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Conservation Districts as the Foundation for Watershed-Based Programs to Prevent and Abate Polluted Agricultural Runoff

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CONSERVATION DISTRICTS AS THE FOUNDATION FOR WATERSHED-BASED PROGRAMS TO PREVENT AND ABATE POLLUTED AGRICULTURAL RUNOFF

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I. INTRODUCTION

Agricultural nonpoint source pollution continues to attract considerable attention from environmental and agricultural interest groups. While polluted agricultural runoff was long ago identified as a major source of water quality degradation,[2] recent pollution prevention and abatement proposals for agriculture depart from prevailing approaches in at least two important ways. First, proposed Clean Water Act reauthorization provisions call for mandatory state enforcement mechanisms to ensure the implementation of pollution control measures by agricultural producers.[3] Second, a watershed approach to environmental quality has attracted widespread support within the environmental and scientific communities.[4]

Institutional arrangements to effectively link traditional voluntary agricultural pollution control programs with backup enforcement on a watershed basis are not readily apparent. Thus, the observation that "[w]ater pollution problems are fundamentally institutional problems"[5] appears accurate as efforts proceed to develop an effective institutional framework for agricultural pollution prevention and abatement. Moreover, when considered against the current backdrop of bureaucratic belt tightening, proposals calling for new institutions to control agricultural nonpoint source pollution will likely fall on deaf ears. Existing institutions must somehow evolve to accommodate necessary programs.[6]

The prevailing cooperative-federalism paradigm for pollution control programs relies on state and local action under the direction of the United States Environmental Protection Agency (EPA).[7] Local conservation districts appear to represent the best existing local institution to implement agricultural nonpoint source pollution programs because they are "the only local agencies whose pri-

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2. Craig L. Williams, *Soil Conservation and Water Pollution Control: The Muddy Record of the United States Department of Agriculture*, 7 ENVTL. AFF. 365, 366 (1979).

3. *See, e.g.*, S. 1114, 103d Cong., 2d Sess. § 3 (1994).

4. NATIONAL RESEARCH COUNCIL, RESTORATION OF AQUATIC ECOSYSTEMS 13 (1992).

5. COUNCIL FOR AGRICULTURAL SCIENCE AND TECHNOLOGY, TASK FORCE REPORT NO. 120, WATER QUALITY AGRICULTURE'S ROLE 17 (1992).

6. The preference for using existing institutions for agricultural nonpoint source pollution control has been expressed for some time. *See* Lynn L. Schloesser, Note, *Agricultural Non-point Source Water Pollution Control Under Sections 208 and 303 of the Clean Water Act: Has Forty Years of Experience Taught Us Anything?*, 54 N.D. L. REV. 589, 616 (1978). "A coordinated use of existing federal, state, and local institutions and agencies would be most effective and desirable to successfully and equitably implement and enforce a national regulatory program." *Id.*

7. *See generally* Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196 (1977).

mary responsibility is to control soil erosion and reduce sediment and other nonpoint source pollutants resulting from soil erosion."[8] Sediment, coupled with the nutrients, pesticides and other absorbed potential pollutants, is the single greatest source of water pollution by volume.[9] Local districts encompass nearly all privately owned farmland in the United States.[10] Further, local conservation district enabling legislation in approximately half of the states includes provisions for implementing land use regulations that could potentially serve as a nonpoint source enforcement mechanism.[11]

The Texas Institute for Applied Environmental Research (TIAER) developed proposed draft legislation for Clean Water Act reauthorization directly linking voluntary and regulatory agricultural pollution control efforts within a watershed framework. Implementation requires extensive reliance on local soil and water conservation districts to spearhead pollution control programs, while providing watershed stakeholders significant responsibility for program success. Thus, local conservation districts represent the pivotal institution for this "planned intervention," micro-watershed approach. Robert Morgan aptly describes the potential flexibility of the conservation district and the increasing recognition of its value:

> [P]rompted by the widespread success of Districts in dealing with their original assignments--erosion control and soil and water conservation-State officials and private organizations are beginning to explore the possibility of broadening Soil and Water Conservation District responsibilities to cover a wider range of resource problems . . . Is there any better instrument than the District to develop and move forward with an orderly well-considered program of local resource development?[12]

The first part of this paper examines local conservation districts from an historical perspective as vehicles for leading agricultural nonpoint source pollution control programs on a watershed basis. A variety of historical issues are of interest: district regulatory powers, county versus watershed district organization, district voter eligibility requirements, inclusion of incorporated areas within districts, district leadership capacity and funding, and the role of state conservation agencies. The second part of the paper proposes a "planned intervention," micro-watershed approach to agricultural nonpoint source pollution control. This approach directly links voluntary pollution abatement efforts by

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8. Dean T. Massey, *Land Use Regulatory Power of Conservation Districts in the Midwestern States for Controlling Nonpoint Source Pollutants*, 33 DRAKE L. REV. 35, 37 (1983-84).

9. James L. Arts & William L. Church, *Soil Erosion--The Next Crisis?*, 1982 WIS. L. REV. 535, 542 (1982).

10. Mary M. Garner, *Regulatory Programs for Nonpoint Pollution Control: The Role of Conservation Districts*, J. OF SOIL & WATER CONSERVATION 199 (Sept.-Oct. 1977).

11. *See generally* Massey, *supra* note 8; Edwin E. Ferguson, *Nation-Wide Erosion Control: Soil Conservation Districts and the Power of Land-Use Regulation*, 34 IOWA L. REV. 166 (1949); John B. Braden & Donald L. Uchtmann, *Soil Conservation Programs Amidst Faltering Environmental Commitments and the 'New Federalism,'* 10 B.C. ENVTL. AFF. L. REV. 639, 643 n.16 (1982-83).

12. ROBERT J. MORGAN, GOVERNING SOIL CONSERVATION: THIRTY YEARS OF THE NEW DECENTRALIZATION 201 (1965).

agricultural producers, under the auspices of local conservation districts, with the enforcement authority of water quality regulatory agencies. Further, planned intervention applied within targeted micro-watersheds can provide a comprehensive pollution prevention and abatement strategy--encompassing agricultural and non-agricultural pollution sources alike-with considerable input from micro-watershed stakeholders. The third part of the paper summarizes those areas in which a planned intervention, micro-watershed approach remedies earlier efforts to employ local conservation districts for agricultural nonpoint source pollution prevention and abatement, as well as lingering problems requiring further attention.

A. Local Conservation Districts in Perspective

Local conservation districts had their genesis in the Great Depression of the 1930s. At that time, soil erosion in the Midwest had progressed to the point where westerly winds transported dustclouds from the region to the steps of the United States capitol.[13] Despite the unprecedented soil erosion during that period, early soil conservation demonstration projects were established as much for unemployment relief as for erosion control.[14] History reveals that shifting and conflicting political mandates have limited the potential gains realized by national conservation programs.[15]

In 1936, the United States Department of Agriculture (USDA) Soil Conservation Service (SCS) developed a Standard State Soil Conservation Districts Law to provide a mechanism through which federal technical assistance to abate soil erosion could be directed to the local level.[16] A federal-local linkage for programs involving land use decisions was crucial because "[l]and use and land management programs were and still are primarily the responsibility of local government. No direct federal land use control program could be enacted, and even if it were, it would probably be so controversial it would be ineffective."[17]

Supporters of local conservation districts cited three reasons for their establishment: 1) the need for a local sponsor for SCS programs, 2) the expectation that conservation initiatives would be conducted on a watershed basis, and 3) the belief that in some cases, land use regulation was required to effect necessary conservation measures.[18] While districts currently constitute a local SCS presence, they do not conduct conservation initiatives on a watershed basis or participate in land use regulation.[19]

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13. Sandra S. Batie, *Soil Conservation in the 1980s: A Historical Perspective*, AGRICULTURAL HISTORY 107 (April 1985).
14. *Id.* at 108.
15. *See, e.g.*, Williams *supra* note 2, at 385.
16. Massey, *supra* note 8, at 40.
17. Arts & Church, *supra* note 9, at 589.
18. MORGAN, *supra* note 12, at 159.
19. Nebraska provided an exception to the rule concerning watershed organization with the formation in 1972 of twenty-four (now twenty-three) Natural Resource Districts, largely on a watershed basis. *See* Susan A. Schneider, *The Regulation of Agricultural Practices to Protect Groundwater Quality: The Nebraska Model for Controlling Nitrate Contamination*, 10 VA. ENVTL. L.J. 10 (1990); *see also* Massey, *supra* note 8, at 49.

