water, and are established largely on the basis of uses made of the particular body of water. They establish minimum ambient standards for particular streams, rivers and lakes.<sup>49</sup>

Until 1972, federal water pollution control efforts focused on assisting the states in developing and attaining water quality standards.<sup>50</sup> Although standards were developed for most major water bodies, since individual point sources could rarely be shown to be the "cause" of a violation of water quality standards, enforcement proved futile. It has also been difficult to establish scientifically reliable abatement requirements for point sources when the sole purpose was the achievement of water quality standards. When Congress adopted the 1972 legislation, it gave primacy to the role of effluent limitations for point sources but preserved water quality standards to serve as a guide to the Act's water quality planning process and also as an additional tool for regulating point source discharges. When point source discharges comply with all applicable effluent limitations but nonetheless "[i]nterfere with the attainment or maintenance of . . . water quality in a specific portion of . . . water," EPA must then develop water quality related effluent limitations for individual point sources or groups of point sources "[w]hich can reasonably be expected to contribute to the attainment or maintenance of such water quality."<sup>51</sup>

(4) **Permit System.** Neither effluent limitations nor water quality standards are, however, enforceable directly against a point source. They are instead implemented through the National Pollution Discharge Elimination System (NPDES), a program which requires that each and every polluter of waters from a point source obtain a permit.<sup>52</sup> The CWA makes unlawful the discharge of "any pollutant,"<sup>53</sup> which in practical terms means that no discharge is lawful unless the polluter has first obtained a permit and is prepared to comply with all statutory standards, including effluent limitations.<sup>54</sup> These permits then serve "to transform generally applicable effluent limitations . . . into the obligations (including a timetable for compliance) of the individual discharger[s]. . . ."<sup>55</sup> The liability for breach of a permit is absolute.<sup>56</sup> The

33 U.S.C.A. § 1314(l) (West Supp. 1988) (toxic hotspot limitations); and 33 U.S.C.A. § 1313(d) (West 1986 & Supp. 1988) and 33 U.S.C. § 1314(a)(2) (1982) (total maximum daily loads).

48. 33 U.S.C. § 1314(b)(1)(A) and (B) (1982).

49. 33 U.S.C.A. § 1313(c)(2) (West Supp. 1988).

50. Water Quality Act of 1965, Pub. L. No. 89-234, § 5(a), 79 Stat. 903, 907-908 (1965).

51. 33 U.S.C.A. § 1312(a) (West Supp. 1988).

52. 33 U.S.C. § 1341 (1982).

53. *Id.* at § 1311(a).

54. 33 U.S.C.A. § 1342 (West 1986 & Supp. 1988).

55. *E.P.A. v. Calif. ex. rel. State Water Res. Control Bd.*, 426 U.S. 200, 205 (1976).

56. *Kitlutsisti v. ARCO Alaska, Inc.*, 592 F. Supp. 832 (D. Alaska 1984); *Sierra Club v. CG*



CWA contemplates that the administration of permit programs will be delegated gradually to the states.<sup>57</sup> State permit programs must reflect at a minimum the standards established in the CWA.

As a practical matter, compliance with a permit constitutes compliance with most of the important provisions of the CWA.<sup>58</sup> Stated another way, those who pollute without a permit or violate permit conditions activate all of the substantial civil and criminal penalties under the CWA, including citizen suits.<sup>59</sup>

(5) Toxic Pollutants. Certain categories of pollutants warrant priority treatment and the most important of these is toxic pollutants, which are subject to the most stringent control standards, including "zero discharge" effluent limitations. The term "toxic pollutants" is defined by the CWA to mean:

[T]hose pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.<sup>60</sup>

The 1972 legislation made control of toxic pollutants a priority. In addition to broadly defining "toxic pollutants," it set forth substantial guidelines for EPA to use in formulating toxic standards.<sup>61</sup> Section 307(a)(2) requires EPA to take into account six factors intended to cover the effects of toxic substances in the environment.<sup>62</sup> EPA is also authorized to establish different standards for industrial categories by using different procedures,<sup>63</sup> and is directed to set the standards at a level that provides an "ample margin of safety."<sup>64</sup>

The Act's approach to toxics varies from its approach to other pollutants in its use of health factors rather than the technological and economic feasibility standards used in effluent limitations. These health-based standards are more difficult to articulate in the face of inconclusive scientific testimony concerning the toxic and chronic effects of specific chemicals. As now structured, the CWA identifies a list of toxic pollutants for which EPA is required to establish standards.<sup>65</sup>

In 1987 Congress added a provision requiring development of specific

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Mfg. Co., 638 F. Supp. 492 (D. Mass. 1986); and *Student Public Interest Research Group v. Monsanto Co.*, 600 F. Supp. 1479 (D.N.J. 1985).

57. 33 U.S.C. § 1342(b) (1982).

58. *Id.* at § 1342(k).

59. 33 U.S.C.A. § 1319 (West 1986 & Supp. 1988); 33 U.S.C.A. § 1365 (West 1986 & Supp. 1988).

60. 33 U.S.C. § 1362(13) (1982).

61. *Environmental Defense Fund v. E.P.A.*, 598 F.2d 62, 73 (D.C. Cir. 1978).

62. 33 U.S.C. § 1317(a)(2) (1982).

63. *Id.* at § 1317(a)(5).

64. *Id.* at § 1317(a)(4).

65. *Id.* at § 1317(a)(1). The list of 65 toxic pollutants is at 40 C.F.R. § 401.15 (1987).

control strategies for "toxic hotspots." By February 4, 1989, each state must submit to EPA a list of those waters which "cannot reasonably be anticipated to attain or maintain" water quality standards due to the presence of toxic pollutants.<sup>66</sup> The list must also identify the specific point sources discharging any toxic pollutant which is thought to be preventing the attainment of water quality standards.<sup>67</sup> For each such segment of a water body the state is to develop, by using effluent limitations and water quality standards, an individual control strategy which will result in the achievement of water quality standards "as soon as possible."<sup>68</sup>

(6) Publicly Owned Treatment Works (POTWs). The CWA addresses POTWs—municipal sewage treatment plants—in two important ways.<sup>69</sup> One is a major construction grants program.<sup>70</sup> The second is the requirement that POTWs comply with various pollution standards and obtain a pollution discharge permit.<sup>71</sup> POTWs in existence in 1977 must meet effluent limitations based upon "secondary treatment," described in the regulations as the degree of achievable effluent quality.<sup>72</sup> In addition, POTWs must meet any additional requirements necessary to satisfy water quality standards.<sup>73</sup> An additional practical standard is found in the proscription that no federal grants for the construction of waste treatment plants will be made unless the design provides for the application of "best practicable waste treatment technology over the life of the works."<sup>74</sup>

(7) Dredge or Fill Permits. Section 404 of the CWA regulates the discharge of dredged or fill material into navigable waters. Administered by the Corps of Engineers, this permit program pre-empts the NPDES program for this one category of pollution, and is influenced in part by history. The association of the Corps with the regulation of dredged and fill material can be traced to the Rivers and Harbors Appropriation Act of 1899,<sup>75</sup> in which Congress delegated regulatory authority over navigable waters to the Corps. Section 10<sup>76</sup> requires private parties to obtain a permit from the Corps before undertaking any construction, excavation or similar work within "navigable waters." The Act was originally directed to the control of physical obstructions to navigation but during the 1960s was broadly interpreted to potentially prohibit nearly all forms of water pollution discharges.<sup>77</sup>

In 1968 the Corps responded to growing public concern over environmental quality and promulgated rules which interpreted Section 10 to author-

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66. 33 U.S.C.A. § 1314(l)(1)(A) (West Supp. 1988).

67. *Id.* at § 1314(l)(1)(C).

68. *Id.* at § 1314(l)(1)(D).

69. "Treatment works" are defined at 33 U.S.C.A. § 1292(2)(A) (West 1986).

70. 33 U.S.C. § 1281(h) (1982).

71. 33 U.S.C.A. § 1342 (West 1986 & Supp. 1988).

72. 33 U.S.C. § 1311(b)(1)(B) (1982); 40 C.F.R. § 133.103 (1987).

73. 33 U.S.C. § 1311(b)(1)(C) (1982).

74. *Id.* at § 1281(g)(2)(A).

75. *Id.* at §§ 401-403.

76. *Id.* at § 403.

77. *United States v. Republic Steel Co.*, 362 U.S. 482 (1960), *reh'g denied*, 363 U.S. 858 (1960); *United States v. Standard Oil Co.*, 384 U.S. 224 (1966).

ize consideration of ecological as well as navigational factors. The rules also called for a "public interest review" in the administration of the permit program.<sup>78</sup>

When Congress passed the CWA in 1972 it incorporated the Corps' program into the new law.<sup>79</sup> As we have already seen, the Act prohibits the discharge of any pollutant into "navigable waters" unless the polluter first gets an NPDES or a dredge and fill (Section 404) permit. Navigable waters are defined as "waters of the United States."<sup>80</sup> Traditionally, Corps jurisdiction over navigable waters extended only to waters presently or formerly used to transport interstate or foreign commerce, waters that were capable of such use in their natural state or by reasonable improvements, and all waters subject to the ebb and flow of the tides. Early regulations issued by the Corps under Section 404 adopted the traditional interpretation. Eventually, however, the Corps' regulations were struck down as inconsistent with the intent of Congress to regulate *all* waters of the United States.<sup>81</sup> Subsequently, the Corps adopted regulations based upon a definition of navigability that is coextensive with the constitutional reach of the commerce clause. That "navigable waters" is now construed to encompass wetlands demonstrates the vast reach of this jurisdiction, for the Corps defines "wetlands" as:

[T]hose areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.<sup>82</sup>

With "waters of the United States" thus broadly construed, it is apparent that the Section 404 permit program potentially extends to a wide range of human activity, including much of what is generally described as "land development."<sup>83</sup>

The Corps determines possible discharge sites based upon guidelines developed with EPA. These guidelines focus on the impact of the discharge on human health, environmental and economic values at the site, and alternatives.<sup>84</sup> The EPA retains a veto power over the Corps' issuance of discharge permits.<sup>85</sup>

The statutory standards for considering dredge or fill permit applications are quite different from those applied to NPDES applications. The standards are open-ended and there are no minimum specifications that automatically

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78. The rules were upheld in *Zabel v. Tabb*, 430 F.2d 199 (5th Cir. 1970), *cert. denied*, 401 U.S. 910 (1971).

79. 33 U.S.C.A. § 1344 (West 1986 & Supp. 1988).

80. 33 U.S.C. § 1362(7) (1982).

81. *Natural Resources Defense Council v. Callaway*, 392 F. Supp. 685 (D.D.C. 1975). *See also* *Conant v. U.S.*, 786 F.2d 1008 (11th Cir. 1986).

82. 33 C.F.R. § 328.3(b) (1987).

83. *Avoyelles Sportsmen's League, Inc. v. Alexander*, 473 F. Supp. 525 (W.D.La. 1979); *United States v. Huebner*, 752 F.2d 1235 (7th Cir. 1985).

The Corps of Engineers has created several categories of "nationwide" permits. 33 C.F.R. § 330 (1987).

84. 33 U.S.C. §§ 1343(c) and 1344(b) (1982).

85. *Id.* at § 1344(c).

qualify an applicant for a permit. The focus of the inquiry is on the effect of the discharge on the water body and not on any technological standard of performance or measurable level of pollution control. The Corps describes its "public interest review" with the following notable language:

(a) *Public Interest Review.* (1) The decision whether to issue a permit will be based on an evaluation of the probable impacts . . . of the proposed activity and its intended use on the public interest. Evaluation of the probable impact which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur, are therefore determined by the outcome of this general balancing process. That decision should reflect the national concern for both protection and utilization of important resources. All factors which may be relevant to the proposal must be considered including the cumulative effects thereof: among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.<sup>86</sup>

Discharge of dredge and fill material without a permit violates Section 1311 ("the discharge of any pollutant by any person shall be unlawful") and is within the enforcement responsibility of EPA. Violation of the terms and conditions of a Section 404 permit is prohibited and is under the authority of the Corps.<sup>87</sup>

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86. 33 C.F.R. § 320.4(a) (1987). The Corps' regulations incorporated by reference EPA's parallel regulations dealing with disposal sites for dredged or fill material. 40 C.F.R. § 230 (1987).

