

April 1985

## Groundwater Pollution Control: A National Aim, A Regional Strategy

Sheila F. Anthony

Follow this and additional works at: <https://digitalcommons.pace.edu/pelr>

---

### Recommended Citation

Sheila F. Anthony, *Groundwater Pollution Control: A National Aim, A Regional Strategy*, 2 Pace Envtl. L. Rev. 215 (1985)

DOI: <https://doi.org/10.58948/0738-6206.1190>

Available at: <https://digitalcommons.pace.edu/pelr/vol2/iss2/2>

This Article is brought to you for free and open access by the School of Law at DigitalCommons@Pace. It has been accepted for inclusion in Pace Environmental Law Review by an authorized administrator of DigitalCommons@Pace. For more information, please contact [dheller2@law.pace.edu](mailto:dheller2@law.pace.edu).

# Groundwater Pollution Control: A National Aim, A Regional Strategy

Sheila F. Anthony\*

## I. Introduction

"The civilization that fails to protect and husband the waters it uses for drinking, agriculture, industry, and energy is courting failure."<sup>1</sup> Despite this caveat, groundwater, a resource essential to life and our agricultural and economic sustenance, continues to be threatened.<sup>2</sup> Contamination of groundwater by volatile organic chemicals and other pollutants has become a common occurrence.<sup>3</sup> The forced closing of wells due to groundwater contamination problems now occurs throughout the country.<sup>4</sup> The massive national cleanup efforts associated with landmark environmental legislation of recent years has largely ignored groundwater; in fact, such legislation has often increased groundwater contamination by encouraging diversion of pollutants from the air and surface waters to the ground.<sup>5</sup>

---

\* Copyright 1985. B.A., Univ. of Arkansas; J.D., American Univ. Dow, Lohnes & Albertson (Washington, D.C.).

1. Conservation Foundation Letter, *Groundwater Supplies: Are They Imperiled?* 1 (June 1981).

2. Groundwater represents 24% of the domestic, agricultural, and industrial water used in the United States. From 1950-1980, groundwater use in the United States increased from withdrawals of 34 billion gallons per day to 89 billion gallons per day. Current groundwater withdrawals are estimated at 100 billion gallons per day. See U.S. Environmental Protection Agency (Office of Ground-Water Protection), *A Ground-Water Protection Strategy for the Environmental Protection Agency* 10 (1984) [hereinafter cited as 1984 EPA Groundwater Strategy].

3. See *id.* at 12-13. Many chemical groundwater contaminants are toxic, and some, such as benzene and trichloroethylene, are suspected carcinogens. *Id.*

4. See, e.g., Burmaster, *The New Pollution: Groundwater Contamination*, *Env't*, Mar. 1982, at 7, 9-11.

5. See Tripp & Jaffe, *Preventing Groundwater Pollution; Towards A Coordinated Strategy to Protect Critical Recharge Zones*, 3 *Harv. Env'tl. L. Rev.* 1 (1979).

The nature of groundwater has generally been greatly misunderstood. Until recently, drinking water drawn from the ground was viewed as a pristine resource, unspoiled by human activities. Although groundwater is often erroneously thought of as a series of underground streams or rivers, it is actually all water which exists beneath the surface of the ground.<sup>6</sup> Groundwater moves primarily in response to gravity, and movement is slow; velocities generally range from five to fifty feet per year.<sup>7</sup> Contaminants which reach aquifers move in plumes, generally at the same speed and in the same direction as the groundwater.<sup>8</sup> Plume-type contaminant movement results in little mixing or dispersion of the contaminant; thus contaminant concentration levels remain high.<sup>9</sup> Landfills, septic tanks, toxic and hazardous materials, municipal and industrial waste discharges and impoundments, wastes from concentrated animal feeding operations, agricultural fertilizers and pesticides, and saltwater intrusion from overdrafting of aquifers are proving to be major causes of groundwater contamination in many areas of the country.<sup>10</sup> Recovery from

---

6. W.B. Solley, E.B. Chase & W.B. Mann, *Estimated Use of Water in the United States in 1980*, at v (1983) (U.S. Geological Survey Circular No. 1001). Groundwater occurs in both unconfined and confined aquifers. Generally, aquifers are geological formations that contain enough saturated permeable materials to yield usable amounts of water to wells and springs. *Id.* at vi. There are basically two types of aquifers: unconfined and confined. Unconfined aquifers are not overlain by impermeable strata; thus water from rain or snow melt may percolate through the soil to the aquifer. Contaminants may also reach an unconfined aquifer via this mechanism. In contrast, confined aquifers are bounded top and bottom by layers of relatively impermeable geologic strata, and thus have a restricted recharge area. In some cases, confined aquifers have no recharge area, and may be considered a finite natural resource. Aquifers may be thick or thin, extensive or local, near the surface, or in the case of confined aquifers, at considerable depths. *See generally* V.I. Pye, *Environment Assessment Council Report on Groundwater Contamination: Summary of the Assessment of Extent and Severity of Groundwater Contamination in the United States* (Oct. 6, 1982) (briefing given under auspices of the Environment Assessment Council, Academy of Natural Sciences of Philadelphia, Pa.).

7. V.I. Pye, *supra* note 6; *see also* 1984 EPA Groundwater Strategy, *supra* note 2, at 11.

8. V.I. Pye, *supra* note 6.

9. 1984 EPA Groundwater Strategy, *supra* note 2, at 11.

10. For example, a surface impoundment assessment funded by EPA and conducted by the states found 176,647 industrial landfills, lagoons, and other waste impoundments. A preliminary analysis of them indicated that 70% had no lining and

such contamination is slow; in fact, "it may be considered a semi-permanent condition once it has occurred."<sup>11</sup>

Obviously, prevention is better than cure. However, as one commentator has noted:

Preventive measures must fit into some type of comprehensive management scheme to safeguard a resource that has a host of claimants; that is beset by many types of contamination; that frequently raises interstate issues; that sometimes is closely related to *surface* water supplies; and that can involve both the quantity and quality of the groundwater.<sup>12</sup>

In addition, any comprehensive management scheme must deal with the stifling institutional and legal framework which has left groundwater largely unprotected thus far.<sup>13</sup>

This article examines the adequacy of our institutions for dealing with groundwater pollution and outlines the history of attempts by the federal Environmental Protection Agency (EPA) to establish a national groundwater policy. It also discusses the authority of Congress and the states to create an interjurisdictional approach to management and control of groundwater pollution. Finally, a proposal for new federal legislation employing such an approach, based upon observations and recommendations by other commentators, is offered.

## II. The Existing Organizational Framework

Inherent in the concept of water management is the nature of dominance. Where are decisions made? Who defines the questions? Who chooses which answers are best?<sup>14</sup> The levels at which water management organizations have func-

---

95% had no groundwater monitoring system to detect toxic contamination. See U.S. Environmental Protection Agency (Office of Drinking Water), Surface Impoundment Assessment National Report (Jan. 7, 1983) (draft report).

11. Center for Environmental Research/Cooperative Extension (Cornell Univ.), Groundwater Supply Issues: A GAO Assessment (July 27, 1979).