1. Local Conservation District Land Use Regulatory Authority

Adoption of state conservation district enabling legislation based on the Standard Districts Law progressed rapidly, though not without significant debate and modification to the model legislation.[20] The land use regulatory powers for local districts urged by USDA to adequately address severe erosion problems represented the greatest hurdle for many state legislatures debating the establishment of the new political subdivisions. The opposition encountered by proponents of the legislation in some states during the 1930s[21]--one of the most socialist political periods in United States history--supports the conclusion that local districts could not be established anew today, particularly in light of the current movement to preserve and extend private property rights in the face of perceived excessive regulation.[22] Significant opposition to the establishment of local districts notwithstanding, twenty-two states adopted district enabling legislation in 1937; by 1940, an additional sixteen states established local conservation districts; and by 1945 every state permitted the establishment of local districts.[23] Today, some 3,000 districts exist in the United States and encompass nearly all private farmland.[24]

To spur state adoption of the model law and its land use regulatory provisions, USDA indicated that states failing to provide districts with power over land use would forfeit their eligibility for soil conservation assistance through the Soil Conservation Service.[25] In fact, until World War II, SCS provided technical assistance to the states according to three priority classes.[26] The first two classes of states received full assistance; the third class was denied use of SCS equipment and planting materials for failure to enact land use regulatory provisions in district enabling legislation.[27] After 1936, as many as thirty-three states simultaneously provided local conservation district land use regulatory powers;[28] however, by 1975 that number had dwindled to twenty-seven.[29]

While USDA placed great emphasis on providing land use regulatory authority to local districts, districts possessing such powers only rarely utilize their authority.[30] Since their inception, local districts have relied almost exclusively on education, technical assistance and cost sharing to induce voluntary

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20. *See generally* Massey, *supra* note 8.

21. Williams, *supra* note 2, at 376-79; Ferguson, *supra* note 11, at 181-82.

22. *See* Marianne Lavelle, *The 'Property Rights' Revolt*, NAT'L L. J., May 10, 1993, at 1, 34. Twenty-six states have passed or considered legislation designed to restrict environmental regulation based on a constitutional takings approach. *Id.*

23. Ferguson, *supra* note 11, at 168.

24. Batie, *supra* note 13, at 109.

25. Williams, *supra* note 2, at 378.

26. Williams, *supra* note 2, at 378 n.80.

27. Williams, *supra* note 2, at 378 n.80.

28. Philip M. Glick, *The Coming Transformation of the Soil Conservation District*, J. OF SOIL & WATER CONSERVATION (March-April 1967), at 44, 47 n.3. These states included Arkansas, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Maryland, Michigan, Minnesota, Nebraska, Nevada, New Jersey, New Mexico, North Carolina, North Dakota, Oklahoma, Pennsylvania, South Carolina, South Dakota, Utah and Wisconsin, all of which passed conservation district enabling legislation in 1937. Williams, *supra* note 2, at 379. In addition, enabling legislation later adopted in Alabama, Kentucky, Louisiana, Mississippi, Montana, Oregon, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia and Wyoming included land use regulatory powers. However, in 1945, Indiana, Michigan and Pennsylvania eliminated land use regulatory authority from local district enabling legislation. Williams, *supra* note 2, at 379.

29. Braden & Uchtmann, *supra* note 11 at 643 n.16.

30. Glick, *supra* note 28, at 47. Colorado, North Dakota and Oregon are among the states where at least one local district has adopted a land use ordinance. Glick, *supra* note 28, at 47 n.3.

land treatment by agricultural producers.[31] One reason for the dearth of local district land use ordinances is the perception that insufficient resources have been available to satisfy requests by all landowners desiring conservation assistance.[32] Absent adequate assistance in support of voluntary conservation efforts, land use mandates appear inequitable. A second reason for limited land use regulation by the districts is the super-majority voting requirement existing under some state laws. For example, the Illinois conservation district law requires approval by seventy-five percent of district landowners in a referendum prior to adoption of land use regulations; Texas and Kentucky require ninety percent approval.[33] Landowner approval beyond a simple majority effectively precludes significant ordinance adoption in those states which provide that option.[34] On the other hand, referenda that bind local district supervisors to adopt the ordinance in question with no room for supervisor discretion subsequent to the vote have been ruled an unconstitutional delegation of legislative authority in at least one state.[35]

Districts permitted to adopt land use regulations have generally failed to do so for yet another reason: "[t]he district might place itself in an economically disadvantageous position relative to other similarly situated districts which do not adopt and/or enforce similar regulations."[36] Thus, local enforcement of nonpoint source pollution provisions may also require measures which preserve a "level economic playing field." This observation supports formation of nationally uniform strategies to address nonpoint source pollution that rely on prescribed local institutions and performance criteria within and among the states, while providing maximum flexibility to individual producers for determining the land treatment to be undertaken.[37] This approach would mimic the current effect on the regulated community of the National Pollutant Discharge Elimination System[38] (NPDES) permitting program. The NPDES program preserves a level economic playing field through nationally uniform effluent limitations for point sources of pollution.[39]

The potential land use regulatory powers of the local districts engendered broad interest during the mid-1970s as efforts progressed to implement the area-wide planning provisions of Clean Water Act section 208.[40] Section 208 required the states to identify planning organizations to develop waste treatment management plans in designated areas, and to unilaterally undertake such planning in predominantly rural areas. Such plans were to include a pro-

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31. Schloesser, *supra* note 6, at 611; Massey, *supra* note 8, at 55-56.

32. Glick, *supra* note 28, at 47. *But see* Schloesser, *supra* note 6, at 612 ("Since it can be expected that those who would voluntarily adopt BMPs have already done so, to continue the current programs will seriously risk further water and soil degradation.").

33. Massey, *supra* note 8, at 58; *see also* Schloesser, *supra* note 6, at 606.

34. Massey, *supra* note 8, at 60.

35. Massey, *supra* note 8, at 59 n.233.

36. Schloesser, *supra* note 6, at 612.

37. The "planned intervention," micro-watershed strategy proposed in the second part of this paper prescribes a watershed-based institutional framework while maintaining flexible land treatment options for agricultural producers.

38. *See* 33 U.S.C. § 1342 (1988 & Supp. 1994).

39. *See* National Resources Defense Council, Inc. v. Costle, 568 F.2d 1369, 1378 (D.C. Cir. 1977).

40. *See generally* Garner, *supra* note 10, at 199.

cess to:

> (i) identify, if appropriate, agriculturally and silviculturally related nonpoint sources of pollution, including return flows from irrigated agriculture, and their cumulative effects, runoff from manure disposal areas, and from land used for livestock and crop production, and (ii) set forth procedures and methods (*including land use requirements*) to control to the extent feasible such sources.[41]

Early on, some observers opined that section 208 area-wide plans developed without adequate nonpoint source pollution enforcement mechanisms would be rejected by the EPA.[42] This situation, however, never occurred. Others concluded that the patchwork land use regulatory authority provided in local conservation district enabling legislation would prove insufficient to satisfy the EPA section 208 program requirements:

> [I]t is impractical to assume under the present legislation that these states could effectively provide the necessary regulatory programs for nonpoint source pollution control provided for in the area-wide water quality management plans developed under Section 208 of the Clean Water Act.[43]

In fact, most state programs failed to achieve the goals identified by section 208 of the Clean Water Act. By 1982, the EPA approved 209 of the 222 section 208 plans submitted to the agency,[44] most of which failed to adequately identify nonpoint source pollution regulatory mechanisms.[45] Under most area-wide plans, state conservation agencies and local conservation districts were designated as the management agencies responsible for implementing the agricultural portion of the plan, but without reliance on local district land use regulatory powers.[46]

Because permissive land use regulatory provisions in local conservation district enabling legislation appeared inadequate--or non-existent--for the purposes of section 208 nonpoint source pollution programs, some states attempted to mandate maximum permissible soil loss levels outside the framework of local district enabling legislation. Iowa and South Dakota are examples of this approach.[47] Pennsylvania, on the other hand, required agricultural producers to develop soil conservation plans.[48] However, the state's "official policy

41. 33 U.S.C. § 1288(b)(2)(F) (1988) (emphasis added).
42. Williams, *supra* note 2, at 367 n.10.
43. Massey, *supra* note 8, at 61.
44. Braden & Uchtmann, *supra* note 11, at 666.
45. Braden & Uchtmann, *supra* note 11 at 678.
46. Mary M. Garner & Robert E. Williams, *The conservation district role in nonpoint pollution control*. J. OF SOIL & WATER CONSERVATION(Jan.-Feb. 1985) at 62, 64.
47. Garner, *supra* note 10, at 203.
48. Arts & Church, *supra* note 9, at 582.