When the Corps considers the issuance of a dredged and fill permit under § 404, the Endangered Species Act imposes a mandatory obligation to insure that any resulting discharge will not destroy threatened or endangered species. *Riverside Irrig. Dist. v. Andrews*, 758 F.2d 508 (10th Cir. 1985).

Instructive decisions dealing with judicial review of § 404 permit decisions include: *United States v. Akers*, 785 F.2d 814 (9th Cir. 1986); *Friends of the Earth v. Hintz*, 800 F.2d 822 (9th Cir. 1986); and *Bailey v. U.S. Corps of Engineers*, 647 F. Supp. 44 (D.Idaho 1986).

The "takings" question was addressed in the factual context of § 404 permits in *United States v. Riverside Bayview Homes*, — U.S. —, 106 S.Ct. 455 (1985).

For further discussion of permit review criteria, see Liebesman, *The Role of EPA's Guidelines in the Clean Water Act § 404 Permit Program—Judicial Interpretation and Administrative Application*, 14 ENVTL. L. REP. 10272 (Envtl. L. Inst. 1984).

See also Blumm, *Wetlands Preservation. Fish and Wildlife Protection, and 404 Regulation: A Response*, 18 LAND & WATER L. REV. 469 (1983); Habicht, *Implementing Section 404: The View from the Justice Department*, 16 ENVTL. L. REP. 10073 (Envtl. L. Inst. 1986); Hanson, *Damming Agricultural Drainage: The Effect of Wetland Preservation and Federal Regulation on Agricultural Drainage in Minnesota*, 13 WM. MITCHELL L. REV. 135 (1987); Parish & Morgan, *History, Practice and Emerging Problems of Wetlands Regulation: Reconsidering Section 404 of the Clean Water Act*, 17 LAND & WATER L. REV. 43 (1982); Thom, *The Biological Importance of Estuaries*, NW. ENVTL. J., (Winter 21, 1987); Torres, *Wetlands and Agriculture: Environmental Regulation and the Limits of Private Property*, 34 U. KAN. L. REV. 539 (1986), and Comment, *The Taking of Wetlands Under Section 404 of the Clean Water Act*, 17 ENVTL. L. 111 (1986).

87. Failure to obtain a § 404 permit can cause the United States to seek injunctive relief, civil

## B. *The Point-Nonpoint Source Distinction*

The CWA defines "point source" as

any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.<sup>88</sup>

The Act does not specifically define "nonpoint source" but refers in one section to "agricultural and silvicultural activities, including runoff from fields and crop and forest lands. . . ."<sup>89</sup> The distinction is of the greatest importance. Point sources must come under the NPDES permit system, meet technology-based effluent limitations as well as additional standards necessary to deal with toxic pollutants and meet water quality standards. In contrast, for all practical purposes, a nonpoint source escapes regulation. Given the variety of sources of pollutants, designation of the type of source is not always apparent and polluters frequently defend enforcement actions by claiming that the source is nonpoint. The resulting decisions expand our understanding of the point source definition.

Courts have clearly recognized that the definition of point source "does not include unchanneled and uncollected surface waters."<sup>90</sup> But the issue changes sharply when systems are engineered to cause water to be gathered, guided, or controlled. This element of human intervention can qualify a discharge as a point source and thus subject to regulation. As one commentary recently concluded, a "man-induced gathering mechanism plainly is the essential characteristic of a point source."<sup>91</sup>

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penalties, or criminal penalties. 33 U.S.C.A. § 1319 (West 1986 & Supp. 1988). It can also provide the basis of a citizens suit. 33 U.S.C.A. § 1365 (West 1986 & Supp. 1988). Similar enforcement powers are available to the Secretary of the Army if terms of a permit are violated. 33 U.S.C.A. § 1344(s) (West 1986 & Supp. 1988).

Courts have been willing to order restoration of cleared lands to their original condition, an obviously expensive and difficult enforcement remedy. *See, e.g.,* *United States v. Joseph G. Moretti, Inc.*, 478 F.2d 418 (5th Cir. 1973); *United States v. Sexton Cove Estates, Inc.*, 526 F.2d 1293 (5th Cir. 1976); *Parkview Corp. v. Corps of Engineers*, 490 F. Supp. 1278 (E.D. Wis. 1980).

88. 33 U.S.C.A. § 1362(14) (West Supp. 1988).

For a description of South Dakota's system of feedlot regulation under CWA, see Pirner, *Feedlots*, in *State Bar of South Dakota, Committee on Continuing Legal Education, Toxic Torts and Environmental Law*, Oct. 7, 1988.

89. 33 U.S.C. § 1314(f)(A) (1982).

90. *Appalachian Power Co. v. Train*, 545 F.2d 1351, 1373 (4th Cir. 1976).

91. Beck & Goplerud, *Water Pollution & Water Quality Legal Controls*, 3 *WATERS & WATER RIGHTS* 89 (R. Clark 2d ed. 1985) [hereinafter Beck & Goplerud]. In W. RODGERS, *ENVIRONMENTAL LAW* 376 (1981), the author mentions, as part of a discussion of point sources: "sedimentation, pesticide residues and other pollutants from a farm may be collected in a ditch connected to a waterway." (Emphasis added). In Zener, *The Federal Law of Water Pollution Control*, *FEDERAL ENVIRONMENTAL LAW* 760, 766-67 (Env'tl. L. Inst. 1974), writing shortly after enactment of the FWPCA, the author accurately foresaw the issues raised here:

In § 208 of the Act, an attempt is made to deal with various forms of non-point source pollution. Among the non-point sources covered by § 208 are "agriculturally . . . related nonpoint sources of pollution, including runoff from manure disposal areas, and from land used for livestock and crop production," and "construction activity related sources of pollution." These are areas, however, in which some of the sources of pollution may fall within

The leading judicial decision is *United States v. Earth Sciences, Inc.*,<sup>92</sup> a suit brought by EPA to require that a polluter acquire an NPDES permit and comply with effluent limitations.<sup>93</sup> Earth Sciences operated a gold leaching facility on the Rito Seco Creek in Colorado. Its process involved spraying cyanide over a gold ore heap, resulting in a separation of the gold from the ore. The leachate solution was then collected and gold removed from it. The ore heap sat on a plastic barrier covering nearly four acres and was sloped so that the leachate flowed into a sump. After gold removal, the cyanide liquid was again sprayed upon the heap. Extra or runoff leachate flowed into a reserve sump. Fast snow-melt due to an unusually warm spring caused flows to exceed the capacity of the reserve sump. As a result, cyanide flowed into Rito Seco Creek.

EPA initiated enforcement, identifying as a point source an *open ditch* between the reserve sump and the Rito Seco Creek. EPA sought to compel Earth Sciences to *submit a plan* to assure that further discharges would not occur. Though the district court ruled, in an unreported decision, that the FWPCA exempted all mining activities from point source regulation, the Tenth Circuit Court of Appeals held that although flows from mining activities *may* be from nonpoint sources, it is possible for pollutants to be conveyed through a point source and thus subject to regulation. The court found Earth Sciences' arrangement to be such a point source.

The court found support for its view in legislative history, which the court thought shows that Congress "was classifying nonpoint source pollution as disparate runoff caused primarily by rainfall around activities that employ or cause pollutants."<sup>94</sup> In addition, the FWPCA

was designed to regulate to the fullest extent possible those sources emitting pollution into rivers, streams and lakes. The touchstone of the reg-

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the statutory definition of "point source." For example, what if the run-off of silt from a farm, carrying with it pesticides and fertilizers, is collected in a ditch before leaving the farm, or after leaving the farm, with the ditch then discharging into the navigable waters? Literally, a ditch carrying silt and associated pollutants from a farm falls within the definition of point source; and yet it hardly seems rational to conclude that the regulatory system applicable to agricultural run-off depends on the more or less fortuitous circumstances of whether or where the run-off is collected into a ditch before reaching navigable waters.

Similar problems can occur in an urban setting. Run-off from industrial sites, or from large parking lots, will frequently be collected in a drain from which the run-off ultimately flows to navigable waters. Literally, the drain would constitute a "point source" under the statutory definition. Similarly, storm sewers collect run-off of silt, oil, and other pollutants from the streets, from which they are discharged into the navigable waters; and storm sewers are clearly "pipes" which fall within the statutory definition of "point source."

It seems probable that some of these "point sources" of run-off pollution can usefully be subject to the standard-setting and permit provisions of the Act, while for others different regulatory solutions must be found. However, the statutory definition of "point source" is so broad that the EPA may be forced to establish standards and issue permits for every pipe or ditch through which run-off is discharged into the navigable waters, even where the monitoring, measurement, and control techniques necessary to make this system of regulation work may not exist.

92. 599 F.2d 368, 9 ELR 20542 (10th Cir. 1979).

93. Enforcement was pursuant to FWPCA § 309(a)(3), 33 U.S.C. § 1319(a)(3) (1982); the violation was of FWPCA § 301, 33 U.S.C.A. § 1311 (West 1986 & Supp. 1988).

94. *Earth Sciences*, 599 F.2d at 373.

ulatory scheme is that those needing to use the waters for waste distribution must seek and obtain a permit to discharge that waste, with the quantity and quality of the discharge regulated. The concept of a point source was designed to further this scheme by embracing the broadest possible definition of any identifiable conveyance from which pollutants might enter the waters of the United States. It is clear from the legislative history Congress would have regulated so-called nonpoint sources if a workable method could have been derived; it instructed the EPA to study the problem and come up with a solution.<sup>95</sup>

Most importantly, the court concluded, “[w]e believe it contravenes the intent of FWPCA and the structure of the statute to exempt from regulation any activity that emits pollution from an identifiable point.”<sup>96</sup> The important factual finding was that the sump was designed to and did serve as a collection or drainage system for excess flows.<sup>97</sup>

Shortly after the Tenth Circuit ruled in *Earth Sciences*, the Fifth Circuit decided *Sierra Club v. Abston Construction Co., Inc.*,<sup>98</sup> a citizen suit brought against a coal mine operation. At issue was a strip mine in which the overburden was removed from the coal seam and pushed aside into highly erodible “spoil piles.” Rainwater runoff and water draining from within the mined pit carried the material to adjacent streams, causing siltation and acid deposits. The miners occasionally constructed sediment basins in order to catch this runoff before it reached the creek, but these overflowed. Though the district court held in an unreported decision that the mining operation was not a point source, the Fifth Circuit Court of Appeals reversed, finding that the pollution originated from a point source.

In its opinion the court first concluded that mining operations were not entirely exempted from the Act. Instead, it recognized that some mining operators were nonpoint sources while others were point sources. In this case, they were point sources.

[S]urface runoff collected or channeled by the operator constitutes a point source discharge. Simple erosion over the material surface, resulting in the discharge of water and other materials into navigable waters, does not constitute a point source discharge, *absent some effort to change the surface, to direct the waterflow or otherwise impede its progress. . . .*

Gravity flow, resulting in a discharge into a navigable body of water, may be part of a point source discharge if the miner at least initially collected or channeled the water and other materials. . . . The ultimate question is whether pollutants were discharged from “discernible, confined, and discrete conveyance(s)” either by gravitational or non-gravitational means. Nothing in the Act relieves miners from liability simply because the operators did not actually construct those conveyances, so long as they are reasonably likely to be the means by which pollutants are ultimately deposited into a navigable body of water. Con-

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95. *Id.* at 373.