12. Conservation Foundation Letter, *supra* note 1, at 3 (emphasis in original).

13. See, e.g., Mosher, *Life Without Water*, 15 Nat'l J. 568 (1983).

14. A. Peralta, Alternative Institutional Arrangements for Water Management in Arkansas 19 (May 1982) (Graduate Thesis, Univ. of Ark.).

tioned in the United States are federal, interstate, regional, state, substate, and local. Each has strengths and weaknesses, and none is mutually exclusive. Institutional problems are tied to hundreds of statutory, administrative, and regulatory institutions which affect the quality of our waters. Some of these vehicles are complex, work at cross purposes, or are obsolete. A principal reason for their lack of success is that the solutions they propose often attack strong local interests which are supported by considerable political strength. Resolution of many tough institutional problems will probably entail the expenditure of considerable legislative time, generate heated disputes, and create political risks. Nevertheless, unless some fundamental changes are made, the vast technical ability of this nation to solve its water problems may be greatly limited.<sup>15</sup>

Three features of the existing organizational framework dominate considerations of reform. First, there is the inefficiency and diffusion of effort associated with the large number of state agencies concerned with water quality, production, services, and management.<sup>16</sup> A better rationalization of agency jurisdiction and power through consolidation and centralized authority would contribute a great deal and provide more efficient and economical management.<sup>17</sup> Nevertheless, a unified state approach is not the final answer due to the interstate nature of aquifer systems and groundwater pollution.

Second, there is the fragmentation associated with the large number of Congressional committees and subcommittees with water related responsibilities, whose ties are often to spe-

---

15. Viesman, *Water Policy Reform: An Institutional Dilemma*, Cong. Research Service Rev., 97th Cong., at 19-22 (1981).

16. See Zerbe, *Optimal Environmental Jurisdictions*, 4 Ecology L.Q. 193, 235 (1974).

17. But see A. Maass & R.L. Anderson, . . . and the Desert Shall Rejoice: Conflict, Growth, and Justice in Arid Environments 366-67 (1978). The authors conclude that those viewing central agency dominance as workable inevitably "have underestimated the farmers' capacities to organize collectively to avoid such a result and have overestimated the facility of top control." *Id.* at 366. It was also found that, in areas studied, orders issued by higher authorities were often defied or disregarded when they conflicted with the united preference of local users. *Id.* at 366-67.

cial interests in Congress.<sup>18</sup> Legislative behavior is in many respects similar to that of agencies. However, it suffers from the defects of the political marketplace and from bargaining problems. "[V]otes usually cannot be concentrated and decisions often call for all-or-nothing votes . . . ."<sup>19</sup> Overlapping authorities each have an incentive to leave treatment of national water quality problems to others, yet many of these authorities are dismayed at the failure of others to address such problems. In addition, there is the problem of "turf fights" when an issue of national prominence arises coupled with the political rewards of capturing headlines. The result is often tremendous duplication of time, staff effort, and financial resources as well as the fostering of program inconsistencies.

The final feature affecting reform is the lack of coordination among agencies. In 1978, 225 million dollars was spent by twenty-two federal agencies on water research, while only ten to twelve million dollars went into pure or basic groundwater research.<sup>20</sup> Each of these agencies also does research to sup-

---

18. There are four Senate full committees, seven Senate subcommittees, eight House of Representatives full committees and eleven House subcommittees with water-related responsibilities, as follows. In the Senate: Committee on Appropriations, Subcommittee on Energy and Water Development; Subcommittee on Interior; Subcommittee on Transportation; Committee on the Budget; Committee on Energy and Natural Resources, Subcommittee on Public Lands and Reserved Water; Subcommittee on Water and Power; Committee on Environment and Public Works, Subcommittee on Transportation; Subcommittee on Water Resources. In the House: Committee on Appropriations, Subcommittee on Energy and Water Development; Subcommittee on Interior; Subcommittee on Transportation; Committee on the Budget; Committee on Energy and Commerce, Subcommittee on Commerce, Transportation and Tourism; Subcommittee on Energy Conservation and Power; Committee on Government Operations, Subcommittee on Environment, Energy, and Natural Resources; Committee on Insular Affairs, Subcommittee on Energy and the Environment, Subcommittee on Water and Power Resources; Committee on Merchant Marine and Fisheries, Subcommittee on Coast Guard and Navigation; Committee on Public Works and Transportation, Subcommittee on Water Resources; Committee on Science and Technology, Subcommittee on Natural Resources, Agriculture, Research and Environment.

19. See Zerbe, *supra* note 16, at 212.

20. See *Ground Water Quality Research & Development: Hearings Before the Subcomm. on Environment and the Atmosphere of the House Comm. on Science and Technology*, 95th Cong., 2d Sess. 242-44 (1978) [hereinafter cited as *1978 Hearings*]; see also Copeland, *Water Quality: Implementing the Clean Water Act*, Cong. Research Serv. (issue brief IB 79091). EPA water quality program budgetary trends

port its own mission. Yet the overall question is whether the total collection of those activities is meeting the nation's needs. The requirement of leadership in the coordinating area is not currently being met, as there is no one group overlooking and coordinating federal water research programs.<sup>21</sup> Therefore, it is important to establish an information base upon which water resources activities of the country may be carefully analyzed (by some administrative mechanism or clearing house) to determine the existence of information gaps and unnecessary duplication, and to coordinate interdisciplinary research among federal agencies.<sup>22</sup>

### III. The Evolution of EPA's Groundwater Protection Strategy

Under existing statutes, EPA has considerable responsibility for groundwater protection.<sup>23</sup> This includes planning with the states pursuant to the Clean Water Act (CWA),<sup>24</sup> controlling hazardous wastes pursuant to the Resource Conservation and Recovery Act (RCRA),<sup>25</sup> controlling underground injection and protecting sole source aquifers pursuant to the Safe Drinking Water Act of 1974 (SDWA),<sup>26</sup> cleaning

---

in research and development in the fiscal years 1982-1984 showed a reduction from \$31.7 million to \$12.2 million. The Administration request for fiscal year 1984-1985 called for a 47.5% reduction to \$6.4 million. For abatement, control, and compliance, the Administration requested a 43.9% reduction to \$61.7 million for fiscal year 1984 from fiscal year 1983 levels of \$111 million. *See Review of Ground Water Protection Strategy Recently Proposed by the Environmental Protection Agency: Hearings Before a Subcomm. of the House Comm. on Government Operations*, 98th Cong., 2d Sess. 130-50 (1984) [hereinafter cited as *1984 Hearings*].

21. *See 1978 Hearings*, *supra* note 20, at 242.

22. *Id.* at 239. Federal agencies to which this applies include EPA, U.S. Geological Survey (USGS), U.S. Dep't of Interior (DOI), U.S. Dep't of Energy (DOE), U.S. Dep't of Agriculture (DOA), U.S. Bureau of Land Management (BLM), U.S. Forest Service (USFS), and U.S. Dep't of Housing & Urban Development (HUD).

23. *See, e.g., Horne, Groundwater Policy: A Patchwork of Protection*, *Env't*, April 1982 at 7-11, 35.

24. 33 U.S.C. §§ 1251-1376 (1982). Commentators have recommended further amendments of the Act so that it may be construed to cover ground as well as surface waters. *See generally* Tripp & Jaffee, *supra* note 5, at 10-14.

25. 42 U.S.C. §§ 6901-6987 (1982).