has been to work toward voluntary compliance, with the result, some charge, that the program has had only limited effect."[49] Even where states identified regulatory strategies in section 208 agricultural nonpoint source pollution control programs, they generally failed to link voluntary and regulatory efforts.[50] This proved to be a fatal shortcoming in the section 208 planning process since command-and-control regulation can never adequately monitor the hundreds of millions of potential sources of agricultural nonpoint source pollution.[51] Likewise, voluntary programs with inadequate threat of enforcement have proven equally unsatisfactory.[52]

In its section 208 planning process, Illinois may have gone further than any other state toward adequately linking voluntary and regulatory agricultural nonpoint source pollution strategies involving local conservation districts. Under the Illinois plan, complaints of agricultural nonpoint source pollution were investigated by local districts, with pollution levels determined by the extent of soil loss as opposed to degraded water quality.[53] While the plan identified the state pollution control agency as the regulatory arm of the program, the "'mandatory' erosion control program contain[ed] only the threat of a formal administrative hearing on violations of soil loss limits set in conservation districts' soil erosion programs. Possible consequences of such a hearing were not defined."[54] Consequently, "while Illinois' law assumes a 'carrot and stick' posture, the enforcement 'stick' has not been unveiled."[55] Apparently few states were able to effectively utilize as part of the section 208 planning process the permissive land use regulatory provisions in conservation district enabling legislation or substitute institutional linkages.

Whether based on the extent of soil loss, water quality degradation, or site-specific water quality plan implementation, the section 208 area-wide plans generally failed to address the difficult issue of enforcement. Widespread site inspection to control producer management measures, soil loss or dissolved nutrient runoff represents an impossible undertaking at economically sustainable agency funding levels. Therefore, even in the event an adequate voluntary-regulatory linkage for agricultural nonpoint source pollution is identified and instituted, identifying individual nonpoint sources of pollution and establishing an enforcement case against those sources are tasks so difficult that most pollution control proposals have dodged them to date.[56] Further, nonpoint source enforcement programs based on water quality degradation suffer from

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49. Arts & Church, *supra* note 9, at 582.
50. Arts & Church, *supra* note 9, at 582.
51. Dana A. Rasmussen, *Enforcement in the U.S. Environmental Protection Agency: Balancing the Carrots and the Sticks*, 22 ENVTL. L. 333, 336 (1990).
52. Ed Odgers, *Regulations Bolster Voluntary Programs for Clean Up of Agricultural Nonpoint "Bad Actors" in Wisconsin*, NAT'L LIVESTOCK POULTRY & AQUACULTURE WASTE MGMNT, (J. Blake, J. Donald & W. Magette eds., 1992).
53. Braden & Uchtmann, *supra* note 11, at 679-80.
54. Braden & Uchtmann, *supra* note 11, at 679 n.234.
55. Braden & Uchtmann, *supra* note 11, at 681.
56. LARRY FRAREY, ET AL., LIVESTOCK AND THE ENVIRONMENT: WATERSHED SOLUTIONS 1, Appendix B4 (July 1994).

the dearth of in-stream, storm-related water quality criteria.[57] Absent such criteria, the regulated community cannot adequately plan on the level of pollution control that will eventually be required in any given targeted watershed.

2. *Local Conservation District Watershed Organization*

As alluded to above, one of the most important reasons for forming local conservation districts was to promote a watershed approach to resource conservation.[58] Nonetheless, apart from a handful of districts that formed early on, virtually all local conservation districts in the United States were established along county boundaries.[59] Those few districts established on a watershed basis reverted to county lines in short order.[60] The organization of local districts along county lines resulted in far more districts than watershed-based organization would have produced. Thus, the approximately 3,000 districts currently in existence may represent significant administrative and bureaucratic duplication of effort.[61] Inter-district cooperation is particularly important where an upstream district undertakes activity that may affect water quality in a downstream district. State conservation agencies are charged with coordinating activities among individual districts in such cases; however, larger, watershed-based districts could often avoid state conservation agency intervention. Nebraska's consolidation of local conservation districts into twenty-three comprehensive Natural Resource Districts provides a model for conservation programs organized around hydrologic areas.[62]

Recent interest in developing watershed-based solutions for pollution problems is grounded in part in the desire to provide watershed stakeholders greater input into the problem identification and resolution processes.[63] This is particularly important where nonpoint source pollution is of concern since nonpoint source identification and polluter behavioral modification are difficult undertakings yet essential program elements. Local conservation districts were instrumental in applying peer pressure to bear on soil erosion problems and should prove no less effective as the hub for watershed-based efforts to urge non-polluting behavior:

> Most individuals, including most farmers, respond to public opinion, especially to the opinion of the public with which they are best acquainted. The soil conservation districts have been an important

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57. Pending Clean Water Act reauthorization provisions would require the EPA Administrator to publish nutrient, sediment and other nonpoint source criteria within three years from reauthorization. *See, e.g.*, S. 1114, 103d Cong., 2d Sess. § 2 (1994). Given the site-specific nature of nonpoint source pollution and the inherent complexity of storm events, three years appears to be an inadequate timeframe for criteria development.

58. *See* MORGAN, *supra* note 12, at 159.

59. Williams, *supra* note 2, at 378.

60. The 1937 Wisconsin conservation district enabling legislation authorized district formation on a watershed basis. However, 1939 amendments allowed for district formation along county boundaries. Arts & Church, *supra* note 9, at 589-90.

61. Braden & Uchtmann, *supra* note 11, at 642 n.11.

62. Schneider, *supra* note 19, at 10 (1990).

63. EPA, THE WATERSHED PROTECTION APPROACH 1 (1991). "[A]ll parties with a stake in the specific local situation should participate in the analysis of problems and the creation of solutions." *Id.*

means of forming and crystallizing public sentiment in favor of soil and water conservation, and they have undoubtedly carried along many farmers who might otherwise have been cool or hostile.[64]

3. *Local Conservation District Voter Eligibility/District Coverage of Incorporated Areas*

Local conservation district enabling statutes across the country reflect a range of district voter-eligibility criteria: from all qualified electors and registered voters, to district landholders or occupiers, to district landowners.[65] Eligible district voters elect district supervisors and, albeit rarely, participate in referenda concerning the adoption of district land use ordinances.[66] Statutes allowing all eligible voters in a district to participate in elections and referenda provide the broadest level of public participation in district activities; statutes requiring district land ownership are the most restrictive. A review by Texas Institute for Applied Environmental Research (TIAER) staff of conservation district enabling legislation in forty-seven states[67] revealed that twenty-four state conservation district enabling statutes allow all eligible voters within a district to vote in district elections. Ten states permit landholders to vote in district elections, while eight states allow only landowners to vote. In five states, district supervisors are appointed by county commissioners or the state conservation agency.[68]

At the time local districts were being formed, considerable opposition by landowners arose in some states to extending voter eligibility to landholders. For example, in Wisconsin, "the sponsors did not want mere 'land occupiers' to vote in elections, since they did not want tenants to obligate landowners to carry out practices formulated by the district."[69] In at least one state, the courts have held statutory provisions prohibiting eligible voters from participating in special district elections to be unconstitutional.[70] However, in 1973 the United States Supreme Court held in *Associated Enterprises Inc. v. Toltec Watershed Improvement Dist.*[71] that special districts may condition voter eligibility on land ownership where landowners represent the class principally benefitted or burdened by district decisions.[72] *Associated Enterprises* addressed a watershed management district that was formed within a local conservation district where landholders were eligible voters.[73] The *Associated Enterprises* ruling may impact district activities since voter eligibility restrictions tend to inhibit the adoption of land use regulations.[74]

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64. R. BURRELL HELD & MARION CLAUSEN, SOIL CONSERVATION IN PERSPECTIVE 278 (1965).
65. Massey, *supra* note 8, at 50 n.143 & 57.
66. Massey, *supra* note 8, at 57.
67. Alaska, Hawaii and New Hampshire were not included in the review.
68. *See, e.g.*, NEW YORK SOIL & WATER CONSERV. DIST. LAW § 6 (Consol. Supp. 1995); MD. CODE ANN., AGRIC. § 8-302.
69. MORGAN, *supra* note 12, at 67.
70. Ferguson, *supra* note 11, at 171 n.34.
71. 410 U.S. 743 (1973).
72. *Id.* at 745.
73. *Id.* at 744-45.
74. Schloesser, *supra* note 6, at 606.