96. *Id.*

97. Beck & Goplerud at 89 (cited in note 91).

98. 620 F.2d 41 (5th Cir. 1980).

veyances of pollution formed either as a result of natural erosion or by material means, and which constitute a component of a mine drainage system, may fit the statutory definition and thereby subject the operators to liability under the Act.<sup>99</sup>

The court specifically concluded that the point source definition excludes unchanneled and uncollected surface waters,<sup>100</sup> but that surface runoff from rainfall, when collected or channeled by coal miners in connection with mining activities constitutes point source pollution.<sup>101</sup>

A roughly contemporaneous decision, *United States v. Oxford Royal Mushroom Products, Inc.*,<sup>102</sup> involved a criminal prosecution for the discharge of a pollutant. The defendant had a spray irrigation system, designed to spray waste water onto fields in quantities small enough to be absorbed. While it was not intended that the waste water run into surface water, the defendants sprayed excess amounts of waste water onto the fields, which in turn ran off into a nearby stream through a break in the berm that had been constructed around the fields. The court held that the discharges were point sources, noting that "uncollected surface runoff may, but does not necessarily, constitute discharge from a point source."<sup>103</sup> The *Oxford* court found that whether a source is a point source is a factual question and observed that even where water is *uncollected* the pollution may be from a point source.

A closely related case is *O'Leary v. Moyer's Landfill, Inc.*,<sup>104</sup> involving a fifty-five acre landfill about 300 to 1,300 feet from a navigable stream. As originally designed, leachate from the dump was to be collected at an interceptor trench, then reconveyed by pumping to a storage tank located at the top of the dump. The leachate was to be allowed to again flow through the dump as a device for reducing its strength and its volume. Liquids regularly escaped this recirculation system, overflowing the surface or seeping through the ground to the creek. The court held that the leachate is a point source, observing, "[n]otwithstanding that it may result from such natural phenomena as rainfall and gravity, the surface run-off of contaminated waters, *once channeled or collected*, constitutes discharge by a point source."<sup>105</sup>

In the most recent case on point, *Quivira Mining Company v. United States Environmental Protection Agency*,<sup>106</sup> several companies deposited pollutants into gullies. Although the gullies led ultimately to navigable watercourses, the discharges were insufficient to carry them that far. Instead the flows seeped into the ground where they traveled to navigable streams by way of underground aquifers. The court upheld EPA's determination that the pollution was from a point source.<sup>107</sup>

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99. *Id.* at 44-45 (emphasis added).

100. *Id.* at 47.

101. *Id.*

102. 487 F. Supp. 852 (E.D. Pa. 1980).

103. *Id.* at 854.

104. 523 F. Supp. 642 (E.D. Pa. 1981).

105. *Id.* at 655 (emphasis added).

106. 765 F.2d 126 (10th Cir. 1985), *cert. denied*, 106 S.Ct. 791 (1986).

107. *Fishel v. Westinghouse Elec. Corp.*, 640 F. Supp. 442 (M.D. Pa. 1986) held a hazardous



The *Earth Sciences* line of cases is not contradicted by the "dam cases," two of which reject claims that a discrete source is a point source. Both decisions involve large mainstem hydroelectric dams. The basic factual allegation in each case was that dams contribute to river pollution by lowering the levels of dissolved oxygen in the water and creating increased amounts of various minerals in the water, such as iron, manganese, phosphorous, and mercury. In *National Wildlife Federation v. Gorsuch*,<sup>108</sup> EPA took the position that the dam was serving merely to pass pollutants, which were already in the water, down the river. As stated in the opinion:

EPA responds that *addition from a point source occurs only if the point source itself physically introduces a pollutant into water from the outside world*. In its view, the point or nonpoint character of pollution is established when the pollutant first enters navigable water, and does not change when the polluted water later passes through the dam from one body of navigable water (the reservoir) to another (the downstream river).<sup>109</sup>

The District of Columbia Circuit Court upheld the EPA's position that a dam is a nonpoint source, that EPA's interpretation of the statute was reasonable and not inconsistent with congressional intent, and therefore was entitled to great deference. The court also determined that EPA's position was not inconsistent with the policy of the FWPCA.

On the other hand, dam-caused pollution is unique because its severity depends partly on whether other sources have polluted the upstream river. The NPDES program, however, requires EPA to issue nationally uniform standards, and thus would not allow the agency to take full account of the interrelationship between dam-caused pollution and other pollution sources. Moreover, dams are a major component of state water management, providing irrigation, drinking water, flood protection, etc. In light of these complexities, which the NPDES program was not designed to handle, it may well be that state areawide water quality plans are the better regulatory tool.<sup>110</sup>

This opinion was followed by the Sixth Circuit in *United States ex rel. Tennessee Valley Authority v. Tennessee Water Quality Board*.<sup>111</sup>

### C. *Irrigation Return Flows, Agricultural Drains and Stormwater Discharges*

Irrigation is a major source of water pollution in every western state. Water to be used in irrigation is typically collected behind a dam or other diversion work from which it is transported by open ditch to the irrigation project. From there it is diverted to smaller canals which carry the water to the high side of fields where it is introduced to individual crop rows. By force of gravity the water moves down the row to the low end of the field where it is

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waste site to be a point source where it contained a lagoon from which there were discharges of unchanneled and uncollected surface water into a stream.

108. 693 F.2d 156 (D.C. Cir. 1982).

109. *Id.* at 174-75 (emphasis added).

110. *Id.* at 182.

111. 717 F.2d 992 (6th Cir. 1983), *cert. denied*, 466 U.S. 937 (1984).

picked up in other delivery canals, mixed with other waters, and used again on other fields. Water that survives this process of use and reuse is returned to a watercourse in the form of irrigation return flows.<sup>112</sup> When the 1972 legislation was enacted, irrigation return flows were understood to be point sources and subject to the NPDES permit requirements.<sup>113</sup> In 1977 Congress specifically exempted irrigation return flows from the CWA's definition of point source.

The Senate Committee report accompanying this exemption suggests that the drafters intended *all* agricultural drainage to be excluded from regulation and, as nonpoint sources, to be covered instead only by the informal planning processes.<sup>114</sup>

Testimony in field hearings suggested that effluent limits based on technological methods may not be appropriate for control of return flow pollutants and the committee determined that these sources were practically indistinguishable from any other agricultural runoff, which may or may not involve a similar discrete point of entry into a watercourse. All such sources, regardless of the manner in which the flow was applied to the agricultural lands, and regardless of the discrete nature of the entry point, are more appropriately treated under the requirements of section 208(b)(2)(F).<sup>115</sup>

The 1987 amendments to CWA extended the exclusions from the point source definition to exclude "agricultural stormwater discharges."<sup>116</sup> Although it is not certain that the word "stormwater" describes all the waters that routinely drain from farm fields, that is the most likely interpretation.<sup>117</sup>

The same 1987 amendments establish that permits are not required where stormwater runoff is diverted around mining or oil and gas operations and does not come in contact with overburden, raw material, product, or process wastes. Also, when stormwater runoff is not contaminated by contact with such material, as determined by EPA, permits are not required.<sup>118</sup> These changes are clearly aimed at reversing the holdings in *Abston*<sup>119</sup> and *Earth*

112. Comment, *Federal Law, Irrigation and Water Pollution*, 22 S.D.L. REV. 553, 556-572 (1977).

113. *Id.* at 570-72.

114. See the description of "Section 208" planning in the next section of this piece.

For an argument that developed agricultural drainage systems should be regulated as point rather than nonpoint sources of pollution, see Davidson, *Little Waters: the Relationship Between Water Pollution and Agricultural Drainage*, 17 ENVTL. L. REP. 10074 (Envtl. L. Inst. 1987).

115. S. REP. NO. 370, 95th Cong., 1st Sess. 35 (1977).

116. 33 U.S.C.A. § 1362(14) (West Supp. 1988).

117. The prior § 402(1) [33 U.S.C. § 1342(1)](West 1986 & Supp. 1988)] reads as follows:

(1) *Irrigation Return Flows.*

The Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture, nor shall the Administrator directly or indirectly, require any State to require such a permit.

As amended in 1987 the provision now reads:

(1) *Agricultural Return Flows.*

The Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture, nor shall the Administrator directly or indirectly require any State to require such a permit.

118. 33 U.S.C.A. § 1342(1)(2) (West Supp. 1988).

119. *Sierra Club v. Abston Constr. Co.*, 620 F.2d 41 (5th Cir. 1980).

*Sciences*.<sup>120</sup>

Another 1987 change which relates to the identification of nonpoint sources deals with municipal and industrial stormwater discharges. Prior to October 1, 1992, no permit will be required for discharges composed entirely of stormwater unless there is an existing permit, the discharge is from a separate municipal storm sewer serving 100,000 or more people, or EPA determines either that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.<sup>121</sup> The purpose of the section is to provide a sufficient period of time to develop and implement methods for managing and controlling discharges from municipal storm sewers. After October 1, 1992, all separate municipal storm sewer systems will be required to have permits. The stormwater exception applies, however, *only* to discharges composed entirely of storm water. Storm sewer discharges that carry any other pollutant must obtain a permit.<sup>122</sup>

#### D. *The Federal Nonpoint Source Control Program Prior to 1987*

Prior to the 1987 amendments the CWA addressed nonpoint sources in only one provision,<sup>123</sup> which required that EPA prepare guidelines for state and local agencies to employ in identifying nonpoint sources and developing control measures. After the identification of nonpoint sources, control measures were to be developed and implemented through state and local planning processes, most particularly the "Section 208" plans.

Planning was intended to be fully integrated into the water pollution control strategy of the CWA. Before permits would issue or before federal construction grants were made there was to be a systematic plan that would, among other things, allow decision-makers to address the more difficult pollution problems first, thus allowing them to proceed with a full awareness of the extent of pollution in a region or water system. In practice this was turned around; standards were established and implemented through permit programs before the planning provisions were given serious emphasis. Nonetheless, planning was an important feature which has gradually become ever more important.

The Act's planning provisions appear in different parts of the statute and often overlap. Some planning requirements are general, others quite specific. EPA is authorized to make grants to states for pollution control programs. One of the conditions of all such grants is that an annual plan "for the prevention, reduction, and elimination of pollution in accordance with" the CWA be in place.<sup>124</sup> Planning is thus required of all states. The planning provisions

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120. *United States v. Earth Sciences, Inc.*, 599 F.2d. 368 (10th Cir. 1979).

121. 33 U.S.C.A. § 1342(p) (West Supp. 1988).

122. *Id.*

123. 33 U.S.C. § 1314(f) (1982).

124. *Id.* at § 1256(F)(3).

are broken down into (1) the "continuing planning process," (2) areawide waste treatment management planning, and (3) basin planning.

The "continuing planning process" is a firm prerequisite to the approval by EPA of a state NPDES permit program.<sup>125</sup> The plan must cover all navigable waters within the state,<sup>126</sup> and contain certain elements provided by the Act. These include effluent limitations and water quality standards, incorporation of all other plans, imposition of total maximum daily loads, adequate authority for intergovernmental cooperations, adequate implementation of water quality standards, control over all "residual waste" (i.e., sewage sludge), and a list of priorities for construction of waste treatment facilities.<sup>127</sup>

The "areawide waste treatment management plan," also referred to as the "Section 208" plan,<sup>128</sup> is a specific response to the realization that point source, effluent limitations, and water quality standards are not by themselves enough to eliminate water pollution. Significant pollution may originate from "nonpoint" sources or from complex pollution problems that are not responsive to the approach of standards and permits. These include, for example, run-off from construction sites, urban (paved) land, agricultural land and forestry sites.

The Section 208 process first requires that the governor of each state designate the areas within the state which have substantial water quality problems.<sup>129</sup> The governor then designates an agency to develop the "areawide waste treatment management plans" for the area.<sup>130</sup> If pollution over an interstate region is involved, the respective governors are to consult to find a single representative organization capable of developing a plan.