26. *See* 42 U.S.C. §§ 300f, 300h-1, 300h-3 (1982).

hazardous waste sites pursuant to the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA),<sup>27</sup> controlling toxic chemicals pursuant to RCRA and the Toxic Substances Control Act (TSCA),<sup>28</sup> and controlling pesticides pursuant to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).<sup>29</sup>

EPA's critics have focused on several problems: lack of regulatory predictability and consistency, delays in promulgating regulations, the severity and inflexibility of regulations which do not accommodate the great variations in natural climate, geohydrological conditions and groundwater uses in particular areas, and lack of coordination and cross-purposes of many existing statutes.<sup>30</sup>

In addition, many states, industries, and businesses are concerned that EPA exceeds its authority with unwarranted federal intrusion in attempts to propose a national groundwater protection strategy. They fear that EPA will arbitrarily over-classify aquifer use, and contend that there is no real crisis in groundwater pollution. Their position is that EPA input should be limited to guidance, technical assistance, and education of the public.<sup>31</sup> Conversely, many states, environmental groups, scientists, and groundwater administrators support a strong EPA role. They feel that such a role is necessary to avoid industry's flight to "pollution haven" states, and to regulate groundwater pollution of aquifers which cross state lines (a problem associated with strict pollution standards in one state and loose standards in a neighboring state). However, most states are concerned that EPA will mandate inflexible

---

27. 42 U.S.C. §§ 9601-9657 (1982).

28. 15 U.S.C. §§ 2601-2629 (1982).

29. 7 U.S.C. § 136a-y (1982). Note also that DOI has responsibility pursuant to the Surface Mining Control and Reclamation Act of 1977 (SMCRA), 30 U.S.C. §§ 1201-1328 (1982) to minimize effects of surface mine pollution of groundwater.

30. See U.S. Environmental Protection Agency (Office of Drinking Water), *Public Comments on the Proposed Ground Water Protection Strategy* (July 23, 1981) (unpublished) [hereinafter cited as 1980 EPA Groundwater Strategy: *Public Comments*]. See also Viesman, *supra* note 15, at 19.

31. U.S. Environmental Protection Agency (Office of Drinking Water), *Selected Comments by Business and Industry on the Proposed Ground Water Protection Strategy* (1981) (unpublished).

classifications based on use, but not tailored to varying geographic and geohydrologic conditions: that is, relying on judgment rather than science. One example of this concern is the fear that EPA will use the "lowest common denominator" of degradation of aquifers, and by doing so will intrude into state allocation laws, and be susceptible to politically expedient decisions.<sup>32</sup> Many of these concerns are well founded.

#### A. EPA's 1980 Proposed Strategy

The issue of groundwater protection did not really emerge as worthy of national attention until the 96th Congress convened in 1979. In the second session, the House Committee on Government Operations published a report entitled "Interim Report on Groundwater Contamination: Environmental Protection Agency Oversight."<sup>33</sup> The committee considered the growing trend of groundwater contamination "one of the most serious environmental problems of the 1980's,"<sup>34</sup> and further stated that "[f]ederal programs designed to protect groundwater have been placed on the back burner too long."<sup>35</sup> The report recommended that EPA continue vigorous cooperation with the states to establish as swiftly as possible a national groundwater policy.<sup>36</sup>

EPA took the first steps towards the development of a national groundwater protection strategy by assigning its Office of Water and Waste Management the responsibility for developing the strategy and outlining a three-phase approach.<sup>37</sup> EPA developed a proposed strategy, and offered the

---

32. U.S. Environmental Protection Agency (Office of Drinking Water), *State Comments on Proposed Ground Water Protection Strategy* (1981) (unpublished).

33. See H.R. Rep. No. 1440, 96th Cong., 2d Sess. (1980).

34. *Id.* at 3.

35. *Id.* at 4.

36. *Id.*

37. The proposed EPA approach consisted of three phases:

Phase I. Assemble existing information on groundwater use and pollution, state laws and programs, and the state-of-the-art in groundwater protection.

Phase II. Conduct workshops involving state and local governmental officials, environmental organizations, business and industry, public interest groups, and professional persons. From the workshops, develop a wide range

proposal for public comment on November 24, 1980.<sup>38</sup> However, the proposal was less a single strategy than a collection of alternative courses of action which the scheduled future hearings might address. The proposal left unanswered the basic goal of the groundwater protection strategy, but stated a proposed goal derived from general agreement of the Phase II workshops: "It shall be the national goal to assess, protect, and enhance the quality of groundwaters to the level necessary for current and projected future users and for the protection of public health and significant ecological systems."<sup>39</sup> EPA queried whether the policy goal should be the protection of present and future users of groundwater, or the nondegradation of existing groundwater quality. The proposal also specifically asked for comments on the role of existing state programs, the utility of groundwater classification as an approach in setting priorities for groundwater protection, the usefulness of identifying appropriate sites for new hazardous waste disposal facilities, and the extent of the federal role in groundwater protection.<sup>40</sup>

The proposed strategy outlined an approach to managing groundwater protection based on four key elements: state groundwater protection strategies, a groundwater classification system, minimum national requirements for selected high priority problems, and EPA administrative actions.<sup>41</sup>

The development of protection strategies by the individual states was intended not only as a framework for planning,

---

of recommendations for EPA's consideration.

Phase III. Publish and distribute a proposed strategy and hold at least five hearings throughout the country on the proposed strategy.

See U.S. Environmental Protection Agency (Office of Drinking Water), Proposed Ground Water Protection Strategy (1980). [hereinafter cited as 1980 EPA Groundwater Strategy].

38. See 45 Fed. Reg. 77514 (Nov. 24, 1980).

39. See U.S. Environmental Protection Agency (Office of Research and Development), Proceedings of the Fourth National Ground Water Quality Symposium (Aug. 1979); see also U.S. Environmental Protection Agency (Office of Drinking Water), Planning Workshops to Develop Recommendations for Ground Water Protection Strategy 5 (Nov. 1980).

40. See 45 Fed. Reg. 77514 (Nov. 24, 1980); see also 1980 EPA Groundwater Strategy, *supra* note 37.

41. See 1980 EPA Groundwater Strategy, *supra* note 37, at 6.

implementation, and enforcement activities at state and local levels, but also to assure that primary authority over groundwater issues was retained by the individual states. EPA proposed to assist the states in preparing strategies by providing guidance, technical assistance, funding from existing federal programs, and grants under state-EPA agreements.<sup>42</sup>

Under the proposal, the development and implementation of a groundwater classification scheme would require different roles for EPA and the states. Stating the need for nationwide consistency in the definitions and categories used, EPA proposed to take the lead and develop a common classification scheme to facilitate cooperation in dealing with interstate issues and to provide a more understandable regulatory environment from state to state for businesses and individuals. This was needed to ensure that the intent of federally mandated programs and laws was carried out in all states. The states would make and enforce the permitting decisions.<sup>43</sup> The classification system would be based on three factors: the current and projected future use of an aquifer, the vulnerability of the source to contamination, and the level of control required.<sup>44</sup>

Where the threat to groundwater resources was national in scope, complexity, or severity, EPA expected to establish national control requirements. Some of the areas would include: interstate issues such as waste disposal, development of maximum contaminate and no adverse-risk levels for organics and other compounds in drinking water, development of a national data base (including guidelines on monitoring methods and data reporting, storage, and dissemination), establishment of procedures for handling detected cases of contamination, and identification of areas for further study, such as contamination by underground storage tanks.<sup>45</sup> EPA also included a statement of the necessity for uniformity among the states to

---

42. *Id.* at VII-4.

43. *Id.* at VII-8.

44. *Id.* at VII-4.

45. See Ross, *EPA's Proposed Strategy: Protecting the Nation's Ground Water*, 53 J. Water Pollution Control Fed'n 287 (Mar. 1981).

avoid major economic dislocations and the establishment of *de facto* pollution havens.<sup>46</sup>

### B. *The Public Comments*

In January 1981, public hearings were held on the proposed strategy in six locations around the country. An analysis of the public comments reveals that approximately half of the commenters challenged the proposed goal based on current and projected future use. They instead called for a policy of nondegradation to protect future generations who may become dependent on groundwater for drinking water. The supporters of multiple use for groundwater agreed that nondegradation was unworkable in our present technological society and that tradeoffs should be approached in a pragmatic, straightforward manner.