Like voter eligibility requirements, the extent that local conservation districts include incorporated areas can either promote or inhibit broad public participation in local conservation activities. Traditionally, areas lying within incorporated cities and villages were excluded from conservation districts under district enabling legislation.[75] Over time, however, municipalities in many states were provided the option of joining local conservation districts as the scale of urban nonpoint source pollution and soil erosion became increasingly evident.[76] Illinois conservation district legislation has always provided for the inclusion of municipal land within conservation districts.[77] In 1967, the National Association of Conservation Districts produced a report titled *The Future of Districts*, articulating the need to include urban and suburban areas within conservation districts.[78] In this manner, the districts could realize their potential as comprehensive natural resource conservation agencies.[79]

4. *District Leadership Capacity and Funding/Role of State Conservation Agencies*

Some writers stress that conservation districts possess the potential to assume a significant leadership role in the path towards natural resource conservation:

> Conservation districts create interest, organize efforts, and achieve harmonious coordination of multiple agency involvement in the solution of nonpoint-source pollution problems. If nonpoint-source pollution problems are to be controlled effectively, conservation districts must reach out to all agencies and organizations that can contribute expertise, resources, and time for cooperative efforts. Their ability to do this will determine, in large measure, not only their own effectiveness, but the success of local people in achieving natural resource conservation.[80]

However, many have questioned the ability of local conservation districts to successfully undertake nonpoint source pollution program leadership. They emphasize that districts were initially identified as likely institutions for that purpose during the section 208 planning process: "One major concern of water quality management offices has been the lack of preparedness of conservation districts to fulfill their role in implementing section 208 management programs."[81] Drafters of the Standard State Soil Conservation Districts Law intentionally created a system where local districts could not stand alone; they

75. Massey, *supra* note 8, at 49; Glick, *supra* note 28, at 49.
76. Massey, *supra* note 8, at 49-50.
77. Massey, *supra* note 8, at 50.
78. *See* Glick, *supra* note 28, at 45.
79. *See* Glick, *supra* note 28, at 45.
80. Garner & Williams, *supra* note 46, at 64.
81. Braden & Uchtmann, *supra* note 11, at 676.

required state and federal assistance.[82] This tripartite framework rests upon a delicate balance between the three levels of government which is not always successfully maintained. In some cases, local districts have proven so weak that the federal role through the Soil Conservation Service has expanded to encompass local district administration and leadership.[83] However, "[d]istricts fail in their duty . . . when supervisors abdicate their responsibilities and allow their federally-paid but district-assigned personnel to make unsupervised and undirected decisions."[84] Because local districts were designed to rely on state conservation agencies and SCS to complete a well-rounded conservation institutional framework, promoters of the local districts as leaders of nonpoint source pollution control programs must expect to expend some resources in district capacity-building programs.

The greatest inherent weakness of local districts in many states is their inability to raise funds for district activities. Early on, districts awaited financial support through state legislative appropriations that in many cases never materialized.[85] In lieu of that support, districts sometimes earned income by renting surplus heavy equipment received from SCS to local producers undertaking conservation work.[86] Later, some states began providing regular appropriations to the districts, but seldom in adequate amounts. By 1967, eleven states permitted local districts to levy taxes or special assessments, and seven states authorized districts to issue bonds.[87] Nonetheless, inadequate funding remains a chronic problem for many local districts.[88]

As the potential role of local districts in nonpoint source pollution control has gained attention, some local district capacity-building efforts have been undertaken. For example, between 1976 and 1981, the National Association of Conservation Districts directed several programs funded by the EPA to support local district involvement in the section 208 planning process.[89] More recently, in Virginia, the Department of Conservation and Recreation's Division of Soil and Water Conservation, the Virginia Association of Soil and Water Conservation Districts, SCS and the Virginia Cooperative Extension Service jointly support the Virginia Conservation Leadership Project to enhance the capacity of local districts.[90] As watershed stakeholder organizations proliferate under pollution control programs, meeting facilitation skills may prove particularly valu-

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82. Glick, *supra* note 28, at 48.
83. Braden & Uchtmann, *supra* note 11, at 645.
84. Glick, *supra* note 28, at 48.
85. Glick, *supra* note 28, at 47.
86. MORGAN, *supra* note 12, at 233.
87. Glick, *supra* note 28, at 53.
88. *See* Braden & Uchtmann, *supra* note 11, at 643 n.13.
89. Braden & Uchtmann, *supra* note 11, at 676. The authors point out:
> Conservation districts were found to be able to play a major role with respect to five planning elements: identifying and assessing nonpoint source pollution; specifying control needs for nonpoint source pollution (Best Management Practices); recommending target abatement dates; identifying alternative structures for programs designed to control nonpoint source pollution (voluntary, regulatory, or possible combinations); and recommending designation of the management agencies that would implement nonpoint source control plans.

Braden & Uchtmann, *supra* note 29, at 676 n.213 (internal citations omitted).

90. Virginia Conservation Leadership Project, Executive Summary (unpublished information sheet provided by the Commonwealth of Virginia, Department of Conservation and Recreation, Division of Soil and Waste Conservation, Richmond, Virginia).

able to district supervisors.

State conservation agencies form an integral part of the local-state-federal conservation framework mentioned above. State conservation agencies were in many respects initially viewed as the weakest link in the system, charged with providing local districts little more than information, planning, financial assistance and inter-district coordination.[91] However, in the wake of section 208 planning processes, many state conservation agencies grew in stature.[92] In eight states and the District of Columbia, either the state conservation agency or its parent is the designated lead agency for all section 319 programs.[93] In sixteen additional states, the state conservation agency is the lead agency for agricultural nonpoint source pollution prevention and abatement programs.[94]

Given the approximately 3,000 local conservation districts existing along county lines throughout the United States, coupled with the move toward addressing environmental problems along watershed rather than political lines, the organizational role of state conservation agencies among neighboring local districts within a watershed will likely assume greater importance. Moreover, the state conservation agency can set the tone for nonpoint source pollution abatement activity within the districts. In those states where the state conservation agency has been designated the lead agency for agricultural or all nonpoint source pollution initiatives, local districts will likely follow that lead and view nonpoint source control programs as a high priority.

II. A PLANNED INTERVENTION, MICRO-WATERSHED APPROACH

A. Planned Intervention in Texas

Like other states, Texas struggled for some time with attempts to link voluntary pollution abatement programs under the direction of farm-services and conservation agencies with "bad actor" enforcement. The impetus for developing a workable solution in Texas was the expansion of milk production in Erath County, Texas during the mid-1980s. Erath County has long been an important milk producing region of the state. However, between 1982 and 1987 cow numbers in Erath and surrounding counties increased over seventy-five percent, with only minimal increase in the total number of dairies.[95] The potential environmental impact of concentrated milk production in the area sparked community conflict.[96] The Texas Institute for Applied Environmental Research (TIAER) at Tarleton State University addressed the problem by establishing a local con-

91. Massey, *supra* note 8, at 47.

92. Braden & Uchtmann, *supra* note 11, at 686-87.

93. Roland B. Geddes, National Association of State Conservation Agencies: Survey of State Conservation Agency Involvement in the Delivery of Nonpoint Source Pollution Abatement Programs 1 (Oct. 1, 1992) (unpublished, on file with the National Association of Conservation Agencies). These states include Arkansas, Delaware, Pennsylvania, Rhode Island, Virginia, Kentucky, Missouri, North Carolina. *Id.*

94. *Id.*

95. Sharif M. Masud & Ronald D. Lacewell, A Descriptive Analysis of Economic and Resource Conditions for the Texas Cross Timbers Dairy Region: Growth Trends and Issues, Executive Summary 6 (Aug. 20, 1992) (unpublished report, on file with authors).

96. *See, e.g., Review of the U.S. Department of Agriculture's Fiscal Year 1990 Water Quality Initiative, Hearings Before the Subcommittee on Department Operations, Research, and Foreign Agriculture* 203, June 21, 1989; TACB, Erath County Dairies-TACB Enforcement 1 (Oct. 2, 1992) (unpublished fact sheet on citizen complaints, on file with authors).

stituency committee comprised of a representative cross section of the community. Constituency committee meetings stretched over many months and eventually produced recommendations to improve environmental compliance by dairies. One of the most far-reaching recommendations was that the Texas State Soil and Water Conservation Board (TSSWCB) should assume plenary responsibility for controlling agricultural nonpoint source pollution within the state.[97] The Texas Natural Resource Conservation Commission (TNRCC),[98] the agency charged with developing and enforcing water quality standards, had significant nonpoint source program authority at the time.[99] As a result of the constituency committee recommendation and subsequent political activity within the state, a "planned intervention" institutional framework for agricultural nonpoint source pollution was embodied in Texas Senate Bill 503[100] and unanimously passed by the 73rd Texas Legislature in 1993.