The state itself is required to act as the planning agency for any portion of the state which is not designated as part of a planning region.<sup>131</sup> Details of the plan are set out in the CWA, and include: (1) the identification of the treatment works necessary to meet municipal and industrial waste treatment needs for twenty years; (2) identification of the means necessary to implement the plan; (3) a process to identify all nonpoint source problems; (4) procedures and methods "including land use requirements" to control nonpoint sources; and (5) development of procedures to control the disposal of sewage sludge.<sup>132</sup>

Once the plan is developed, the governor is to designate "waste treatment management agencies" to implement the plans.<sup>133</sup> These may be existing or newly created local, regional or state agencies or political subdivisions; they

125. *Id.* at § 1313(e).

126. *Id.* at § 1313(e)(3).

127. *Id.* at § 1313(e)(3)(A)-(H).

33 U.S.C. § 1284(a)(2) (1982) provides that no construction grants may be made to a state unless EPA has determined that the proposed works are in conformity with the § 1313 plan. A § 1313 plan must also incorporate all elements of a § 1288 (§ 208) plan.

128. 33 U.S.C.A. § 1288 (West 1986 & Supp. 1988).

129. 33 U.S.C. § 1288(a)(2) (1982).

130. *Id.*

131. *Id.* at § 1288(a) & (b). All designations are subject to EPA approval.

132. *Id.* at § 1288(b)(B)(2)(A)-(K).

133. *Id.* at § 1288(c).

need only have adequate continuing regulatory authority to implement the plan.

After approval of a Section 208 plan and during the implementation of the plan, no grant for the construction of a waste treatment facility may be made except in conformity with the plan,<sup>134</sup> nor may an NPDES permit issue.<sup>135</sup> Federal funds covering up to seventy-five percent of the cost of planning and operating are available.<sup>136</sup>

In summary, the Section 208 planning process is intended to generate at least three programs. First is a regulatory program to control urban growth and industrial facility siting based upon potential for water pollution. The language of the CWA is that the plan "shall include . . . the establishment of a regulatory program."<sup>137</sup> Second, a coordinated program is to be developed for the planning and construction of work treatment facilities.<sup>138</sup> Third, nonpoint sources including at least agriculture, forestry, mining and construction are to be controlled.<sup>139</sup>

The strong suggestion of Section 208 is that the states should develop regulatory programs reflecting unique local conditions and pollution problems as a supplement to national uniform effluent limitations. Although this result has been achieved only in isolated cases, as the enforcement concern of EPA gradually broadens to encompass nonpoint sources of pollution,<sup>140</sup> Section 208 planning will also grow in importance.

A third required type of planning—River Basin Planning—is less likely to play a significant role in the evolution of water pollution control law. The Water Resources Council is required to prepare a "level B" plan "for all basins in the United States."<sup>141</sup> The Water Resources Council was created by the Water Resources Planning Act of 1965<sup>142</sup> to facilitate planning for the development of water resources and is comprised of cabinet-level officials. Level B plans assume that an entire river basin is the planning unit, and are to resolve complex long-range problems associated with water resources development.<sup>143</sup> Although basin planning is a sensible approach to water resources decision-making, the primary reason for the existence of the Water Resources Council is to facilitate water development projects, especially traditional federal investment. Such planning is in basic conflict with planning for pollution control.

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134. *Id.* at § 1288(d).

135. *Id.* at § 1288(e).

136. 33 U.S.C.A. § 1288(f) (West 1986 & Supp. 1988).

137. 33 U.S.C. § 1288(b)(2)(C) (1982).

138. *Id.* at § 1288(b)(2)(A)-(C).

139. *Id.* at § 1288(b)(2)(F)-(H).

140. See Note, *Agricultural Non-Point Source Water Pollution Control Act Under Sections 208 and 303 of the Clean Water Act: Has Forty Years of Experience Taught Us Anything?* 54 N.D.L. REV. 589 (1978).

141. 33 U.S.C. § 1289(a) (1982).

142. 42 U.S.C. § 1962(d)(3) (1982).

143. Liebman, *The Water Resources Council 83* (Report prepared for the National Water Commission, May 1972).

#### IV. THE 1987 AMENDMENTS TO THE FEDERAL NONPOINT SOURCE MANAGEMENT PROGRAM

##### A. Introduction

There are two worlds of environmental regulation. One is in the District of Columbia and the state capitols and is made up of specific regulations, central plans, papers, policies and complex enforcement strategies. The other world is "on the ground" in America's forestry, agricultural, mineral, recreational and related land-intensive industries. This is a geographically immense and functionally practical world, most of it far from the sight and experience of natural resources managers. The economy in this second world is dispersed, typified by small production units with small operating margins. It is a world where "getting the job done" is most respected and where any useful tool, be it a chemical or a flowing stream, is viewed as just that, a useful tool. In attempting to deal with nonpoint sources of pollution, Washington and the state capitols will encounter this second world.

For the present, water pollution regulation focuses on the imposition of technology-based effluent limitations through NPDES permits. Enforcement is largely in federal courts or administrative agencies—relatively safe and familiar venues for the regulators in central government. With the 1987 amendments to the CWA, however, Congress has, in a small way, initiated the process of considering possible paths toward a future time in which we take nonpoint water pollution seriously. The remainder of this article will describe the new federal law and suggest some possible approaches to the problem for the State of South Dakota.

In 1987 Congress added to the CWA a new and separate section dealing exclusively with nonpoint source pollution.<sup>144</sup> Senator Durenberger summarizes well the testimony that moved Congress to adopt the Nonpoint Source Management Program:

Although many states have taken small steps to tackle the nonpoint pollution problem under grants provided by the Clean Water Act, nonpoint pollution continues to be a major environmental problem in the United States; 35 states report significant water quality problems as a result of nonpoint sources of pollution. It is estimated that one-half of the pollutants now reaching surface waters in the United States come from nonpoint sources. And it is clear that in many watersheds the goals of the Clean Water Act—fishable, swimmable waters—will never be met unless we can significantly reduce farm and urban runoff and other nonpoint problems.<sup>145</sup>

The amending language begins with a legislative policy statement that "it is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this chapter to be met through the control of both point and

144. Pub. L. No. 100-4, § 319, 101 Stat. 7, codified at 33 U.S.C.A. § 1329 (West Supp. 1988).

145. 133 CONG. REC. S1015, (Daily ed. Jan. 21, 1987) (statement of Sen. Durenberger).

nonpoint sources of pollution.”<sup>146</sup>

### B. *State Assessment Reports*

Under the new program, each state is to submit an “assessment report” identifying all waters in the state which, without additional action to control nonpoint sources, cannot reasonably be expected to attain or maintain applicable water quality standards.<sup>147</sup> The report must also describe the process, including intergovernmental coordination and public participation, for identifying best management practices<sup>148</sup> and related measures to control each category of nonpoint pollution and, where appropriate, *particular* nonpoint sources. A description of state and local programs for controlling nonpoint source pollution must also be included. The goal of the programs and processes described is to be the reduction of pollution “to the maximum extent practicable.”<sup>149</sup>

### C. *State Management Programs*

As of August 1988 each state should have submitted to EPA a management program describing implementation of nonpoint controls.<sup>150</sup> Generally, the management program should detail the state proposals for *implementation* in the four year period beginning with the date of submission of the program. Specifically, the management program “shall include:” (1) an identification of the best management practices and measures which “*will be undertaken*” to reduce pollutant loadings, “taking into account the impact of the practice on groundwater quality[;]”<sup>151</sup> (2) an identification of programs, including regulatory programs, for enforcement, technical and financial assistance, education, training and demonstration projects;<sup>152</sup> and (3) an implementation schedule.<sup>153</sup>

In management programs, states shall, “to the maximum extent practicable,” involve local, public and private agencies which have expertise in controlling nonpoint pollution.<sup>154</sup> More significantly, the program shall also, “to the maximum extent practicable,” develop and implement programs on a watershed-by-watershed basis.<sup>155</sup>

### D. *EPA Approval of State Management Programs*

EPA must approve submitted management programs within 180 days;

146. 33 U.S.C.A. § 1251(a)(7) (West Supp. 1988).

147. *Id.* at § 1329(a).

148. Best Management Practices, or “BMPs”, are discussed more fully in section V below.

149. 33 U.S.C.A. § 1329(a)(1)(C) (West Supp. 1988).

150. *Id.* at § 1329(b)(1).

151. *Id.* at § 1329(b)(2)(A).

152. *Id.* at § 1329(b)(2)(B).

153. *Id.* at § 1329(b)(2)(C). The management program must also contain a certification of legal authority from a state’s legal officer, and identify the sources of federal and other money that will be used. *Id.* at § 1329(b)(2)(D).

154. *Id.* at § 1329(b)(3).

155. *Id.* at § 1329(b)(4).

EPA default deems the program approved. EPA may approve or disapprove a program or a portion of it upon a determination, among other things, that it is not likely to satisfy the goals and requirements of the CWA, or that the practices and measures proposed in the plan are inadequate to reduce nonpoint source pollution.<sup>156</sup>

If a state fails to submit the report, or if it is not approved, a local public agency with expertise and regulatory authority may, with the approval of the state, develop a program for its area.<sup>157</sup>

#### E. *Grant Programs for Implementing Management Programs*

States are eligible to receive federal grants for implementation of approved management plans,<sup>158</sup> and EPA may give preference to grant applicants who intend to *control* particularly difficult or serious nonpoint source pollution.<sup>159</sup> A grant application must, among other things, describe the best management practices and measures which the state proposes to "assist, encourage, or require" in the year of the grant award. The federal share of any grant is limited to sixty percent.

EPA may give priority in making grants to states "which have implemented or are proposing to implement management programs which will . . . *control* particularly difficult or serious nonpoint source pollution problems. . . ."<sup>160</sup> Priority may also be given to implement innovative methods or carry out groundwater quality protection activities.<sup>161</sup> There is also a specific grant program for assistance in protecting groundwater.<sup>162</sup>

#### F. *Interstate Management Conferences*

Where waters in a state with an approved management program are not meeting state water quality standards or the other goals and requirements of the CWA because of upstream nonpoint pollution, the state may petition EPA to convene a conference to develop an agreement to reduce the level of nonpoint source pollution.<sup>163</sup> Should states reach agreement through a conference, their management programs will be revised to "reflect" the agreement. It is not clear whether agreed upon plans are to be in any way binding, although one Congressman's report states that "[i]t is intended that the agreements will be incorporated in revised state programs and will be carried out."<sup>164</sup> These conferences will likely be little more than informal negotiating

156. *Id.* at § 1329(d)(1) and (2).

157. *Id.* at § 1329(d)(3).

158. *Id.* at § 1329(h)(1).

159. *Id.* at § 1329(h)(5)(A).

160. *Id.* at § 1329(h)(5).

161. *Id.* at § 1329(h)(5)(B) and (D).

162. *Id.* at § 1329(i).

163. *Id.* at § 1329(g)(1). The Colorado River Basin Salinity Control Act is exempted from the reach of interstate conferences. *Id.*

164. *Section-By-Section Analysis Prepared by The Hon. James J. Howard, Chairman of The House Committee on Public Works and Transportation*, 133 CONG. REC. H131 (daily ed. Jan. 7, 1987), reprinted in 1987 U.S. CODE CONG. & ADMIN. NEWS 5, 31.



sessions. What Congress has in effect done is to provide that should states manage to agree on a common management program, they will qualify for implementation grants.