On the subject of groundwater classification, approximately sixty percent favored the concept as an effective and useful way to set priorities. A vast majority agreed that the fundamental responsibility for classifying groundwater should rest with the states, and that the EPA role was to provide research and development, financial assistance, technical assistance, and to draw together national experts, state and local officials, and business representatives to outline classification principles.<sup>47</sup> One major issue was that of resolving differences among the states on how to classify contiguous aquifers. Several commenters suggested that this was an appropriate role for EPA or some other federal agency. Others pointed out the need for flexibility to accommodate the wide variation in geologic and hydrologic conditions, water uses, and availability. Some indicated that any classification system should cover both surface and groundwater because of their interconnection and interdependence.<sup>48</sup> Many of those who opposed classification did so on the basis that the variation among groundwater formations, uses, and quality was so vastly different from place to place that it was impossible to construct and

---

46. See 1980 EPA Groundwater Strategy, *supra* note 37, at VII-10.

47. See 1980 EPA Groundwater Strategy: Public Comments, *supra* note 30.

48. *Id.* at 14-15.

apply a national policy or uniform standards in all states.<sup>49</sup> The general consensus was in favor of EPA taking a leadership role and the states carrying out the basic operating functions on a volunteer basis.<sup>50</sup>

About forty percent of the reviewers felt there was a need to strengthen federal authority in the area of groundwater protection.<sup>51</sup> Everyone who discussed research and development supported the need for a major expansion. Specific areas of concern were aquifer recharge, in-situ combustion impacts, uranium mining, economic effects of practices to protect and treat groundwater to make it usable, health risks, contamination movement, and remedial potential.<sup>52</sup>

### C. EPA's 1983 Proposed Groundwater Policy

EPA's work on the strategy document of 1980 was held in abeyance pending review by the Reagan administration. In 1982, after review and substantial revision by then-EPA Administrator Anne Gorsuch Burford, the second draft of the revised groundwater policy was sent for consideration to the Cabinet Council on Natural Resources and Environment, and its chairman, then-Secretary of Interior James G. Watt. It was also submitted to the Office of Management and Budget (OMB) for comments.<sup>53</sup>

In early 1983, EPA publicly set forth its revised groundwater policy.<sup>54</sup> There were several major differences between the 1983 groundwater policy and the 1980 strategy document. The stated goal of the 1983 policy was "[t]o safeguard the public health and sensitive environmental systems by protect-

---

49. *Id.* at 15.

50. *Id.*

51. *Id.* at 27. Specific examples of bolstered federal authority include adding authority to CWA to have National Point Discharge Elimination System (NPDES) permits cover groundwater as well as surface waters, and strengthening the Sole Source Aquifer program under the SDWA.

52. *Id.* at 27-28.

53. Personal briefing of the author by Marian Mlay, Attorney and Deputy Director, EPA Office of Drinking Water (Jan. 1983).

54. U.S. Environmental Protection Agency (Office of Drinking Water), Proposed Ground Water Policy (Feb. 2, 1983) (unpublished draft) [hereinafter cited as 1983 EPA Groundwater Policy].

ing the quality of ground water, taking into consideration current and projected future uses, consistent with statutory objectives.”<sup>55</sup> Two principle reasons were given for this approach: First, “not all groundwater is of a quality that is suitable for all uses because of either its natural quality or due to irreversible man-induced contamination.”<sup>56</sup> Second, “in managing resources in an industrialized society, choices must be made concerning waste management based upon a balancing of technological know-how and alternatives, cost and the degree of health or environmental protection needed to protect the public interest.”<sup>57</sup>

The 1983 document also stated that the language was chosen carefully and reflected conscious policy choices regarding goals and competing interests:

EPA believes that while a goal of non-degradation may be necessary in some circumstances, we do not believe that the general goal of preventing all contamination is appropriate for universal application . . . .

. . . We recognize too, that the protection of ground water may involve national, state, corporate and individual interests. Its protection must be carried out within statutory constraints. Finally, we recognize the need for flexibility to accommodate the great variations across the nation in natural climatic, geologic and hydrologic conditions and in the uses of ground water.<sup>58</sup>

The draft then listed seven operating principles which guided EPA in the preparation of this policy, setting forth both the philosophy and tone underlying EPA’s approach:

(1) State and local governments, by virtue of their jurisdiction over land use and because of their broad public health and police powers, should have the lead role in developing and implementing plans to protect

---

55. *Id.* at 12.

56. *Id.* at 8.

57. *Id.*

58. *Id.* at 12-13.

groundwater quality.

(2) Existing institutional and statutory powers should be fully utilized and coordinated to achieve the groundwater protection goal.

(3) In administering federal environmental laws, EPA must give the states maximum flexibility consistent with statutory requirements to develop effective groundwater strategies tailored to meet local needs and conditions.

(4) Groundwater quality protection should be established as a unifying goal linking all relevant EPA program activities.

(5) All available data should be utilized to provide the public with more information and a better understanding of groundwater resources, the significance of groundwater contamination, and means of safeguarding its quality.

(6) Groundwater policy decisions should be based on the best scientific evidence available: research efforts should be strengthened, where necessary, to expand this base of knowledge.

(7) Water quality and water quantity are closely linked. Water allocations are beyond the scope of EPA authority, but are within the jurisdictions of the states.<sup>59</sup>

It is in the policy implementation where the greatest difference lies between the 1980 and 1983 proposals. The 1980 strategy clearly anticipated a joint effort by federal, state, and local governments. However, major elements of the 1983 strategy were heavily tilted toward state initiatives, with EPA's role being primarily one of encouragement, exchange of information, and technical assistance. There is no mention of a national aquifer classification system in the 1983 strategy. Instead, states were given the discretion to develop and implement statewide groundwater strategies and implementation plans. As stated, EPA's policy was based on the following elements:

---

59. *Id.* at 14-18.

(1) States coordinate their own pollution control and waste water management programs which affect groundwater and efforts to protect the public health at the point of use. Implementation will depend significantly on each individual state's desire and ability to coordinate its own efforts.

(2) States carry out groundwater protection program responsibilities delegated to the states by EPA consistent with legislative requirements.

(3) States at their discretion develop and implement statewide groundwater quality strategies and management plans. States determine the nature and extent of their own problems, approaches for resolution, and resource priorities.<sup>60</sup>

The major task for EPA groundwater policy in 1983 was limited to coordinating the implementation of existing statutes.<sup>61</sup> This policy appeared in line with the Reagan Administration's philosophy of decentralization and a new focus on federalism. However, Secretary Watt objected to the policy, contending it would infringe on state water rights by establishing federal control over groundwater.<sup>62</sup> As a result, the Council did not approve the policy and all EPA work on the

---

60. *Id.* at 19.

61. *Id.* at 25.

62. See *Groundwater Protection: The Quest for a National Policy*, H.R. Rep. No. 55, 98th Cong., 2d Sess. 8-9 (1984) [hereinafter cited as *Groundwater Protection*]. At its June 29, 1983 hearing the subcommittee placed in the record documents indicating that former Secretary of the Interior James G. Watt had been responsible for killing EPA's proposed National Groundwater Policy at the February 9, 1983 meeting of the Cabinet Council on Natural Resources and the Environment, of which he was then chairman. A February 25, 1983 letter from then-Secretary Watt to all governors of western states, for example, reads as follows:

There is brewing in Washington an effort by some to establish federal control over ground water. My basic instincts say that this is wrong. The draft statement prepared by the EPA is clearly wrong.