Planned intervention describes a carefully coordinated pollution prevention and abatement strategy under which local conservation districts and the state conservation agency serve as the primary force for organizing and executing voluntary land treatment measures by agricultural producers in targeted watersheds.[101] However the linchpin in the planned intervention strategy is that recalcitrant polluters refusing to cooperate with the voluntary program are referred to the state water quality regulatory agency for enforcement action. Thus, planned intervention relies on the traditional roles and strengths of local districts, state conservation agencies, and water quality regulatory agencies.

Planned intervention does not mean that agricultural producers in degraded watersheds unilaterally decide whether to develop and implement best management practices (BMPs) to control agricultural pollution. Rather, planned intervention is predicated on close cooperation among agricultural producers, conservation agencies and districts, and environmental regulators. Under a planned intervention strategy, conservation and regulatory agencies inform agricultural producers at the outset of a concerted watershed pollution-abatement program of the performance expected, the timeframe for achieving that performance, and the existence of public-sector resources to facilitate performance.[102] Thus, planned intervention merely creates a "voluntary loop" within existing water quality regulatory programs (See Appendix B).

Planned intervention stands in contrast to two less effective approaches for controlling polluted agricultural runoff: "unplanned intervention" and

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97. TIAER, LIVESTOCK AND THE ENVIRONMENT, INTERIM REPORT TO THE JOINT COMMITTEE ON THE ENVIRONMENT 72ND TEXAS LEGISLATURE 10 (1992). Since 1985, TSSWCB had been designated the lead agency for agricultural nonpoint source pollution programs in the state. TEX. AGRI. CODE ANN. § 201.026 (West Supp. 1995). However, in practice, the Texas Natural Resource Conservation Commission retained section 319 program authority. *See* Final Draft Memorandum Agreement Between the Texas State Soil and Water Conservation Board and the Texas Natural Resource Conservation Commission 1 (1994).

98. TNRCC was formed on September 1, 1993, through the merger of the Texas Water Commission, Texas Air Control Board and other agencies. For greater ease and clarity, all references will be to TNRCC.

99. LARRY FRAREY & RON JONES, DIMENSIONS OF PLANNED INTERVENTION 18-19 (1994).

100. Codified at TEX. AGRI. CODE ANN. § 201.026 (West Supp. 1995).

101. *See generally* FRAREY & JONES, *supra* note 99.

102. *See generally* FRAREY & JONES, *supra* note 99, at 10.

"planned non-intervention." The former is characterized by ad hoc enforcement and large fines to induce environmental compliance by agricultural producers.[103] Texas Natural Resource Conservation Commission fines of over $490,000 in September 1989 against nine milk producers in North Central Texas for illegal waste discharge were the result of unplanned intervention.[104] While those fines spurred large, permitted dairy operations in Erath County into compliance with TNRCC regulations requiring construction of waste water containment structures, the fines also engendered bitterness and charges of inconsistent enforcement from the regulated community.[105] Moreover, command-and-control regulation of the type associated with TNRCC's program cannot adequately police storm runoff from agricultural fields, including manure application fields on dairies and other concentrated animal feeding operations (CAFOs). On the other hand, planned non-intervention is a wholly voluntary approach that often produces incomplete pollution abatement in the presence of "bad actors." Appendix A provides the salient characteristics of planned non-intervention, planned intervention and unplanned intervention.

Amended section 201.026 lays the groundwork for a planned intervention program for Texas by linking the voluntary implementation of BMPs coordinated by the Texas State Soil and Water Conservation Board and local conservation districts with the Texas Natural Resource Conservation Commission's enforcement program.[106] The legislation requires TSSWCB to establish a "water quality management plan certification program" in areas identified as "having or having the potential to develop agricultural or silvicultural nonpoint source water quality problems," i.e., targeted watersheds.[107] In addition, TSSWCB is charged with investigating complaints of agricultural nonpoint source pollution throughout the state and, where a problem is verified, to "develop and implement a corrective action plan to address the complaint."[108] Thus, under section 201.026, TSSWCB must assume both a proactive and reactive role in the overall agricultural nonpoint source pollution control process. Significantly, section 201.026 provides state cost share funding to facilitate BMP implementation in targeted watersheds and to remedy confirmed cases of polluted agricultural runoff throughout the state.[109]

TSSWCB regulations implementing the new law provide that after TSSWCB and pertinent local conservation districts issue a final report concerning an investigation of alleged agricultural nonpoint source pollution, either complainants or the agricultural producer may request a hearing before members of local conservation districts involved in the investigation.[110] Pursuant to a request by any party, TSSWCB may hold a subsequent hearing at the agency's

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103. *See generally* FRAREY & JONES, *supra* note 99, at 19.
104. *See generally* FRAREY & JONES, *supra* note 99, at 19.
105. FRAREY & JONES *supra* note 99, at 19.
106. TEX. AGRIC. CODE ANN. § 201.026 (West Supp. 1995).
107. *Id.* § 201.026(c).
108. *Id.* § 201.026(d).
109. Cost sharing for the program is estimated at $750,000 for fiscal year 1994, and $2.5 million for fiscal year 1995. James Moore, Texas State Soil & Water Conservation Board, personal communication, June 20, 1994.
110. 31 TEX. CODE ANN. § 523.4(b)(5).

discretion.[111] Given the high costs of traditional litigation, this informal dispute resolution mechanism represents an important feature for all parties potentially embroiled in a dispute concerning agricultural nonpoint source pollution. The Texas Institute for Applied Environmental Research constituency committee recommended a local alternative to litigation to resolve complaints of agricultural pollution.[112] Formal litigation can be extremely costly in terms of direct public and private sector costs as well as the time required away from the farm for agricultural producers.

Perhaps most importantly, section 201.026 provides a direct link between voluntary efforts led by TSSWCB and water quality enforcement measures directed by TNRCC: "If the person about whom the complaint has been made fails or refuses to take corrective action, the state board shall refer the complaint to the Texas Natural Resource Conservation Commission."[113] This provision represents the linchpin in the planned intervention approach by ensuring environmental compliance by recalcitrant watershed landholders.

B. Micro-Watersheds: Focusing a Planned Intervention, Watershed Approach

Local conservation districts are organized not on a watershed basis, but by counties which often include segments of several distinct watersheds. From a hydrologic perspective, water quality problems are best addressed through a holistic watershed approach which accounts for as many interrelated factors affecting water quality as possible. Thus, the Texas State Soil and Water Conservation Board could go beyond the statutory and regulatory language establishing Texas' planned intervention program to organize micro-watershed stakeholders in targeted watersheds into watershed consortia to collectively identify pollution sources, recommend prevention and abatement strategies, and monitor the results of those efforts. Local conservation districts will necessarily play a central role in this process. However, TSSWCB must take the lead to help local districts designate targeted micro-watersheds within their boundaries, and to coordinate the combined efforts of two or more overlapping districts within a single micro-watershed. Micro-watersheds must be sufficiently small and well defined to allow all stakeholders to efficiently meet and collectively recommend solutions to micro-watershed pollution problems, and to monitor water quality improvement at the mouth of the micro-watershed. The Texas Institute for Applied Environmental Research is currently working with TSSWCB to establish a pilot micro-watershed consortium in the upper north Bosque River watershed in Erath County, Texas. Hopkins County, Texas, the state's number two milk-producing county, is projected as the site for a second such project.

Once TSSWCB begins consistently designating micro-watersheds within

111 31 TEX. CODE ANN. § 523.4(b)(6).
112. TIAER, *supra* note 97, at 10-11.
113. TEX. AGRIC. CODE ANN. § 201.026(d) (West Supp. 1995).

targeted watersheds and organizing micro-watershed stakeholders into working consortia, three interrelated forces will be at work to ameliorate water quality in those areas (See Appendix C). The first, micro-watershed consortia, are well positioned to identify local pollution sources, recommend micro-watershed strategies for preventing and abating pollution, and monitor water quality. Second, TSSWCB and local conservation districts have formal authority to help consortia develop both site-specific and micro-watershed plans and coordinate assistance available through USDA agencies, including cost sharing. Finally, the Texas Natural Resource Conservation Commission serves as an enforcement mechanism in the event micro-watershed stakeholders fail to cooperate with TSSWCB initiatives.