### G. *Slightly Upgrading Section 208 Planning*

Congress gave a boost to Section 208 planning, thereby recognizing its continuing importance in nonpoint control strategy. Before EPA can approve any waste treatment works, it must determine that the Section 208 areawide waste management plan "is being implemented for such area . . . or . . . is being developed for such area and reasonable progress is being made toward its implementation. . . ." <sup>165</sup>

### H. *Miscellaneous Provisions*

A "Clean Lakes" program is initiated which requires that states submit biennial reports on lake quality. Reports should provide a list and description of the quality of lakes and a description of methods and procedures to control sources of pollution in lakes, including ways to mitigate the effects of acid rain. EPA is to report to Congress after it receives the state reports. <sup>166</sup>

A program to identify and sustain "nationally significant" estuaries is also created. The governor of any state may nominate to EPA an estuary lying at least partly within the state as an estuary of national significance and request a management conference to develop a comprehensive conservation and management plan for it. EPA must determine whether an estuary can be included in this program, based on ecological significance, biological productivity, contribution to fish and wildlife resources of commercial and recreational significance, and a list of other factors. Implementation grants are also available for estuary plans. <sup>167</sup>

EPA is required to treat Indian tribes as states for purposes of CWA regulation when tribal government meets certain statutory criteria. Implementation grants may then be made to tribes on the same basis as if they were states. <sup>168</sup>

Finally, separate offices within EPA are created to deal with Chesapeake Bay Programs <sup>169</sup> and Great Lakes programs. <sup>170</sup>

### I. *Initial Observations About the New Program*

While the 1987 Nonpoint Source Management Program is a start, it is far from being dramatic or decisive; arguably, it leaves any resulting improvements in water quality entirely to the political will of individual states. The

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165. 33 U.S.C.A. § 1284(a) (West Supp. 1988). This requirement is effective on Feb. 4, 1989. A similar conformity is required in 33 U.S.C. §§ 1313(e) and 1315(b) (1982).

166. 33 U.S.C.A. § 1324 (West Supp. 1988).

167. *Id.* at § 1330.

168. *Id.* at § 1377.

169. *Id.* at § 1267.

170. *Id.* at § 1268.

Act shows us a Congress that recognizes a serious water quality problem but is unwilling to require remedial action. Congress instead has largely deferred to the states.

Even the small steps Congress has taken are subject to a variety of criticisms. For instance, while the language of the Act mandates the filing of both Assessment Reports and Management Plans, it imposes essentially no sanction. If a state fails to file an Assessment Report, EPA will prepare an abbreviated one and report to Congress.<sup>171</sup> If a state fails to prepare an EPA-approved management program, a regional water quality control entity (such as a watershed organization) may prepare a management program covering only its jurisdiction and proceed as the state could otherwise have.<sup>172</sup>

These actions are hardly a penalty. While an EPA-approved management plan is a prerequisite to qualifying for an implementation grant, many states will likely find it prudent to decline the offer. The grants may only be given to states to support *implementation* of specific best management practices and other controls,<sup>173</sup> and EPA is required, in making grant awards, to consider states "which *have implemented or are proposing to implement* management programs which . . . *control* particularly difficult or serious nonpoint source pollution problems. . . ."<sup>174</sup> The key word here is "control." The grant programs will be attractive only in those states that have determined to establish and implement a system of controls. Additionally, the grants from the federal EPA will not exceed sixty percent of the cost; states that decide to implement will need to generate substantial financial resources on their own.<sup>175</sup>

The 1987 nonpoint program can also be criticized for being largely redundant. The Section 208 areawide waste treatment management plan requires that, among other things, the planning agency develop a plan for identifying and assessing nonpoint source problems and develop procedures and methods "including land use requirements" to control nonpoint sources.<sup>176</sup> Once a Section 208 plan is developed and approved, no grant for the construction of a waste treatment plant may be approved that is not in conformity with the plan.<sup>177</sup> Section 208 planning represents a congressional hope that states will develop regulatory programs of their own. The 1987 program goes beyond this in only small ways. First, the program gently urges the states to "get specific" in their plans for dealing with nonpoint problems. Management programs must identify the measures and programs that the state plans to undertake and include a schedule against which the states's performance can be measured. Second, it brings groundwater quality planning into the sphere of

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171. *Id.* at § 1329(d)(3).

172. *Id.* at § 1329(e).

173. *Id.* at § 1329(h)(1).

174. *Id.* at § 1329(h)(5) (emphasis added).

175. No money for the nonpoint source program was included in the 1989 EPA appropriations bill. 19 BNA ENV'T. REP. CURR. DEV. 292 (July 1, 1988).

176. 33 U.S.C. § 1288(b)(2)(A)-(K) (1982).

177. *Id.* at § 1288(d).

nonpoint source management. Third, it adds the grant program for implementing the more specific program.

Since the 1987 legislation adds very little to existing legislation, it seems fair to judge the strength of congressional will by its willingness to fund the grant program. Congress appropriated no money for the 1989 program.<sup>178</sup>

Lastly, the management programs themselves may be less than meets the eye. Although the language of the Act directs the state to develop plans that contain specific control measures, it is likely that the plans must state merely what would be done *if* a state has the money it needs.<sup>179</sup> In their plans the states will say, "Here is what we will do if we get the money. . . . If funds are inadequate we won't do it, . . . and if implementing the plans in our state will be politically unpopular, we won't even apply for the grant." This is a carrot and stick program, and even when ample federal funds are available, the states, considering the political costs of implementing a control program, may see a very small carrot indeed.

## V. THE NOTION OF BEST MANAGEMENT PRACTICES

The new nonpoint source management sections of the CWA repeatedly refer to "best management practices," usually describing the preferred methods of implementing nonpoint source control programs. While it is clear from this and other CWA sections that Congress places great emphasis on BMPs in its overall water quality strategy, no reliable definition is readily apparent. The phrase has crept slowly and undefined into federal water quality law.

Congress intends that BMPs play a basic role in water quality planning.<sup>180</sup> The Section 303 continuing planning process is to include a component for nonpoint source management and control.<sup>181</sup> This includes residual waste, land disposal, agricultural and forestry activities, mining, construction, saltwater intrusion, and urban stormwater.<sup>182</sup> For purposes of the planning section, the regulations define BMPs in this way:

Methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters.<sup>183</sup>

The regulations later supplement this definition by stating:

Economic, institutional and technical factors shall be considered in a continuing process of identifying control needs and evaluating and modifying the BMPs as necessary to achieve water quality goals.<sup>184</sup>

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178. 19 BNA ENV'T. REP. CURR. DEV. 292 (July 1, 1988).

179. See 33 U.S.C.A. § 1329(b)(2)(E) (West Supp. 1988).

180. See, e.g., 33 U.S.C. § 1314(f) (1982).

181. *Id.* at § 1313(e).

182. 40 C.F.R. § 130.6(c)(iii) (1987).

183. *Id.* at § 130.2(1).

184. *Id.* at § 130.6(c)(4)(i).

The Rural Clean Water Program, which finances demonstration projects for nonpoint source control, clearly contemplates the promotion of BMPs.<sup>185</sup> The United States Department of Agriculture's Soil Conservation Service, which administers the program, defines BMPs simply and vaguely:

A single practice or a system of practices included in the . . . [Rural Clean Water Program] application that reduces or prevents agricultural nonpoint source pollution to improve water quality.<sup>186</sup>

The same regulations define the purpose of the cost-sharing assistance as being "to install . . . (BMPs) in project areas which have critical water quality problems resulting from agricultural activities."<sup>187</sup>

BMPs are among the standards that may be imposed in an NPDES permit to supplement effluent limitations when needed to control toxic and hazardous substances.<sup>188</sup> They may also be used when numeric effluent limitations are unfeasible or when needed to achieve effluent limitations.<sup>189</sup> For this purpose BMPs are defined in the regulations as:

. . . schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of the "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.<sup>190</sup>

BMPs are also to be part of the Total Maximum Daily Load regulations,<sup>191</sup> as well as individual water quality based effluent limitations.<sup>192</sup>

It is clear that the 1987 Nonpoint Source Management Program intends to foster BMPs. The state Assessment Report identifies BMPs to control each category of nonpoint source pollution.<sup>193</sup> To gain EPA's approval, a state Management Program must identify BMPs that will be undertaken to reduce nonpoint source pollution.<sup>194</sup>

While BMPs occupy an important place in overall water quality strategy, they evade specific description; this may explain their attraction.<sup>195</sup> BMPs are the correct way of doing things on a particular piece of ground. The concept suggests the necessity for reasonableness and balancing. BMPs incorporate a recognition that nonpoint source pollution can rarely be addressed by the use of universal numeric standards, such as technology-forcing effluent limitations or ambient standards. Nonpoint source pollution of surface and ground waters is the result of human activity on the land. The only effective controls are

185. 33 U.S.C.A. § 1288(j) (West 1986 & Supp. 1988).

186. 7 C.F.R. § 634.5(i) (1987).

187. *Id.* at § 634.1(b).

188. 33 U.S.C.A. § 1311(b)(2)(C) and (D) (West Supp. 1988); 33 U.S.C. § 1314(b) (1982).

189. 33 U.S.C. § 1314(e) (1982).

190. 40 C.F.R. § 122.2 (1987).

191. 33 U.S.C. § 1313(d)(1)(A) (1982).

192. 33 U.S.C.A. § 1312(a) (West Supp. 1988).

193. *Id.* at § 1329(a)(1)(C).

194. *Id.* at § 1329(b)(2)(A)&(B).

195. See generally, W. RODGERS, ENVIRONMENTAL LAW: AIR AND WATER, §§ 4.21-4.22 at 305-330 (1986).

those that address specific land management practices, taking into account all of the circumstances unique to the place, time and activity. When employed in federal regulations, BMPs are probably an indirect reference to local land use controls and in that sense suggest a more controversial idea.

## VI. NON-DEGRADATION

Another feature of the CWA that has an effect on a state's approach to nonpoint source pollution is the Act's non-degradation policy. One purpose of the Act is to "restore *and maintain*" the nation's waters.<sup>196</sup> As one way to achieve this and other goals of the Act, Section 303<sup>197</sup> requires that states adopt and submit water quality standards to EPA.<sup>198</sup> Such standards are to address both point and nonpoint sources.<sup>199</sup> EPA has included an antidegradation policy in its water quality regulations, which requires states to adopt a statewide antidegradation policy and to develop a method for implementing the policy.<sup>200</sup>

In the 1987 amendments Congress appears to acknowledge the validity of EPA's non-degradation regulation. In a provision dealing with the revision of discharge permit limitations is a reference to the "antidegradation policy established under this section."<sup>201</sup> The 1987 Nonpoint Source Management program seeks to identify waters where additional controls will be necessary to "attain or maintain applicable water quality standards. . . ."<sup>202</sup> This all becomes relevant because of the increasing evidence available describing a lowering water quality due in large part to nonpoint sources. Is there an active duty to control nonpoint sources when necessary to achieve water quality standards and avoid degradation? For example, in an agricultural region where there is

196. 33 U.S.C.A. § 1251(a) (West 1986 & Supp. 1988) (emphasis added).

197. *Id.* at § 1313.

198. *See supra* notes 123 to 143 and accompanying text.

199. 40 C.F.R. §§ 130.0(d) and 130.3 (1987).

200. *Id.* at § 131.12:

(a) The State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy and implementation methods shall, at a minimum, be consistent with the following:

(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2) *Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.*

(3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(Emphasis added.) South Dakota's relevant statute is at S.D.C.L. § 34A-2-22. It presumably also applies to groundwater.

201. 33 U.S.C.A. § 1313(d)(4)(B) (West Supp. 1988).

202. *Id.* at § 1329(a)(1)(A).

a rapidly accelerating pattern of farmland drainage, with an inevitable increase in nonpoint source pollution, does the non-degradation policy require the state to act?<sup>203</sup>

## VII. THE THREE IMPERATIVES OF NONPOINT CONTROL— BMPs, LAND USE CONTROLS AND WATERSHED MANAGEMENT

The difference in regulation between point and nonpoint sources is, as we have seen, quite dramatic. To control point sources the CWA establishes an extensive system of effluent limitations and water quality standards, enforceable by federal and state governments as well as by independent citizens. In contrast, regulation of nonpoint source pollution is largely limited to the preparation of some planning documents, grants for construction of sewage treatment plants and for implementing state plans.<sup>204</sup> There is no meaningful enforcement of any standards. As the result of the 1987 Nonpoint Source Management Program, it is clear that Congress intends to allow the dramatic destruction of water quality to continue despite an increasing awareness that nonpoint sources probably constitute a majority of our water pollution. Yet while Congress has largely failed to regulate nonpoint pollution, it at least recognizes, as we all must, that when the time comes to deal with this problem, the tools will be BMPs, land use controls and watershed management.