The attached news story from the Washington Post is basically correct. If you and your fellow Western Governors feel that I am right, you had better join the battle. I cannot win this one without your help.

I am sending identical letters to the other Western Governors and asking that you folks either tell me that I am doing the wrong thing and I will retreat, or else join the battle and develop a plan for protecting states' rights.

policy stopped.

In March 1983, after EPA Administrator Burford's resignation, President Reagan appointed a new EPA Administrator, William D. Ruckelshaus.<sup>63</sup> Within a month of his May 1983 confirmation, Mr. Ruckelshaus created a Ground Water Task Force to prepare options on how to assure coordination of EPA policies and programs to deal with groundwater.<sup>64</sup> Following the task force's report, staff within EPA's Office of Drinking Water began drafting a third version of an EPA groundwater strategy. In January 1984, EPA distributed a draft to selected state, business, industry, and environmental organizations for comment.<sup>65</sup> The strategy was subsequently modified, and the first official policy on groundwater was released on August 30, 1984.<sup>66</sup>

#### D. *EPA's 1984 Groundwater Protection Strategy*

The 1984 strategy is, in many respects, a composite of the views stressed in the earlier strategies. As in the 1980 strategy, the 1984 strategy proposes the use by the federal government of a groundwater classification system to promote consistency among different environmental programs. Like the 1983 strategy, the 1984 strategy emphasizes that the states should take the lead in groundwater protection.<sup>67</sup>

The four core elements of the 1984 strategy generally refer to what the federal government intends to do about groundwater protection. They are to:

---

63. Mr. Ruckelshaus has since resigned as EPA Administrator, and has been replaced by Mr. Lee M. Thomas.

64. U.S. Environmental Protection Agency (Office of Drinking Water), Ground Water Coordination Task Force Summary Work Plan (June 23, 1983; rev. July 5, 1983) (unpublished draft).

65. U.S. Environmental Protection Agency (Office of Drinking Water), A Ground-Water Protection Strategy for the Environmental Protection Agency (Jan. 1984). See also U.S. General Accounting Office (Resources, Community, and Economic Development Division), Federal and State Efforts to Protect Ground Water 22 (Feb. 21, 1984).

66. See generally 1984 EPA Groundwater Strategy, *supra* note 2.

67. See D. Feliciano, *Comparison of the U.S. Environmental Protection Agency's Groundwater Protection Strategies*, Cong. Research Serv. publication No. 84-ENR (Feb. 8, 1984). See also *Groundwater Protection*, *supra* note 62, at 10.

- (1) Strengthen state groundwater programs.
- (2) Cope with currently unaddressed groundwater problems.
- (3) Create a policy framework for guiding EPA programs.
- (4) Strengthen internal groundwater organization.<sup>68</sup>

EPA pledged increased financial support to states for planning and development of groundwater protection programs and institutional capabilities. However, states are encouraged to make use of existing grant programs.<sup>69</sup> The money also may be used for creation of needed data systems, assessment of legal and institutional impediments to comprehensive state management, and the development of regulatory programs such as permitting and classification. EPA intends to provide technical assistance and a strong research program.<sup>70</sup>

In the 1984 strategy, EPA recognizes that contamination from many sources is not statutorily regulated. Of particular seriousness are threats posed by leaking underground storage tanks, surface impoundments, and landfills.<sup>71</sup> However, the 1984 strategy asserts only that EPA will study the effects of contamination from these sources to establish the need for regulation.<sup>72</sup> EPA's efforts to protect groundwater from pesticide and nitrate contamination will include required use of modeling techniques and field monitoring, issuance of health advisories, use of labeling restrictions, and encouragement of the implementation of pesticide restrictions through the incorporation of groundwater provisions in state enforcement grant agreements.<sup>73</sup>

The 1984 EPA Groundwater Protection Strategy rejects as too costly and inefficient an ambient monitoring ap-

---

68. See 1984 EPA Groundwater Strategy, *supra* note 2, at 32-50.

69. In the fiscal year 1985 appropriation act for EPA, Congress specifically rejected the idea of funding additional state groundwater activities through "set asides" from existing grant programs and added an additional \$11,285,000 earmarked specifically for state groundwater activities, including operational activities. See *Groundwater Protection*, *supra* note 62, at 15.

70. See 1984 EPA Groundwater Strategy, *supra* note 2, at 35-36.

71. *Id.* at 12-16.

72. *Id.* at 37.

73. *Id.* at 37-39.

proach;<sup>74</sup> instead it relies upon a combination of ambient, "point of contamination," and "point of use" detection.<sup>75</sup> However, EPA admits that point-of-contamination monitoring has not been done in a systematic way.<sup>76</sup> Furthermore, EPA and the U.S. General Accounting Office (GAO) have reported substantial non-compliance with and lax enforcement of the RCRA interim regulations requiring water monitoring.<sup>77</sup> The primary weakness with (supply well) point-of-use monitoring is self-evident. It is after-the-fact contamination, detection of which answers few questions relative to the source of contamination, direction, and movement of groundwater.

To establish consistency in its approach to a national protection program, EPA developed guidelines for a three-tiered groundwater classification scheme based on "the highest beneficial use to which the ground-water resource can presently or potentially be put."<sup>78</sup> The three classes are:

I. Special groundwaters, such as sole sources which are irreplaceable sources of drinking water and are ecologically vital.<sup>79</sup>

II. Current and potential sources of drinking water and water having other beneficial uses, which generally comprises the majority of usable groundwater in the United States. Prevention of contamination will be provided through technology-based requirements rather than land use restrictions.<sup>80</sup>

III. Groundwater not a potential source of drinking water and of limited beneficial use because of salinity or

---

74. *Id.* at 40.

75. *Id.* at 40-41.

76. *Id.* at 40.

77. See Memorandum from Gene A. Lucerno, Director, EPA Office of Waste Programs Enforcement to Air and Hazardous Waste Division Directors, Regions I-X (Mar. 21, 1983); U.S. General Accounting Office, Interim Report on Inspection, Enforcement, and Permitting Activities at Hazardous Waste Facilities: Report to the Chairman, Subcomm. on Commerce, Transportation, and Tourism, House Comm. on Energy and Commerce 5-9 (Sept. 21, 1983); see also *Groundwater Protection*, *supra* note 62, at 17-18.

78. See 1984 EPA Groundwater Strategy, *supra* note 2, at 42.

79. *Id.* at 43-45.

80. *Id.* at 45-46.

other contamination.<sup>81</sup>

The intent of the 1984 strategy is to work within EPA's current groundwater programs under existing federal environmental statutes. Apparently responding to criticism of whole-aquifer classification in the draft strategy, the agency makes the classification site-specific for the reason that parts of aquifers might be significantly different from other parts. Essentially, special and vulnerable groundwaters would receive a high level of protection, while groundwater that is not a potential source of drinking water or other beneficial use would not. Variances would be applied as necessary.<sup>82</sup>

The 1984 strategy explicitly states that the individual states are under no obligation to adopt the federal classification system for their own programs, although there is the suggestion that states will generally have to establish programs which are "no less stringent" than the federal guidelines to obtain authorization to administer EPA programs.<sup>83</sup> States with inadequate staffing and funds to develop their own regulatory requirements or guidelines addressing groundwater may use the EPA framework although they are not required to do so. In fact, the states are not required to do anything beyond the mandates of the existing environmental statutes.<sup>84</sup>

---

81. *Id.* at 46-47.