The Texas Institute for Applied Environmental Research believes that a planned intervention institutional framework, coupled with the formation of micro-watershed consortia in targeted watersheds, includes all of the elements necessary for a successful watershed-based nonpoint source pollution prevention and abatement program. Planned intervention is grounded on voluntary behavioral modification spurred by the threat of enforcement by water quality regulatory agencies. Absent regulatory compulsion, some producers will not assume the financial burden entailed in developing and implementing necessary BMPs. On the other hand, command-and-control regulation based on site inspection is infeasible as the primary approach to controlling nonpoint source pollution given the diffuse nature of polluted runoff. Considering the difficulty and expense likely involved in developing an enforcement case against a suspected source of polluted runoff, regulatory enforcement should be invoked only as a last resort. The micro-watershed consortium component provides a forum for local input and decision making by stakeholders within the micro-watershed, an appropriate hydrologic unit in which to address water quality problems. Given the long-term nature of water quality improvement programs generally, consortia must strive to maintain adequate momentum among local stakeholders to sustain the management practices and water quality monitoring activities undertaken by consortia members.

While the evolving planned intervention, micro-watershed consortia approach provides a framework for water quality improvement programs, agency performance and cooperation within that framework represent key unknowns. Planned intervention could fail in the event the Texas State Soil and Water Conservation Board proves incapable of referring "bad actors" to the Texas Natural Resource Conservation Commission for enforcement when warranted. Likewise, planned intervention will not succeed if TNRCC provides insufficient enforcement support subsequent to "bad actor" referral. In either case, producers may not feel compelled to undertake the management changes necessary to control polluted runoff. Finally, the micro-watershed consortia component will fail unless TSSWCB, the Soil Conservation Service, the Cooperative Extension Service and other agencies lend adequate support to local conservation districts charged with organizing and facilitating consortia activities.

C. *Planned Intervention: A National Strategy*

As a result of the Texas Institute for Applied Environmental Research's work to inform environmental and agricultural policymakers concerning federal Clean Water Act (CWA) reauthorization, TIAER staff have refined the planned intervention approach now being implemented in Texas in several respects. At the behest of former Congressman English from Oklahoma and legislative staff members, TIAER developed a comprehensive draft legislative framework based on planned intervention for potential enactment as an amendment to the CWA.[114]

The proposed draft legislation addresses several difficult issues facing any state embarking on a watershed strategy for preventing and abating agricultural nonpoint source pollution. The proposed draft legislation requires the governor of each state to designate an agricultural lead agency, comparable to TSSWCB in Texas, to direct all state activities relating to the prevention and abatement of agricultural nonpoint source pollution. The agricultural lead agency is responsible for, among other things: 1) designating targeted watersheds; 2) prioritizing targeted watersheds for planned intervention activities; 3) designating the types of agricultural operations in targeted watersheds required to develop and implement water quality management plans; 4) identifying micro-watersheds within targeted watersheds; 5) coordinating development and implementation of site-specific water quality management plans; 6) coordinating the provision of USDA assistance to producers in targeted watersheds; 7) investigating complaints of agricultural nonpoint source pollution; 8) coordinating development and implementation of corrective action plans; 9) referring recalcitrant micro-watershed land holders to the state water quality regulatory agency; and 10) managing state section 319 program funds for agricultural nonpoint source pollution.[115]

The proposed draft bill provides for a state agricultural pollution action committee to advise the agricultural lead agency in developing the state agricultural nonpoint source management plan.[116] The committee is chaired by elected state officials interested in agriculture's environmental compliance responsibilities.[117] At least seventy-five percent of the committee is comprised of equal numbers of representatives of agricultural and environmental interest groups. The committee must include a representative from the state water quality regulatory agency.[118] This point is important since the pollution action committee may play an important role in coordinating the activities of the agricultural lead agency with non-agricultural pollution control activities in watersheds encompassing diverse land uses.

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114. TIAER drafted the legislation and presented it in an appendix to LIVESTOCK AND THE ENVIRONMENT: WATERSHED SOLUTIONS. See FRAREY ET AL., *supra* note 56, Appendix B4.

115 *See* FRAREY ET AL., *supra* note 56 at Appendix B4. (Appendix B provides a timeline showing the progression of activities under the proposed draft legislation.)

116. FRAREY ET AL., *supra* note 56, at 149.

117. FRAREY ET AL., *supra* note 56, at 152.

118. FRAREY ET AL., *supra* note 56, at 152.

The lead agency must target degraded watersheds no later than eighteen months after the governor designates the lead agency.[119] No later than 180 days after designation of a targeted watershed, the lead agency, in cooperation with affected local conservation districts, shall identify micro-watersheds within the Targeted Agricultural Watershed.[120] Such identification will allow formation of consortia composed of all stakeholders within the micro-watersheds. Micro-watershed stakeholders are defined in the draft as all landholders in a micro-watershed, plus other parties with a direct interest in issues affecting water quality within the micro-watershed. In designating micro-watersheds, the lead agency:

> [S]hall consider geographic, hydrologic, historical and sociological characteristics of the Watershed. A Micro-watershed shall be sufficiently small to allow all Consortium members to meet as a single group to discuss issues affecting water quality within the Micro-watershed, and to permit effective in-stream monitoring to gauge improved water quality in the Micro-watershed subsequent to the development and implementation of Water Quality Management Plans or other measures by Consortium members.... The Agricultural Lead Agency shall assist each local conservation district encompassing one or more identified Micro-watersheds to organize, facilitate and direct meetings of Micro-watershed Consortia.... Consortia members shall be encouraged by the Agricultural Lead Agency and local conservation districts to develop cooperative, innovative solutions to local water quality problems.[121]

The proposed draft legislation requires designated agricultural operations in targeted watersheds to develop a water quality management plan no later than three years after notification by the lead agency that the operation is of the type required to develop a plan, and to implement the plan no later than eight years after such notification by the lead agency.[122] Comparable site-specific plans previously developed under state and federal conservation programs will suffice, such as plans developed under provisions of the 1985 and 1990 Farm Bills and the Coastal Zone Management Act.

Like the State Soil and Water Conservation Board in Texas, each state's agricultural lead agency is responsible for investigating complaints of agricultural nonpoint source pollution. The investigation and appeal processes are similar to those provided under TSSWCB rules, thereby providing an informal and relatively inexpensive alternative dispute resolution process. Similarly, the lead agency is charged with referring recalcitrant producers to the state water

119. FRAREY ET AL., *supra* note 56, at 150.
120. FRAREY ET AL., *supra* note 56, at 152.
121. FRAREY ET AL., *supra* note 56, at 152-53.
122. FRAREY ET AL., *supra* note 56, at 153-54.

quality regulatory agency for enforcement.[123]

Some agricultural policymakers argue that complaint investigation authority by the state agricultural lead agency should be limited to targeted watersheds. However, in that case, two equally undesirable alternatives exist. On one hand, in states like Texas where the water quality regulatory agency has plenary authority over water pollution regardless of the point source/nonpoint source distinction, the agency could retain responsibility for agricultural nonpoint source pollution complaint investigation outside targeted watersheds. Under that scenario, agricultural producers outside of targeted watersheds may be immediately subject to penalties for illegal discharges while foregoing the flexibility and alternative dispute resolution process available under planned intervention. On the other hand, in order to assert jurisdiction, the agricultural lead agency might feel compelled to designate a targeted watershed in an area where only a single complaint arises, even if the complaint represents only an isolated case of suspected pollution. However, designation of a targeted watershed for isolated cases entails needless administrative effort and expense to establish micro-watershed consortia and other related activities. While TIAER believes that agricultural lead agencies should have state-wide jurisdiction to investigate complaints of agricultural pollution, both political realities and lead agency resources may dictate limitation of that jurisdiction to targeted watersheds.

The proposed draft legislation provides cooperative agricultural producers significant, long-term protection from enforcement actions by state water quality regulatory agencies. According to the proposed legislation,

> [I]n no case shall the State Water Quality Regulatory Agency initiate an enforcement action against an agricultural operation cooperating with the Agricultural Lead Agency to develop and implement a Water Quality Management Plan, Corrective Action Plan or other measures in a Targeted Agricultural Watershed prior to fifteen years after designation by the Agricultural Lead Agency of the types of agricultural operations requiring development and implementation of Water Quality Management Plans or other measures in the Targeted Agricultural Watershed.[124]

Further, assuming that, after fifteen years, the state water quality regulatory agency has developed and published water quality criteria for nonpoint source pollution, and the agency finds that an individual agricultural operation in a Targeted Watershed is significantly contributing to the non-attainment of those criteria, the state regulatory agency may proceed only in the following manner:

123. FRAREY ET AL., *supra* note 56, at 155.
124. FRAREY ET AL. *supra* note 56, at 156.

> 1) consult with the Agricultural Lead Agency to ascertain additional, economically and technically feasible, prevention and abatement measures to be developed and implemented by the agricultural operation; 2) allow the Agricultural Lead Agency, local conservation district and federal technical assistance agencies to work with the agricultural operation to develop and implement the additional prevention and abatement measures within a realistic timeframe; and 3) impose financial penalties on the operation only in the event the operation fails to cooperate with the Agricultural Lead Agency to develop and implement the additional prevention and abatement measures within a realistic time frame.[125]

The proposed enforcement provisions represent a fair approach for agricultural producers. First, no financial penalties can be imposed against a producer who cooperates with the lead agency and regulatory agency. Second, additional best management practices required of an agricultural producer to meet micro-watershed requisites may be behavioral in nature, thereby involving minimal financial outlay. Finally, BMPs in addition to those included in the initial water quality management plan may not be required by the state regulatory agency prior to fifteen years after micro-watershed abatement efforts begin.