BMPs, as we have seen, recognize that national, or even regional, standards probably cannot work a cure. Since nonpoint sources are the result of activities as various as human activity itself, controls must take the form of land management plans that consider the unique circumstances on any given plot of land, the activity and the reasonable alternatives to pursuing the activity. The Congress and EPA recognize that BMPs will play an important role in the future control of nonpoint sources and have encouraged the states to develop BMPs appropriate for their geographic regions and economic activities.

Congress has also recognized the importance of land use controls in controlling nonpoint sources. When Congress, in 1972, finally decided that industries and municipalities could not be enticed to curb their pollution voluntarily, it ended more than a decade of consistent attempts to convince parties responsible for water pollution to control themselves. Voluntary controls were a dream when applied to point sources; they are no different with respect to nonpoint sources. Private parties, given an opportunity to do so, will choose to place the cost of waste disposal on the community, for their economic interests are served by such externalization of costs. Only a legal sanction that potentially will cost more than the amount saved by polluting a waterway will alter the behavior of a private polluter.<sup>205</sup> This is consistent

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203. See generally, W. RODGERS, 2 ENVIRONMENTAL LAW: AIR AND WATER § 4.17 at 262-267 (1986).

204. See Buresh, *State and Federal Land Use Regulation: An Application to Groundwater and Nonpoint Source Pollution Control*, 95 YALE L.J. 1433, 1435 (1986).

205. Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

with human experience and there is no reason to believe that polluters through nonpoint sources are likely to be an exception.

Unfortunately, nonpoint source pollution will seldom be susceptible to control by the devices used to control point sources—effluent limitations and water quality standards.<sup>206</sup> Nonpoint sources are dispersed, unlike point sources which channel their pollutants through a specific pipe or works. They are less predictable than the point source pollutants generated by known industrial, commercial and waste-handling processes. Nonpoint sources, for example, will reflect the geologic and climatic conditions at a given site. An activity that generates few pollutants in one geographic area can be a major source of pollutants in a different area of the country. To control nonpoint sources will require control of the way in which people manage land. The tool will necessarily be land use controls under the authority of the state police power. Zoning, which regulates the location of land uses and densities of land use, is the familiar form of land use control and has a definite role to play in controlling nonpoint sources.<sup>207</sup> But another form of land use control—land management regulation—will be required.

Congress recognized in 1972 that land use controls had an inevitable role in nonpoint source control. In describing the Section 208 areawide waste treatment management plan, the 1972 law provided that a plan should contain procedures and methods “including land use requirements” to control nonpoint sources.<sup>208</sup> Consistently, in the 1987 amendments Congress again required the states to identify enforcement methods, although it does not mention land use controls specifically.<sup>209</sup> In distributing grant money, however, EPA is given authority to prefer states which intend to “control” particularly difficult or serious nonpoint pollution.<sup>210</sup>

Watershed management, although rarely used in pollution control, will also play an important role. Nonpoint sources are generated by human activity on the land but are carried to watercourses by diffused waterflows, most often in the form of rainwater or melting snow. Efforts to control the movement of the pollutants must take into account these waterflows. Flowing water recognizes no political boundaries, but instead operates within its natural jurisdiction—the watershed. Nonpoint sources will be controlled not by any one landowner, but by a majority of landowners in a watershed cooperating to implement a common plan. Congress has recognized this need as well. In the 1987 amendments Congress requires that state management programs shall, “to the maximum extent practicable,” be developed and implemented on a watershed-by-watershed basis.<sup>211</sup>

Although it is often forgotten or ignored, modern American agricultural

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206. Buresh, 95 YALE L.J. at 1436 (cited in note 203).

207. *Id.* at 1437.

208. 33 U.S.C. § 1288(b) (1982).

209. 33 U.S.C.A. § 1329(b) (West Supp. 1988).

210. *Id.* at § 1329(h)(5)(A).

211. *Id.* at § 1329(b)(4).

history includes a major effort at nonpoint source control which incorporated BMPs, land use controls and watershed management. That effort originated out of a great environmental crisis which today we call the Dust Bowl. In the midst of a general economic depression, persistent drought conditions struck the Great Plains. The black blizzards, denuded fields, choked waterways and demoralized human communities associated with this epic are written into the national history and need not be recounted here. What is important is that the nation turned to organized soil erosion control as a remedy.<sup>212</sup> Although the remedial efforts did not solve the soil erosion problem, they do provide the agricultural community with some important lessons to use in addressing the current water pollution problem, for with agriculture, the control of soil erosion is the control of nonpoint source pollution.

Out of the experience of the 1930s emerged a soil conservation establishment which has now evolved and developed into the Soil Conservation Service (SCS) of the United States Department of Agriculture. In its early days the Service was energetic and creative, possessed with a sense of mission. The procedures and methods which it developed for dealing with serious soil erosion problems remain the fundamental methodology for controlling soil erosion and, concurrently, nonpoint source pollution.

The effort of the 1930s began with research, including the development of basic measurement methodologies and the initiation of a system of surveys which identified the most critical erosion problems.<sup>213</sup> The first major technique employed was terracing. Although not a universal cure to soil runoff, it remains a basic tool.<sup>214</sup> Terraces, of course, are ledges of varying sizes constructed in the side of hills to capture water that would otherwise run down a hill with sufficient force to carry away soils and nutrients. After terracing, the SCS stressed cropping techniques, especially plowing and cultivation on the contour which, like terracing, deters runoff and holds the water, soil and other nutrients on the hillside. The most important soil erosion control practice advocated, however, was crop rotation, in which a farmer divides a farm into several acreages and alternates different crops among the acreages from one year to the next. Crop rotation has enormous advantages. Then as now, its greatest advantage is that it substantially reduces the amount of pesticides and fertilizers that a farmer requires. By moving different crops from field to field, insect populations are unable to accumulate around a host crop. Weeds that are associated with row cropping are displaced when row crops are followed by grasses, small grains or pasture. Crops such as alfalfa and soybeans, which add nitrogen to the soil, follow nitrogen-depleting crops such as corn and cotton. Nitrogen is thus reintroduced to the fields without the need for extensive

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212. Batie, *Policies, Institutions and Incentives for Soil Conservation*, SOIL CONSERVATION POLICIES, INSTITUTIONS AND INCENTIVES 25-29 (H. Halcrow, E. Heady, & M. Cotner, eds., 1982).

213. R. HELD & H. CLAWSON, SOIL CONSERVATION IN PERSPECTIVE 60-61 (1965) [hereinafter HELD & CLAWSON].

214. *Id.* at 64.



artificial fertilizer. Finally, arranging fields in an appropriate contour and strip pattern controls soil and water erosion.

Other innovations of the 1930s and '40s include the use of grass waterways—the seeding to stable grasses of low ground over which diffuse surface waters tend to flow. More extensive use of pastures was advocated, particularly in fields where the soils were unstable or in need of rebuilding. The SCS recommended stubble mulch to reduce rill erosion. Tree nurseries assured that farmers could plant wind breaks (shelter belts) to achieve protection of soils from the wind and to conserve waters on high ground. Research developed new species of soil conserving crops, including the reintroduction of native species.<sup>215</sup>

The SCS also considered how to gain acceptance of these new methods. The cooperation of private landowners was critical and was encouraged by substantial federal subsidy of conservation improvements. We can now only speculate whether farmers would have cooperated in the absence of financial aid.

Soil conservation special districts were advocated by the Soil Conservation Service in order to organize landowners, thus allowing them to develop common solutions to common erosion problems. The “whole farm conservation plan”—an integrated plan of soil erosion control practices for an entire farming operation—was developed and complemented by soil capability classifications.

Given the severity of today's nonpoint source and groundwater pollution problems, it seems that soil conservation measures were either unsuccessful or were not continued. There is likely no specific answer. Perhaps conservation measures worked where they were used but were not universally adopted or continued; why they were not is debatable. Certainly an end to the drought followed by the agricultural prosperity associated with war and post-war economic growth affected the adoption and use of conservation measures, as did the advent of the post-war consolidation of agricultural land holdings and the trend toward grain crop specialization. It has been argued, however, and with some considerable proof, that the primary reason for agriculture's general abandonment of soil conserving practices is that the lead federal agency—the Soil Conservation Service—shifted its emphasis from soil erosion control to production enhancement. As Held and Clawson conclude:

Gradually during the general period 1935 to 1950, and to some extent subconsciously, the emphasis of the whole group of soil conservationists, in both public and private programs, shifted from the control of soil erosion to the management of the land for greater productivity. This was in many respects a natural evolution, yet it greatly changed the basic purpose of the soil programs, especially when viewed from a national or social point of view.

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The first programs were primarily for the maintenance of the ex-

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215. *Id.* at 64-66.

isting basic productive capacity in the land, especially by preventing the loss of soil material through wind or water erosion. While such programs resulted in some increases in productive capacity, this was not their primary emphasis. But the later programs clearly indicate major concern with the building of additional productive capacity and with adding to current inputs as a means of affecting output. This shift in emphasis often made good sense to the farmer. Generally speaking, he was less interested in saving his soil, as such, than in increasing his income. Measures to reduce soil erosion to prevent loss of income at some future date were less appealing than measures to increase his output today or tomorrow. In many cases, small adaptations of erosion control programs led to substantial increases in output.

Similarly, the shift in emphasis made good sense to SCS, primarily because it was a means of interesting farmers in the agency's program and in making them more favorably disposed to the agency. Since SCS was engaged in serious conflict with bureaucratic rivals, especially PMA and the Extension Service throughout this period, it needed to build popular and political support wherever and however it could. Adapting its program to what farmers were interested in was surely one effective device. Presumably, SCS advocated only programs in whose technical soundness it strongly believed; its emphasis upon planning for the whole farm, which often led to controversy with other agencies and farmers, seems proof of this. But, within the range of technically sound programs, a public agency is often wise to push popular programs; in this way, it not only assures its own health and continued existence, but obtains the means for carrying out later programs which currently seem less popular.

But this shift in emphasis of the SCS program is much more dubious from a national or social viewpoint. To the extent that it was effective on the lands to which it was applied—and we must assume that it was effective to a considerable degree—it surely increased total agricultural output of those lands over what it otherwise would have been. Except for the war years, these were years when the national agricultural program was concerned with limiting total agricultural output to meet effective demand at politically acceptable prices. Various expensive programs were being directed to this end. Whatever may have been the public statements of the Secretaries of Agriculture during this period, a fundamental conflict in purpose and in results of programs existed. One part of the Department of Agriculture was spending large sums of public money to control output; other parts were spending smaller, but still substantial, sums to increase it—and no small part of the rationale for the latter expenditures was the need for public support in the continued struggle of SCS for existence practices.<sup>216</sup>

With the shift to production enhancement, SCS deferred to the abandonment of crop rotation and other conserving practices. The lessons of the environmental crisis faded into the background of modern economic activity. But we learned the lessons and now know what to do to deal with soil erosion and

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216. *Id.* at 69-73. See also Williams, 7 ENVTL. AFF. at 365 (cited in note 32).

nonpoint source pollution. The question now is how to return to the appropriate conservation practices.