82. It should also be noted that the classification scheme has been criticized on other grounds as well:

Beyond the notion of a sliding scale of protection, this classification framework resolves very little. For example, for both Class I and Class II ground waters, it is not clear from the strategy whether background conditions or drinking water standards would be the standard by which protection and cleanup requirements were judged. By skirting the issue, the strategy preserves the specter of ground water regulation based upon nondegradation requirements, although the policy is nominally focused upon the need to protect current and potential beneficial uses of groundwater.

Frohardt, *EPA's Ground Water Protection Strategy: Much Ado About Nothing?*, Nat. Resources & Env't, Winter 1985, at 61.

83. 1984 EPA Groundwater Strategy, *supra* note 2, at 48.

84. To strengthen EPA's internal groundwater organization, the 1984 strategy calls for the establishment of a new Office of Ground-Water Protection (OGWP). EPA's OGWP was in fact established on April 2, 1984. OGWP serves to coordinate EPA's groundwater protection program, to support groundwater protection efforts by the states, and will also serve as an EPA spokesperson on legislative matters affecting

#### IV. An Interjurisdictional Approach to Groundwater Protection

##### A. Introduction

The 1984 EPA groundwater strategy, with its emphasis on state responsibility for groundwater pollution control, represents the most recent step in the reversal of a twenty-five year trend toward increased federal involvement in this field.<sup>85</sup> As expressed under many of the environmental laws, the federal and state governments are to work in a partnership. In practice, a much different relationship has developed, one which has resulted in negative attitudes between the partners. In the 1970's, EPA demonstrated a distrust of the ability and desire of the states to protect their waters. In fact, EPA appeared to believe that states must be forced to develop protective standards, sometimes exhibiting the attitude "that everybody is presumably guilty until proven innocent, and that the only organization that can define and solve environmental problems is EPA."<sup>86</sup> In the 1980's, however, EPA itself has suffered many problems of credibility and stability.<sup>87</sup>

---

groundwater. See *id.* at 49-51. The House Government Operations Committee has recommended that EPA develop specific internal procedures to assure that OGWP will be made aware of pending matters in the various program offices and that OGWP views will be given due consideration in such matters. The authority to resolve any irreconcilable differences of opinion between OGWP and the program offices should be at a higher level within EPA. See *Groundwater Protection*, *supra* note 62, at 18.

85. See Jolly, *State and Federal Roles in National Water Cleanup*, 55 State Gov't 115 (1982).

86. *Water for Living: An Interview With Frederick A. Eidness Jr.*, EPA J., Mar.-April 1982, at 9.

87. It should also be noted that Congressional concern over groundwater contamination prompted the creation of a National Ground Water Commission. The Commission consists of nineteen members: ten members of Congress; eight individuals appointed by the President from public and private sectors; and the Director of Congress's Office of Technology Assessment (OTA). The Commission's charge is to undertake extensive data accumulation and assessment including the extent and sources of contamination, the role of land use, the adequacy of existing standards, overdrafting, the relationship between surface and ground waters, technological abilities, research, and the roles of federal, state, and local governments in managing groundwater quality and quantity. The Commission must report its findings and recommendations for legislative and administrative actions to the President and Congress. It must perform this task by January 1, 1987, when it will cease to exist. See Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 98-616, 704, 98 Stat.

Both the expansion of the federal role in environmental control in the 1970's and the subsequent movement during the 1980's back to state control are objectionable for many reasons: budgetary, informational, and technological restrictions being three of the most important. While strong arguments can be made for local jurisdiction, important exceptions remain. These arise primarily "where there is undue political influence at local levels, where there is sufficient interjurisdictional pollution, and where technological considerations give substantially greater efficiency to larger jurisdictions in either providing technical information or in carrying out control responsibilities."<sup>88</sup>

#### *B. Recent Developments in Federal Jurisdiction Over Groundwater*

Two Constitutional provisions have played central roles in resolving conflicts between states and regions: the commerce clause<sup>89</sup> and the Supreme Court's original jurisdiction over controversies involving states.<sup>90</sup> In *Sporhase v. Nebraska*,<sup>91</sup> the United States Supreme Court declared that a Nebraska statute limiting groundwater exports from the state in an attempt to protect the state's water supplies from diversion was an unconstitutional burden on the flow of interstate commerce, and therefore violative of the commerce clause. This case presented a fundamental challenge to the states' traditional powers to regulate water within their borders. Congress is the regulator of interstate commerce, although it may delegate by statute, within certain limits, to the states the ability to regulate commerce in particular commercial areas. However, the Court in *Sporhase* concluded that Congress had not legitimized the burden which the Nebraska statute at is-

---

3221, 3289-93 (1984).

88. Zerbe, *supra* note 16, at 245.

89. "The Congress shall have Power . . . To regulate Commerce . . . among the several States . . ." U.S. Const. art I, § 8, cl. 3.

90. "In all Cases . . . in which a State shall be a Party, the supreme Court shall have original Jurisdiction." U.S. Const. art. III, § 2, cl. 2.

91. 458 U.S. 941 (1982).

sue placed on interstate commerce, thus the statute was held unconstitutional.

*Sporhase* was soon followed and expanded upon in *City of El Paso v. Reynolds*.<sup>92</sup> The district court concluded that a New Mexico statute barring out-of-state export of groundwater constituted an unconstitutional burden on interstate commerce and indicated that only the strongest conservation rationale could justify such a law.<sup>93</sup> Agricultural needs were rejected by the court as insufficient.<sup>94</sup>

Although these two cases are concerned with water scarcity problems and state regulation of water export, the clear definition under *Sporhase* of groundwater as an article of commerce suggests that Congress remains its ultimate regulator.<sup>95</sup> "The Supreme Court has long construed the commerce clause not only as a grant of power to Congress, but as a limitation on states' power to legislate."<sup>96</sup> While the commerce clause power has been used extensively as a vehicle for controlling pollution and allocation of the nations navigable streams and non-navigable tributaries,<sup>97</sup> the usefulness of the commerce power to control groundwater pollution has only

---

92. 563 F. Supp. 379 (D.N.M. 1983).

93. *Id.* at 391.

94. *Id.* at 390.

95. See U.S. Const., art I, § 8, cl. 3.

96. See Note, *The Commerce Clause and Federalism: Implications for State Control of Natural Resources*, 50 Geo. Wash. L. Rev. 601 (1982) (footnotes omitted). The federal courts have assumed the leading role in curbing protectionist state measures and invalidating many of these measures even in the absence of relevant congressional action. A potential explanation for the Court's long delay in applying the undue burden test when considering interstate resource conflicts is that these conflicts are regional and systemic as well as technologically complex. See Stewart, *Interstate Resource Conflicts: The Role of the Federal Courts*, 6 Harv. Envtl. L. Rev. 241, 251-52 & n.73 (1982). The first cases to invalidate state measures under the commerce clause in the absence of congressional action were the Passenger Cases, 48 U.S. (11 How.) 283 (1849); *Cooley v. Board of Wardens* 53 U.S. (12 How.) 229, 319 (1851) (absent congressional action, states may act in "local" matters affecting interstate commerce, but never in "national" matters). See also *City of Milwaukee v. Illinois*, 451 U.S. 304, 325 (1981) ("The invocation of federal common law . . . control.").

97. See, e.g., *City of Milwaukee v. Illinois*, 451 U.S. 304 (1981); *Illinois v. City of Milwaukee*, 406 U.S. 91 (1972); *Arizona v. California*, 373 U.S. 546 (1963); *New Jersey v. City of New York*, 283 U.S. 473 (1931); *New York v. New Jersey*, 256 U.S. 296 (1921).

been speculative. Such speculation is resolved by the Court's holding in *Sporhase*.