The fifteen-year timeframe represents an attempt to strike a reasonable balance between timely water quality amelioration, and the challenges posed by years of pollutant loading. Long-term pollutant loading within a watershed may require several years to rectify: "Lake Erie took thirty years to respond to the massive point source and nonpoint source control effort undertaken to bring it back from the dead."[126] While no general timeframe will suffice for every targeted watershed, a common misconception concerning polluted runoff assumes that BMP implementation produces immediate water quality improvement. Thus, without the benefit of watershed-specific information, a fifteen-year timeframe represents a reasonable target for developing and implementing BMPs and demonstrating improved water quality.

Two particularly difficult issues arise under the proposed enforcement provisions for which no definitive answers presently exist. First, the provisions assume that water quality regulatory agencies are capable of readily isolating the polluted runoff contribution of individual landowners within a micro-watershed. While this may be the case where massive agricultural pollutant loadings occur, as in the *Southview Farm* case[127] in upstate New York where excess manure effluent applied to cropland flowed directly into a nearby stream, far less obvious agricultural runoff represents the norm. Once a sus-

125. FRAREY ET AL. *supra* note 56, at 156.

126. James Meek et al., Total Watershed Management; An Approach for the 21st Century 6 (unpublished paper, on file with authors).

127. Concerned Area Residents for the Envt. v. Southview Farm, 34 F.3d 114 (2d Cir. 1994).

pected source of excessive polluted runoff is identified within a micro-watershed, automatic water quality sampling equipment can be placed in the stream above and below the operation's property lines to determine the difference between the two readings and thus help to determine the source of excessive pollutant loadings. Depending on the precipitation patterns in the area, monitoring data over several months may be necessary to demonstrate that the operation discharges excessive pollutants.

Second, few, if any, watersheds in the country currently are subject to criteria for excessive polluted runoff. Without watershed-specific criteria for acceptable water quality, producers in targeted watersheds have no gauge by which to determine when pollution prevention and abatement efforts suffice. Thus, agricultural interests should support research programs to develop realistic, watershed-specific water quality indicators to ensure that agricultural producers are held responsible only for their contribution to water quality degradation–and are given adequate credit for water quality improvement.

Development of appropriate nonpoint source water quality criteria for all targeted watersheds in the United States represents a daunting task. One possible approach begins with the identification of a minimally impacted watershed within the same ecoregion as the targeted watershed of interest. Micro-watershed stakeholders within the targeted watershed, in cooperation with the agricultural lead agency and local conservation districts, collectively determine the level of water quality attainable in the micro-watershed using the unimpacted micro-watershed as a best case scenario. This determination requires a careful analysis of many factors, including prevailing land uses and economic activity in the micro-watershed, pollutants of primary concern, and baseline water quality criteria established by the EPA or the state water quality regulatory agency. Total maximum micro-watershed loadings for pollutants of concern are established to produce the level of water quality targeted by micro-watershed stakeholders. Timeframes for loading rates may vary from traditional total maximum daily and annual rates to total maximum event or multi-event rates to more closely reflect the impact over time of pollutants within a watershed.

With that information in hand, micro-watershed stakeholders may then rely on bio-physical process modeling to estimate the necessary level of BMP implementation within the micro-watershed to produce the targeted water quality. Micro-watershed stakeholders collectively recommend how cost sharing and other available resources should be spent for maximum impact. Emissions trading among point sources and nonpoint sources may occur, as well. Site-specific water quality management plans incorporating the BMPs are developed and implemented according to the 3-8-15 year timeframe outlined in the proposed draft legislation. If, after fifteen years, micro-watershed water quality does not meet the minimum regulatory baseline, automated sampling equipment, as discussed above, can be used to help isolate suspected polluters. If the level of polluted runoff from an operation, as revealed by in-stream monitoring, exceeds the levels established by physical process modeling by a pre-established

amount, a second level of BMPs may be required according to the three-step enforcement process provided in the proposed draft legislation.

This scheme for establishing and enforcing watershed-specific criteria relies on chemical indicators of water quality and represents only one of many potential approaches. TIAER advocates a concerted nationwide effort, supported jointly by EPA and USDA, to develop a range of national ecoregion water quality indicators that can be refined by the states for application in targeted watersheds.

Ten National Demonstration Watershed Projects could be established in diverse locations across the country, encompassing the widest possible ecoregion variety. With minimal program re-direction, some existing water quality research projects may serve as National Demonstration Watershed Project sites, such as the National Section 319 Monitoring Program sites or USDA Hydrologic Unit or Demonstration projects. TIAER's proposed draft legislation includes provisions establishing National Demonstration Watershed Projects to inform state and national efforts to develop watershed-specific water quality indicators. The legislation establishes timeframes for developing water quality criteria that are compatible with the legislation's fifteen-year water quality enforcement moratorium for targeted watersheds.

The proposed draft legislative framework also establishes a national constituency committee to provide recommendations to the EPA administrator regarding the National Demonstration Watershed Projects and the transfer of the projects' research findings to state agricultural lead agencies and water quality regulatory agencies interested in developing watershed-specific water quality indicators. This national constituency committee would be jointly chaired by a total of four United States Senate and House members who chair legislative committees dealing with environmental and agricultural issues. The committee would be comprised of representatives of agricultural and environmental interest groups, and would report directly to the EPA Administrator concerning the status of watershed projects. In addition to supervising the National Demonstration Watershed Projects, the constituency committee would provide a policy-development forum for environmental issues affecting agricultural producers.

III. SUMMARY

A. Planned Intervention in Micro-watersheds: A "Bottom Up" Approach

Current debate concerning the appropriate institutional framework to carry out the agricultural nonpoint source provisions of CWA reauthorization legislation highlights two distinct viewpoints: one "top down," the other "bottom up." On one hand, many analysts foresee a scenario under which state water quality regulatory agencies retain primary authority for agricultural nonpoint source pollution control. In that case, the Soil Conservation Service and

other USDA-associated agencies likely would become the *de facto* lead agencies in the states for agricultural nonpoint source pollution control because state water quality regulatory agencies have little experience in dealing with agricultural nonpoint source pollution within a voluntary setting. While SCS would continue to interact with agricultural producers through local conservation districts as has occurred for decades, SCS would clearly take the lead and fill a void in the absence of a state agricultural lead agency for nonpoint source pollution.[128] Under that scenario, federal policymakers would likely support substantial top-down land use planning by SCS in targeted watersheds across the country. Clearly, watershed stakeholders would provide input during the planning process; however, the process would be initiated and directed from the federal level down to the states, and eventually to affected watersheds. Nonetheless, those activities would have to mesh with the prevailing cooperative federalism approach or risk transferring land use decisions from the local to the federal level–a historically untenable shift.

In contrast, the Texas planned intervention scheme represents a "bottom up" approach to agricultural nonpoint source pollution prevention and abatement organized around local conservation districts. Only a state lead agricultural agency working closely with local conservation districts in targeted watersheds can adequately conduct that local activity. In contrast to a basin-wide planning process, stakeholders in targeted micro-watersheds are best positioned to undertake local activity assessments to determine the land uses within the immediate area requiring modification for agricultural nonpoint source pollution abatement. Stakeholders also must be responsible for developing affordable strategies to deal with identified problems. Thus, the "bottom up" approach promises greater precision in problem identification, and relies on local initiative for problem solving and priority setting.