Soil conservation districts and farm soil conservation plans, in particular, merit careful review. In the 1930s the SCS adopted the soil conservation district model in order to foster a local approach to the soil erosion problem. The idea called for SCS to provide technical service, advice and money. In exchange, each state would enact enabling legislation. SCS published a Standard State Soil Conservation District Law. Such districts would be created by a majority of the land owners and renters in the proposed district. Among other things, the Standard Act authorized districts to carry out erosion control operations and to enact and enforce land use regulations. States did pass the legislation, under some coercion.<sup>217</sup>

The boundaries of soil conservation districts were to conform to those of local watershed or other areas logically used for erosion control, and the districts were authorized to enact and enforce land use regulations. These two vital concepts were rejected by a majority of the enacting states. Soil conservation districts were instead organized along county lines and without police power authority.<sup>218</sup>

The parallel between the early effort of the SCS to organize effective soil erosion controls and the present stage in the efforts of EPA and Congress to organize effective nonpoint source controls is obvious. In both cases the organizing federal agency sought to encourage local programs. Efforts to attract voluntary controls in both cases produced a system of federally funded "demonstration" projects. In both cases the federal agencies tried to convince states that local control organizations would need police power to carry out land use controls and would need to be organized along watershed boundaries to achieve practical effectiveness. And, in both cases, the states rejected land use controls and followed existing political boundaries in organizing districts. Finally, in each case, the amount of voluntary compliance by private landowners was parallel to the amount of federal cost-sharing money available.

The history of the SCS program can be interpreted to establish that an erosion (nonpoint source) control program based upon free technical advice, local organization, demonstration projects and voluntary compliance by landowners will work only so long as the federal government picks up the tab. When cost-sharing dries up or cannot be used for production-enhancing practices, landowners are quick to abandon both the practices and the program. There is little, if any, precedent in our experience of government to suggest that the problem of erosion and nonpoint pollution can be solved by asking landowners to regulate themselves.

Despite this history (or perhaps because of it) states now show a strong

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217. Williams at 376-78 (cited in note 32).

218. *Id.* See also HELD & CLAWSON at 47-48 (cited in note 213).

In conformity with this reliance on voluntary efforts, the SCS at an early stage established a nationwide system of demonstration projects, so that farmers and ranchers could visit projects and observe soil erosion control in operation. Williams at 375 (cited in note 32).

preference for the soil conservation district as the agency of choice for nonpoint source pollution control. Beck reports, after a review of some 136 Section 208 areawide waste treatment management plans, that wherever agricultural water pollution control is an issue, the prevailing choice of implementing agency is the soil conservation district. Moreover, with only a few exceptions, the plans do not call for the creation of regulatory control programs but rather for the expansion of current voluntary efforts. Beck also points out that these plans prefer adoption of BMPs on a site specific, case by case basis. Examples of preferred agricultural BMPs include minimum tillage, contour farming, critical area planting, crop rotation, terracing, grass waterways, pasture planting, and strip cropping.<sup>219</sup>

This preference which Section 208 plans show for soil conservation districts carries forward the defects inherent in the original districts. First, such districts are not now organized along watershed lines. Second, they are without the authority to impose land use controls. Reformulated, however, they could offer an exciting option.

Another device which the SCS developed during its active erosion control period is the soil conservation plan. This, too, has the potential to be reformed and refitted for the control of nonpoint source pollution. The soil conservation plan is prepared at a local SCS office with advice from regional technicians and constitutes a detailed plan for bringing a particular farming operation into compliance with erosion norms. Based on such factors as soil types, terrain, drainage, climate, crops and livestock produced and practical farm budgets, the plan lays out a detailed methodology, usually in phases; it creates a system for the farmer to follow. Compliance with a plan is voluntary.<sup>220</sup>

If we recognize that nonpoint source control will ultimately require imposition of land use controls and that the controls must require land management that reflects local factors and relies on BMPs, the soil conservation plan is an established vehicle, ready for deployment should the political will appear. Because the SCS is already situated in each county, and the conservation plan is a format that is familiar to nearly every rural landowner, it offers a unique opportunity for action.

## VIII. DIRECT FEDERAL ACTION

### A. *The Clean Water Act*

There is very little in the CWA that provides for direct federal action to protect waterways from nonpoint pollution. Once a Section 208 plan is approved, EPA cannot authorize a grant for construction of a waste treatment

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219. Beck, *Agricultural Water Pollution Control Law* in 2 AGRICULTURAL LAW 223 (J. Davidson, ed. 1985, Supp. 1988).

220. The Conservation Compliance provisions of the Food Security Act of 1985 make implementation of approved soil conservation plans a requirement for farms which have highly erodible soils.

facility that does not conform to the plan,<sup>221</sup> nor may an NPDES permit issue.<sup>222</sup> State water quality standards that reflect a need for nonpoint control are not enforceable unless they have been specifically incorporated into an effluent limitation contained in an NPDES permit.<sup>223</sup>

An element of indirect control is available to EPA through its authority to dispense grants. A recent decision of the Fourth Circuit Court of Appeals offers a useful example.<sup>224</sup> A local sanitary commission applied for federal CWA funds to construct a sewage collection system that would help alleviate pollution from failing septic systems. In its environmental impact statement, the agency concluded that the proposed system would result in considerable new development in a floodplain, leading to increased runoff of pollutants into adjoining bays. As a condition of receiving CWA sewer construction funds, EPA required the local sanitary commission to enter into a consent order with the state enforcement agency to limit the use of federally-funded construction to serve existing households; that is, the system could not serve new construction but be used only as a means of dealing with an existing serious septic problem. The developer challenged the restriction by contending that the CWA did not grant authority to control access to sewage facilities. The Court held that Title II of CWA, which gives EPA authority to make grants to state and local government for the construction of wastewater treatment facilities, also gives it the incidental authority to restrict the use of those facilities where necessary to further the Act's water quality goals:

It is true that the [CWA] contains no mechanism for direct federal regulation of nonpoint source pollution. But the Act's legislative history makes clear that this omission was due not to Congress' concern for state autonomy, but simply to its recognition that the control of nonpoint source pollution was so dependent on such site-specific factors as topography, soil structure, rainfall, vegetation and land use that uniform federal regulation was virtually impossible. . . .

Nor do we find anything in the language or legislative history of the [CWA] that indicates a congressional intent to preclude EPA from imposing conditions on Title II construction grants that are designed to reduce the amount of nonpoint source pollution generated, either directly or indirectly by the facilities those grants fund.<sup>225</sup>

The CWA, in Section 404,<sup>226</sup> requires permits prior to any dredge or fill activity in waters of the United States. This jurisdiction has been broadly construed to include the introduction of pollutants, and the Corps of Engineers, which administers the program, considers a range of "public interest" factors in reviewing permit applications.<sup>227</sup> The Corps makes a determination based

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221. 33 U.S.C. § 1288(d) (1982).

222. *Id.* at § 1288(e).

223. *Oregon Natural Resources Council v. U.S. Forest Service*, 834 F.2d 842, 849 (9th Cir. 1987).

224. *Shanty Town Assoc. Lt. Pts. v. E.P.A.*, 843 F.2d 782 (4th Cir. 1988).

225. *Id.* at 792.

226. 33 U.S.C.A. § 1344 (West 1986 & Supp. 1988).

227. 33 C.F.R. § 320.4 (1987).

upon guidelines which focus on the impact of the discharge on human health, environmental and economic values at the site, and alternatives.<sup>228</sup> The statutory standards are open-ended and establish no minimum specifications that automatically qualify an applicant for a permit. Among concerns specified in the regulations are wetlands, floodplain values, land use, shore erosion, and water quality. Presumably, avoidance or control of nonpoint source pollution is a legitimate factor for consideration in Section 404 proceedings.

In addition, the EPA may exercise a veto authority over any final permit action by the Corps of Engineers when it finds that the activity "will have an unacceptable adverse affect on municipal water supplies, shellfish beds and fishery areas . . . , wildlife, or recreational areas."<sup>229</sup> Each of these areas of concern are typically threatened by nonpoint source pollution, and EPA may veto permits in order to protect against such a threat.

### B. *The Conservation Reserve*

The Farm Security Act of 1985 established a Conservation Reserve program<sup>230</sup> in order to reduce agricultural crop surpluses. The program is straightforward and by now familiar. The Secretary of Agriculture enters into ten-year contracts with individual farmers by which the farmers agree to remove from agricultural production cultivated areas classified as highly erodible and to convert them to cover, such as trees, grass, shrubs and the like. In return, the farmer receives an annual rental payment. Reserve acres must be either highly erodible or "pose an off-farm environmental threat."<sup>231</sup> The Conservation Reserve achieves most of the supply control purposes of acreage reduction while also serving important erosion and pollution control objectives. The land that is placed in reserve is land that is most likely to erode and therefore should not be in production to begin with.

The Conservation Reserve is the most meaningful short-term nonpoint source control program now in effect, but its shortcomings are several. First, during boom times there is no way to stop farmers from allowing their ten-year contracts to lapse and returning the land to cultivation. Second, some highly erodible land is very productive, and farmers are unlikely to place such lands in the Reserve.<sup>232</sup> Third, it rewards farmers for their past practices of poor land management. Fourth, no matter how many acres the Conservation Reserve ultimately includes, the majority of productive farmland will remain in production, as it must, and it is this land that will continue to pose the greatest threat to the surface and groundwaters. That is, the problem is how

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228. 33 U.S.C. §§ 1343(c) and 1344(b) (1982).

229. *Id.* at § 1344(c).

230. 16 U.S.C.A. §§ 3811-36 (West Supp. 1988).

231. *Id.* at § 3831(c)(2) (West Supp. 1988).

U.S.D.A. authorizes the use of "filter strips" in the Conservation Reserve Program even if such land is not "highly erodible." Filter strips consist of croplands, capable of substantially reducing sedimentation, which are adjacent to rivers or certain other bodies of water.

232. Boggess & Dicks, *Multiyear Set-Asides: Promoting Consistency in Land Use Policies*, 43 J. SOIL & WATER CONSERVATION 86 (1988). See 7 U.S.C.A. § 1444(i) (West Supp. 1988).

to ensure that the land in production is managed so that its impact on the water environment is minimized.

### C. Conservation Compliance

For the longer-term, the Conservation Compliance provisions of the Food Security Act of 1985 are likely to be more significant. Farms with highly erodible land must have a soil conservation plan by January 1, 1990, in order to continue to obtain federal commodity price and farm income benefits, and must be in compliance with the plan by January 1, 1995. A soil conservation plan, as described above,<sup>233</sup> is developed by the local SCS office and reflects the unique needs and problems of individual farms.

The limitation of conservation compliance is that it applies only to farms with soils classified as highly erodible. Thus, it does not bear on most of the acreage in farm programs, nor does it apply to farms that elect not to participate in the farm support programs. But the conservation compliance provisions provide the model for a nonpoint source regulatory control program. If all farmers were required to bring their farms into compliance with a soil conservation plan, it is likely that nonpoint source pollution of surface waters would be effectively controlled. The attractiveness of the soil conservation plan as a regulatory tool is that it already exists in voluntary form, is familiar to farmers and can be developed at the local level utilizing an existing civil service. It can be implemented as a condition of federal price support programs, as an independent federal requirement, or directly by state law. In addition, it is a requirement that can be imposed locally. Where nonpoint source pollution is only a local or regional problem, plans need only be required in specific locales or watersheds.

## IX. STATE ACTION—A LAW AND THREE PLANS

### A. South Dakota's Soil Erosion and Sediment Drainage Control Law

In 1976 South Dakota enacted a Soil Erosion and Sediment Control Law<sup>234</sup> which gives local government and county conservation districts the authority to regulate land use practices that result in soil erosion. Although seldom, if ever, enforced,<sup>235</sup> it is a law with potential and, in 1988, was selected by the South Dakota Department of Water and Natural Resources as the primary vehicle for nonpoint source pollution regulation.<sup>236</sup>

The Act establishes a general prohibition against any land management

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233. *Supra* text accompanying note 220; see also 16 U.S.C.A. § 3831.

234. S.D.C.L. Ch. 38-8A.

235. W. Doolittle, *South Dakota's Soil Erosion Control Statute: A Potential Tool for Non-Point Source Water Pollution Control?* 8-10 (1986). Paper on file at McKusick Law Library, Vermillion, South Dakota [hereinafter "Doolittle"].

For a general discussion of state soil erosion control statutes, see Beck, *Agricultural Water Pollution Control Law* in 2 *Agricultural Law* 229-235 (J. Davidson, ed. 1982, Supp. 1988).