Other constitutional provisions which affirmatively grant power to Congress to control groundwater pollution include the supremacy clause,<sup>98</sup> the compact clause,<sup>99</sup> and the general welfare taxing and spending clause.<sup>100</sup> Federal law preempts state law by implication when there is an irreconcilable conflict between state law and federal law,<sup>101</sup> or when Congress, through statutory language or legislative history, has expressed a "clear and manifest purpose" to occupy the field covered by the federal statute.<sup>102</sup>

### C. *The Interjurisdictional Approach*

It is submitted that any comprehensive approach to groundwater protection must recognize and incorporate the following basic assumptions:

(1) Groundwater is a valuable natural resource and its contamination will have adverse effects on human health and the environment.

(2) Groundwater does not conform to state and political boundaries and pollution problems cannot be solved through zealous adherence to boundaries.

(3) There are differences in quality and quantity of groundwater within the United States as well as differences in geology and hydrology in geographic areas.

---

98. U.S. Const. art. VI, cl. 2. "This Constitution, and the Laws of the United States . . . shall be the supreme Law of the Land." The preemption doctrine which arises from the supremacy clause requires that federal law displace state law whenever the latter "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." See *Hines v. Davidowitz*, 312 U.S. 52, 67-68 (1941).

99. U.S. Const. art. I, § 10, cl. 3. "No State shall, without the Consent of Congress, . . . enter into any Agreement or Compact with another State."

100. U.S. Const. art. I, § 8, cl. 1. "The Congress shall have Power To lay and collect Taxes . . . and provide for the . . . general Welfare of the United States."

101. See *Goldstein v. California*, 412 U.S. 546, 553 (1973).

102. See *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947). For example, RCRA expressly preempts weaker state regulations, but allows states to issue more stringent rules. See 42 U.S.C. § 6929 (1982); see also Florini, *Issues of Federalism in Hazardous Waste Control: Cooperation or Confusion?*, 6 Harv. Envtl. L. Rev. 307, 311 (1982).

(4) There are vast differences among the states in their focus on groundwater problems, in legal treatment, management systems, and technological and financial abilities.

(5) Current federal institutions are inadequate in terms of administrative capacity and knowledge of local conditions to implement a national groundwater strategy.

(6) A national policy is needed that encourages and supports a comprehensive and scientifically well balanced strategy to protect the resource by providing for orderly development, proper use, and conservation of groundwater in all major aquifers.

The above assumptions suggest the premise that regional, interjurisdictional control of groundwater pollution represents the optimal approach to insuring groundwater protection. Formal regional regulatory authority which conforms to geohydrological characteristics and geographical diversity should be implemented.

The interjurisdictional authority can be created in two ways: via exercise of the above-described federal powers over interstate waters, and through interstate compacts among states included in each regional boundary. However, because the exercise of federal power over interstate waters often involves litigation, it seems clear that the vesting of regulatory power in some form of interstate organization is essential to effective handling of interstate groundwater pollution situations.<sup>103</sup>

#### D. *Federal-Interstate Compacts: A Two-Phase Approach*

Several commentators have advocated the use of interstate compacts for regional water resource management.<sup>104</sup> It

---

103. See Hines, *Nor Any Drop To Drink; Public Regulation of Water Quality. Part II: Interstate Arrangements for Pollution Control*, 52 Iowa L. Rev. 432, 433 (1966).

104. See generally Muys, *Interstate Water Compacts* (July 1971) (a study prepared for the National Water Commission and published by the U.S. Dep't of Commerce, National Technical Information Service (PB 202 998)) [hereinafter cited as *Interstate Water Compacts*]; Muys, *Interstate Compacts and Regional Water Resources Planning and Management*, 6 Nat. Resources Law. 153 (1973) [hereinafter cited as Muys]; Fischer, *Management of Interstate Groundwater*, 7 Nat. Resources

has been observed that "[p]ollution control on interstate streams has been viewed consistently by the Supreme Court, Congress, and commentators as a problem area particularly susceptible of regional solution through interstate compact."<sup>105</sup> It has also been observed that the interstate compact approach offers the particular advantages of finality, flexibility, and expertise.<sup>106</sup> However, it has also been noted that "[t]he broad constitutional powers of the federal government

---

Law. 521 (1974).

105. Muys, *supra* note 104, at 157 (footnotes omitted). The author further notes that:

In its 1921 decision in the interstate litigation between New York and New Jersey over pollution of the Hudson River [New York v. New Jersey, 256 U.S. 296 (1921)], the Supreme Court expressed its view that a cooperative attack on pollution through interstate agreement was a more positive approach to such problems than adversary litigation. New York, New Jersey, and Connecticut subsequently entered into the Tri-State Compact in 1935 to deal with water quality problems in New York Harbor. Since that time there have been at least ten additional compacts which deal with interstate water pollution in various fashions, ranging from bilateral agreements, such as that between California and Oregon on the Klamath River, to such multilateral treatments as the Ohio River Valley Water Sanitation Compact among eight states of the Ohio River Basin. The powers that may be exercised by the commissions created by these compacts span the spectrum from the Potomac River Commission's carefully circumscribed authority to study, report on, and recommend remedial actions on the pollution problems of that basin to the broad water quality standard-setting and enforcement powers of the Delaware and Susquehanna River Commissions.

*Id.* at 157-58 (footnotes omitted).

106. These advantages of the interstate compact approach are detailed as follows:

(1) *Finality*. The interstate compact, when properly ratified, becomes fully the law of the land insofar as the contract provides. It will be recognized in the courts of the affected states as well as by the [c]ourts of the United States. (2) *Flexibility*. A well drawn compact, though final, has flexibility. It may provide that particular rules and regulations may be modified, adjusted, or changed to meet changing circumstances, or to conform to new information concerning the ground water resource. (3) *Expertise*. Customarily, compacts are negotiated by knowledgeable representatives of the compacting states, with the assistance of a knowledgeable representative of the United States government. Persons knowledgeable and experienced in an area, with sufficient time and ability to fully investigate the probable results of a proposed course of action, are much more likely to develop a conclusion which is both workable and fair than is likely to be the result of less limited effort or experienced consideration.

Fischer, *supra* note 104, at 532 (footnote omitted).

over the development, use, and management of the [n]ation's water resources inevitably make it the controlling force in the success or failure of cooperative state efforts [such as interstate compacts] to deal with regional water problems . . . ."<sup>107</sup> Therefore, any successful interstate compact designed to protect groundwater must include the federal government as a full partner in the endeavor.<sup>108</sup>

The goal of any federal-interstate compact to protect groundwater must be the creation of a hydrologically sound managerial and administrative system. However, it must be recognized that the success of any such federal-interstate compact depends initially upon Congressional action, as "the Constitution requires Congressional consent for all such com-

---

107. Muys, *supra* note 104, at 159.

108. One example of such interstate-federal cooperation is the Delaware River Basin Compact, which created the Delaware River Basin Commission (DRBC). See generally *id.* at 160-63. "[T]he DRBC is charged with formulating a 'comprehensive plan' for the development and use of the basin's waters, and is endowed with broad planning, regulatory, and project construction powers to aid in implementing the basin plan." *Id.* at 161. In addition:

The structure of the DRBC itself facilitates interstate and federal-state cooperation. The heart of the compact is the constraint which Commission approval of the comprehensive plan places on the water resource programs of the signatory parties. All federal, state, and local water project planners are required to conform their projects to the DRBC's comprehensive plan [whose content is determined by majority vote].