236. South Dakota Department of Water and Natural Resources, Office of Water Resources Management, *The South Dakota Section 319 Nonpoint Source Management Program Plan* (1988) [hereinafter "1988 '319' Plan"].

practices which result in wind and water erosion of the soil,<sup>237</sup> and then sets out an enforcement process based upon guidelines, standards and judicial enforcement. The State Conservation Commission is required to establish erosion and sediment control guidelines, which simply serve as recommendations to the local political bodies. The guidelines "shall consist of recommended soil loss limits and suggested conservation practices," and take into account existing soil classifications, climate, drainage, geology and other unique features of the land to be regulated.<sup>238</sup> Following upon the guidelines, local conservation districts are required to develop "district conservation standards"<sup>239</sup> which are "consistent with the control of erosion and sediment resulting from land-disturbing activities."<sup>240</sup> All of South Dakota's sixty-nine conservation Districts have adopted standards.<sup>241</sup>

The use of permits as an enforcement tool is specifically prohibited. However, a local political body that has responsibility for granting or issuing zoning or building permits "*shall include* provisions in its permit procedure to ensure that any proposed action relating to a permit is in compliance with the district conservation standards."<sup>242</sup> The law has been interpreted to mean that non-agricultural activity will be enforced by local building and zoning officials and agricultural activity by county conservation districts,<sup>243</sup> although this distinction is not made in the law. South Dakota counties, for example, have authority to administer building and zoning regulations which encompass agricultural activities.<sup>244</sup> The mandatory language of the law certainly requires that district conservation standards be a condition of any permit granted and from that would follow enforcement authority. Similarly, South Dakota counties have authority to draft county-wide drainage plans and subject new farmland drainage to permit requirements.<sup>245</sup> Drainage is an agricultural activity which often generates substantial sedimentation in waterways, and, again, the mandatory language of the Act makes it clear that such permits should incorporate district conservation standards.

The Act also specifies certain circumstances under which a landowner may be required to adopt a soil conservation plan. First, the district *may* require a conservation plan preceding the conversion to cropland of any land which has been designated "fragile land."<sup>246</sup> Second, when a conservation dis-

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237. S.D.C.L. § 38-8A-22.

238. *Id.* at §§ 38-8A-3, 4 and 5.

239. *Id.* at § 38-8A-6.

240. *Id.* at § 38-8A-11. The standards bind state and local government as well as private landowners. *Id.* at §§ 38-8A-13, 14.

241. 1988 '319' Plan at 21 (cited in note 236).

242. S.D.C.L. §§ 38-8A-1(6), 16.

243. Doolittle at 7 (cited in note 235).

244. S.D.C.L. §§ 11-2-36, 11-10-5.

245. *Id.* at § 46A-10A-16.

246. *Id.* at § 38-8A-17. A technical definition is provided:

These standards may designate as "fragile land" any area of the district which is Class IVe, VI, VII or VIII according to the United States Department of Agriculture classification system, as described in "Land Capability Classification," Agricultural Handbook 210, Soil Conservation Service, United States Department of Agriculture, issued September, 1961, and in



trict determines that a farming activity is violating district standards, the landowner:

. . . *shall* be required to prepare an erosion and sediment control plan within six months, and have such plan approved by the local conservation district. Upon approval of the plan by the conservation district, the [landowner] shall be allowed six months to implement such plan.<sup>247</sup>

This provision, along with other requirements of the Act, may be enforced by the district in an action for an injunction or other appropriate relief.<sup>248</sup>

The enforcement provisions of the Act are diverse and not easily read as a consistent whole. On the one hand, the Act gives conservation districts the authority to seek enforcement of their orders by "an injunction or other appropriate relief."<sup>249</sup> This would seem to encompass a landowner's failure to prepare or comply with a conservation plan, failure to comply with standards incorporated into a permit, and so forth. Other enforcement provisions, however, cloud the issue. One independent provision provides that any person who is "adversely affected" by a farming practice may file a petition with the conservation district which shall have authority to investigate and "take appropriate action."<sup>250</sup> A second independent provision states that if the district is "advised, in writing, that soil is blowing from any land, *or* if any land in the county, roads or public property is being damaged, as the result of blowing soil," the district shall inspect, and

[i]f the board finds soil is blowing from the land *in excess of local conservation district standards to the point that it is injurious to other land, roads or public property*, the board shall determine what can be done to prevent or lessen the blowing of soil from the land.<sup>251</sup>

The board then is given authority to issue an administrative order requiring the landowner to take corrective action. The first enforcement provision is considerably broader than the second. Both allow any member of the public to initiate a complaint. The second, however, seems to allow the board to act only if it finds a violation of standards *and* injury to land, roads or public property. Read narrowly, neither provision allows a board to respond to a concern over nonpoint source pollution except where the complainant specifically pleads an adverse affect related to water quality. Read together, however, the "appropriate" sanction for soil erosion appears to be adoption and implementation of a soil erosion plan, backed by the authority to seek judicial injunction.

When a conservation district determines that a soil erosion emergency exists, it is authorized to ask the county commissioners to order a specific land treatment which, if not initiated within three days, can be carried out by the

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effect on January 1, 1984; and is so erosive as to cause a public hazard when converted to cropland use. S.D.C.L. § 38-8A-6.

247. S.D.C.L. § 38-8A-18.

248. *Id.* at § 38-8A-21.

249. *Id.*

250. *Id.* at § 38-8A-20.

251. *Id.* at § 38-8A-23.

board and the cost assessed against the land.<sup>252</sup>

On its face this law allows for fair and comprehensive regulation of land management practices that result in soil erosion and nonpoint pollution. It employs the soil conservation plan, incorporates best management practices, utilizes existing soil conservation districts, and incorporates adequate yet flexible enforcement tools. The law is the basis of the state's Section 319 Nonpoint Source Management Plan. Yet laws are only effective if enforced. One commentator, writing in 1986, observed:

There has been a reluctance on the part of officials in the state to enforce the statute. The staff of the state conservation commission has indicated that individual complaints have been filed under the law. "To date, none of these have resulted in a court case. . . . This possibility and the political ramifications make district boards hesitant to take firm action on the basis of a complaint. They are even more hesitant to instigate a complaint proceeding on their own volition, even where they are very concerned about a particular problem." It would appear that the policy of the state is to continue to stress voluntary compliance with the law through public information programs and individual contact with alleged offenders rather than with an aggressive enforcement program.<sup>253</sup>

### B. *Three Plans*

Since enactment of the CWA in 1972, South Dakota officials have supplied the required nonpoint planning documents. A statewide Section 208 plan was published in 1978, a Section 319 Assessment Report and a Nonpoint Source Management Program Plan in 1988. All three have been prepared with skill and offer a rich and candid repository of information concerning the state's water resources. As would be expected in a state with an intensive agricultural industry, substantial nonpoint source pollution is described, particularly in the recent Assessment Report.

The Department of Water and Natural Resources (DWNR) uses two methods to assess rivers and lakes in the state. Monitoring, a more technical method, involves the taking of water samples or sediment samples and comparing these samples to other samples from different water bodies. This form of assessment yields data which is specific in indicating the nonpoint source pollutants. On the other hand, qualitative evaluation is superficial and does not supply the DWNR with specific data. Under qualitative evaluation, a water conservation district officer may simply view a lake, stream or river, looking at the water for algae or other results of nonpoint source pollution, write down his impression of the water body's status, and direct the information to DWNR.<sup>254</sup>

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252. *Id.* at §§ 38-8A-24, 25.

253. Doolittle at 8-9, citing K. Harner, *Suggested Procedures for Conservation Districts to Meet Responsibilities Under the Law*, in a letter from the South Dakota Conservation Commission to Board of Supervisors of Conservation Districts (March 20, 1981) (cited in note 235).

254. South Dakota Department of Water and Natural Resources, Office of Water Resources Management, *The South Dakota Section 319 Nonpoint Source Assessment Report*, 11 (1988).

Both forms of assessment are used in relation to the intended or beneficial use of the water body. That beneficial use has been designated by the South Dakota Board of Water and Natural Resources. To determine the extent of nonpoint source pollution, DWRN assesses the water body, determines the beneficial use of the water, and then indicates whether that use is supported, threatened, partially supported or not supported at all by the particular lake, stream or river.

Of all waters assessed by DWRN, ninety-seven percent were either threatened, only partially supporting their intended uses, or not supporting their intended use at all. Specifically, seventy-six percent of all river miles assessed displayed threatened use support, partial use support, or no use support. Ninety-seven percent of all lakes assessed likewise displayed threatened, partial or no use support.<sup>255</sup>

Breaking down the lake acres further, DWRN splits lakes into those greater than 5,000 acres and those less than 5,000 acres. Of the lakes greater than 5,000 acres, ninety-eight percent showed threatened, partial or no use support. The lakes less than 5,000 acres were unique in that none had been monitored for water quality. This fact suggests that the only form of assessment for lakes in South Dakota less than 5,000 acres came in the form of "qualitative evaluation"—simply looking at a body of water and writing down the status of the water as it appears. Through this method, ninety-one percent of these lakes indicated threatened, partial or no use support.<sup>256</sup>

The major drawback to assessing waters with only qualitative evaluation is that this method fails to yield data on the amount of pesticide, nitrogen and other agricultural runoff present in the water. Since the total number of lakes less than 5,000 acres in South Dakota is high, merely assessing these lakes on an evaluation method does not accurately indicate the true status of such waters.

DWRN also discusses water bodies and pollution problems in the fourteen water basins. The water quality trend in the basins is declining; seventy-eight percent of river basin assessments indicate a threatened or degrading trend.

In the threatened or degrading water bodies in the basins, sixty-five percent of the nonpoint source pollution stems from agricultural sources such as feedlots, pasture, rangeland and non-irrigated crop production. Further, the data show that eighty percent of this agricultural pollution is high. Agriculture, then, continues to account for the majority of the nonpoint source pollution problems in this state.<sup>257</sup>

It is quite possible that the percentage of nonpoint source pollution is higher than indicated in the Assessment Report. Recall that much of the state's water is in lakes of less than 5,000 acres, and that this water is not

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255. *Id.* at 4.

256. *Id.* at 5.

257. *Id.* at 79.

monitored, only evaluated. If these lakes were monitored, more agricultural nonpoint source pollutants might appear on the data, and the increase would raise the percentage of agricultural contribution.

The Assessment Report also addresses groundwater problems, and DWNR states that other than naturally occurring problems, South Dakota is hampered little by widespread groundwater contamination.<sup>258</sup> Although some sources of groundwater contamination exist (leaking artesian wells, fertilizers and pesticides, landfills, septic tanks, etc.), the problems have remained consistent through the years, with few increases.<sup>259</sup> Reported incidents of potential groundwater contamination such as petroleum spills have, however, increased.

The DWNR's prescription for dealing with nonpoint source pollution tends to follow the norm of voluntary compliance through the use of conservation districts, BMPs, and so forth. As indicated above, to the extent that control is discussed, full reliance is placed on the Soil Erosion and Sediment Damage Control Law.

## X. CONCLUSION

It was written in *The South Dakota Law Review* over a decade ago that ". . . the difficulty [in controlling nonpoint pollution] is that the idea of requiring landowners to install and maintain modern erosion control measures has always contravened widely held notions regarding the inviolability of private property, . . ." <sup>260</sup> This observation continues to influence policy, but is no longer an absolute. Thousands of farmers who have highly erodible land are adopting soil conservation plans in order to comply with the conservation compliance provisions of the Food Security Act of 1985. As information concerning agriculture as a source of water pollution becomes more broadly available, it is likely that there will be more calls for responsible land management.

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258. *Id.* at 80.

259. *Id.*

260. Hines, *Farmers, Feedlots and Federalism: The Impact of the 1972 Federal Water Pollution Control Act Amendments on Agriculture*, 19 S.D.L. REV. 540, 565 (1974).