*Id.* at 162. Congress has provided in the legislation consenting to the compact that the federal government need not shape its projects to a plan with which it is not in agreement. *Id.* However, reservation of the consent legislation provides that whenever a comprehensive plan or revision has been adopted with the concurrence of the Commission member approved by the President, the exercise of powers conferred by law on any officer, agency, or instrumentality of the United States shall not substantially conflict. *Id.* The compact also contains procedural requirements designed to afford maximum opportunity for the expression of public opinion on significant matters prior to DRBC decisions. Public hearings are required and all DRBC meetings must be open to the public. *Id.* at 162-63.

Note that Congress has recently used interstate compacts to deal with establishment and operation of regional disposal facilities for low-level radioactive wastes. In 1980, Congress incorporated such a provision in the Low-Level Radioactive Waste Policy Act, 42 U.S.C. § 2021(b)-(d) (1982). The Act authorizes "states to enter into such compacts as may be necessary to provide for the establishment and operation of regional disposal facilities" to take effect upon approval by Congress; and if "restricting use of regional facilities to region members," may not take effect before January 1, 1986. See also Florini, *supra* note 102, at 335.

pacts in order to allow Congress a veto over any interstate agreements which might be prejudicial to broader national interests."<sup>109</sup>

Parallel with the conclusions of other commentators that the federal- interstate compact mechanism represents the optimal approach to a viable groundwater protection policy,<sup>110</sup> it is suggested that a two-phase approach be undertaken by Congress to implement such a federal-interstate compact. In the first phase, a select committee on groundwater resources should be established by Congress. This committee should have three basic objectives:

(A) To establish a goal of nationwide groundwater protection.

(B) To devise and create regional commissions with policymaking authority and territorial jurisdiction conforming to the major aquifer systems of the United States, or alternately, conforming to the existing eighteen major water resource regions in the coterminous United States established by the United States Water Resources Council.<sup>111</sup>

(C) To recommend the funding level necessary to implement the goal of nationwide groundwater protection. This committee would serve only as a transitional agency until its powers could be exercised by a commission established by a federal- interstate compact among the states and the federal government.<sup>112</sup>

The transition agency should be given broad powers

---

109. Muys, *supra* note 104, at 172.

110. *See id.* at 163; Fischer, *supra* note 104, at 546.

111. U.S. Water Resources Council, *The Nation's Water Resources 1975-2000* (1978). The membership of each Commission should be comprised of three members from the federal government, one from each of the following: EPA, USGS, and U.S. Dep't of Commerce, and members from each state, weighted by land area and population of the included portion of the state, but with each affected state represented by at least one and no more than three members. All members would be appointed by the President.

112. Until now the impetus for settlement of interstate problems has come principally from the states. Here, the suggestion for Congress to be the prime mover results from the unproductive efforts to encourage joint state action on problems of regional concern in the area of water pollution control. The states may cooperate extensively on informal and unofficial levels, but this activity is no substitute for an organized continuing regional control effort. *See* Hines, *supra* note 103, at 456.

including:

(1) Authority to require hydrological description and investigation of each aquifer in the region and predictive capabilities necessary for effective management of the groundwater.<sup>113</sup>

(2) Authority to establish enforcement powers, including civil and criminal penalties.<sup>114</sup>

(3) Authority to initiate taxing and spending powers.

(4) Authority to establish an information retrieval system.

Justification for the establishment of a federally-oriented interim agency as an initial step towards a federal-interstate compact may be found on several grounds. First, Congress could enact the required legislation more quickly than a federal-interstate compact, with all its legal complications, could be negotiated and ratified. Second, Congress would be more receptive to funding a federal agency for the initial period. Finally, a federal agency would recognize the paramount national interest in groundwater pollution control of the area in question until such time as the legal framework for shifting the power center to a regional compact commission could be established.<sup>115</sup>

In the second phase, legislation should be enacted by Congress which would enable and further the creation of federal-interstate compacts which will fulfill the overall goal of nationwide groundwater protection through a hydrologically sound regional framework. This legislation should allow the permanent regional compact commission of the area in question to address the following issues:

(1) Methods of making parallel or reconciling the differences of state laws concerning groundwater protection.

---

113. This authority could be coordinated by the Regional Aquifer-System Analysis Program (RASA) established by the U.S. Geological Survey.

114. See Muys, *supra* note 104, at 182.

115. See *Interstate Water Compacts*, *supra* note 104, at 128.

- (2) Sources of finance and priority funds.
- (3) Means of agency responsibility.
- (4) Classification of aquifers as to quality and use.
- (5) Land use decisions to protect critical aquifer recharge areas.
- (6) Permitting and monitoring strategies.
- (7) Economic incentives and disincentives.
- (8) Exemptive status.

More specific policy considerations have also been recommended for inclusion in federal-interstate compact legislation.<sup>116</sup>

## V. Conclusion

Groundwater is one of the nation's most important natural resources. Contamination of it must be controlled to protect public health as well as the environment at large. Under-

---

116. These include:

(1) "[A]dvance consent should be granted to a limited class of compacts not having a significant impact on federal interests." Muys, *supra* note 104, at 176.

(2) Existing federal-interstate compacts with groundwater pollution control authority should be left intact and strengthened where necessary. The signatory parties to existing surface water interstate pollution control compacts should be encouraged to include groundwater in the compact commission authority and to make the federal government a signatory party. Failure to incorporate groundwater protection in the existing interstate compact described above would necessitate including those states in the contemplated Congressional legislative scheme.

(3) Federal district court jurisdiction should be granted over all water compact matters. *Id.*

(4) The roles of existing federal agencies and pollution control programs with respect to their relationship to the compact commission should be clarified. *Id.*

(5) The compact agency should preempt the standard setting authority of the member states only to the extent that the compact agency standards must be minimal standards throughout the region. The individual states should remain free to establish more stringent standards. *Id.* at 182.

(6) Compact agency decisions should be rendered by a majority vote and veto power by the affected state over enforcement action should be prohibited. *Id.* at 183.

(7) The need for compact amendment and new ratification and consent legislation should be minimized to the extent possible. *Id.* at 185.

ground aquifers do not assume a configuration resembling state political boundaries. Furthermore, existing state and federal agencies have thus far been unable to adequately address the problem of groundwater pollution. Because standardized solutions in an area as complex as groundwater pollution do not work, EPA has been unable to formulate an acceptable nationwide groundwater protection strategy. A new and different jurisdictional framework should be devised to overcome institutional and political weaknesses. The vesting of regulatory and enforcement power in a federal-interstate organization represents the optimum interjurisdictional approach, as well as the political and technical ideal.

The Supreme Court has declared groundwater to be an article of commerce. Therefore, Congress should exercise its plenary powers to enact legislation which will enable a hydrologically sound managerial and administrative system to be imposed as a federal-interstate compact. The organizational plan should be based on a two-phased approach. A federally-oriented transition agency with broad authority should first be established as the initial step towards a federal-interstate compact. Once in force, a compact commission would replace the transition agency and be assigned its powers. The federal-interstate compact approach recognizes that "[o]ur regions are realities. Political thinking must respond to these realities. Instead of leading to parochialism, it will bring a fresh ferment of political thought whereby national aims may be achieved through various forms of political adjustments."<sup>117</sup>

---

117. Frankfurter & Landis, *The Compact Clause of the Constitution—A Study in Interstate Adjustments*, 34 Yale L.J. 685, 729 (1925).