B. Resolution of Historic Problems Involving Conservation Districts

In dealing with agricultural pollution abatement, the proposed planned intervention, micro-watershed approach resolves the important problem of enforcement. Enforcement comprises one of the most difficult institutional problems raised when local conservation districts oversee pollution control mandates. While local conservation districts in many states have long had the authority to regulate land use to control erosion and thereby improve water quality, extremely few local land use ordinances have been imposed by local districts.[129] Further, efforts to implement a regulatory mechanism as part of the Clean Water Act section 208 area-wide planning process also fell short in almost all cases. [130]

Planned intervention, on the other hand, relies on the traditional strengths of the local conservation districts, state conservation agencies and

128. *See, e.g.*, Arts & Church, *supra* note 9, at 611.
129. Glick, *supra* note 28, at 47.
130. *See* Braden & Uchtmann, *supra* note 11, at 678.

water quality regulatory agencies. Conservation districts have proved reluctant to invoke district regulatory powers for several decades and neither the districts nor state conservation agencies will likely change in fundamental character in the near future. However, local districts have been successful in mustering conservation assistance for district members when accessed on a voluntary basis.[131] State water quality regulatory agencies, on the other hand, were established to impose regulations on polluters, but have little practical experience dealing with agricultural pollution. The institutional character and structure of the enforcement agencies is ideally suited for assuming the regulatory burden avoided by traditional conservation organizations. The benefits of linking conservation and water quality regulatory agencies is evident.

Key outstanding questions remain, however, when attempting to merge these disparate institutional outlooks: 1) whether conservation districts and agencies will systematically refer "bad actors" to the enforcement authority, and 2) whether the enforcement authority will pursue "bad actor" enforcement consistently so that agricultural producers truly feel compelled to undertake nonpoint source pollution control measures. In Texas, the State Soil and Water Conservation Board has underscored that "bad actors" will be systematically referred to the Texas Natural Resource Conservation Commission. Were TSSWCB to fail to do so, the broad responsibility newly granted to the agency could be rescinded during a future legislative session. Thus, TSSWCB has much to gain by consistently referring "bad actors" to TNRCC for enforcement. For its part, TNRCC does not have the same compulsion to effectively deal with "bad actor" referrals. In fact, were TNRCC to fail in that role, TSSWCB's voluntary program would suffer and TNRCC could recoup agricultural nonpoint source authority over time. However, assuming that TNRCC intends to steadfastly execute the agency's legislative mandate, TNRCC will deal with "bad actor" referrals in the same way it deals with all other suspected cases of water pollution.

In retrospect, USDA officials were prescient in the mid-1930s when they urged that local districts be organized along watershed boundaries.[132] Nonetheless, watershed-based organization of the districts did not occur.[133] When planned intervention is implemented on a micro-watershed basis, the fact that conservation districts are organized along political rather than hydrologic unit boundaries does not present a difficult problem. State conservation agencies are charged with coordinating the activities of local conservation districts, and have the authority to do so when targeted micro-watersheds span the boundaries of more than one district. However, because micro-watersheds are generally small by definition, often single districts will encompass the drainage areas in question.

State district enabling provisions limiting district voting to less than all eligible voters, or excluding incorporated urban and suburban areas from the

131. Schloesser, *supra* note 6, at 611; Massey, *supra* note 8, at 55-56.
132. MORGAN, *supra* note 12, at 159.
133. *See* Schneider, *supra* note 19, at 10; *see also* Massey, *supra* note 8, at 49.

districts, may be less than ideal but should not prove fatal in efforts to implement the proposed planned intervention, micro-watershed approach. Local conservation districts provide an institution around which to organize micro-watershed consortia. However, district membership and geographic coverage in no way determine the ranks of stakeholders participating in consortia activities. To the contrary, TIAER believes that the term micro-watershed stakeholder should be interpreted broadly to include all those parties directly interested in water quality issues within the micro-watershed. Local conservation district organization and facilitation of consortia meetings should assist agricultural producers in more easily arranging sources of assistance to address polluted runoff problems. However, *all* stakeholders within degraded micro-watersheds--agricultural and non-agricultural alike--should be encouraged to participate in consortia meetings to promote comprehensive solutions to water quality problems.

This is not to say that broad voter participation and urban and suburban coverage by the districts would not prove beneficial in many cases. Broad coverage would permit the districts to formally facilitate the development of pollution prevention and abatement measures in a more comprehensive manner. Moreover, local districts are generally associated with agricultural interests, thus posing a public relations hurdle when attempting to include as many potential micro-watershed stakeholders as possible in consortia activities. Statutory inclusion of all eligible voters and all potential pollution sources within the boundaries of local conservation districts could help overcome the resistance of some non-agricultural interests to participating in consortia activities organized by local conservation districts.

Local district leadership and funding represent problems highlighted but not resolved under the planned intervention, micro-watershed approach. Many local districts in targeted micro-watersheds will require increased financial support and training to assume the new responsibilities outlined herein. Many local districts are sorely under-funded; supervisors are often inadequately trained. State legislatures should realize that investments in local conservation districts will pay dividends in increased prevention and abatement of nonpoint source pollution that are impossible to realize through a command-and-control approach alone. During the 1993 legislative session, Texas made the decision to pursue efforts to strengthen TSSWCB and local districts with the infusion of several million dollars. Time will tell how cost-effective planned intervention in Texas proves to be. However, the alternative--reliance on uncoordinated voluntary and regulatory programs--has already proved unsatisfactory for reaching current water quality goals.

Finally, since their humble beginnings in many states, state conservation agencies have grown stronger over time. Planned intervention requires a strong state conservation agency to serve as the lead agency in the state for directing agricultural nonpoint source pollution programs. As early as 1939, Texas provided the model for an independent state conservation agency com-

prised exclusively of local district supervisors.[134] The section 208 area-wide planning process appeared to mark a turning point as state conservation agencies were recognized as viable planning and management agencies in many cases. Thus, the historically weak position occupied by state conservation agencies no longer represents the norm in most cases.

IV. CONCLUSION

Concerted efforts are now underway at the federal level to shift the responsibility for many public initiatives back to the public level. Environmental programs will be part of this move. Few formal, local institutions currently exist to help organize and sustain environmental programs in impaired watersheds. Local conservation districts may prove to be the best existing institution to assume this responsibility.

The planned intervention, micro-watershed strategy appears to overcome many of the difficulties encountered during past efforts to employ local conservation districts as the principal institutional vehicle for agricultural nonpoint source pollution prevention and abatement. However, increased investment for local district capacity building and administration will be necessary in many cases. The 1995 Farm Bill should provide funding for local district capacity building if efforts to shift environmental responsibility to local stakeholders are indeed sincere. Absent that support, state and local fund-raising must occur to sustain local efforts to prevent and abate polluted agricultural runoff and to generally improve environmental quality across the landscape.

134. MORGAN, *supra* note 12, at 205.

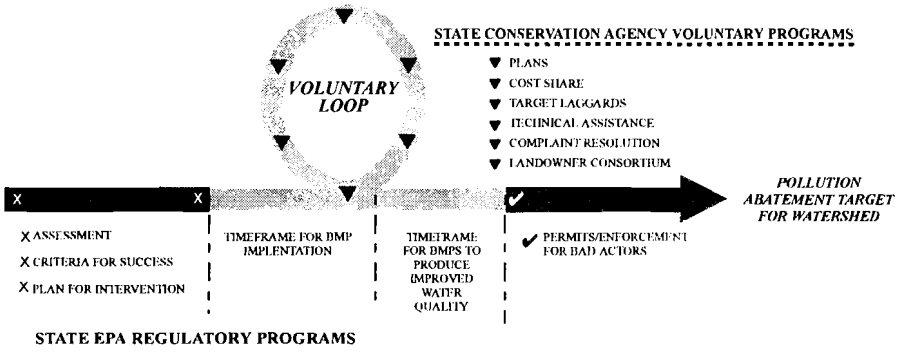
APPENDIX A

CHARACTERISTICS OF THREE APPROACHES TO AGRICULTURAL NON-POINT SOURCE POLLUTION ABATEMENT

APPROACH	PLANNED NON-INTERVENTION	PLANNED INTERVENTION	UNPLANNED INTERVENTION
STRATEGY	Voluntary approach using conservation agencies for cost share, organizational, technical and educational assistance	Combination of voluntary BMP adoption and regulation to insure most efficient environmental compliance	Reliance on ad hoc regulatory approach, characterized by selective enforcement through high fines
PROBLEM RECOGNITION	Early recognition of potential CAFO pollution since conservation agencies have dealt closely with farmers for decades	Early recognition of potential CAFO pollution problem and targeted response through proactive inspection and water quality monitoring by regulators and input from conservation agencies	Untimely recognition of potential CAFO pollution generally through reactive response to complaints; frequently coming after great influx of CAFOs to an area over short period of time
AGENCY COOPERATION	Little cooperation and communication between regulators and conservation agencies	Close cooperation and communication between regulators and conservation agencies from the moment potential CAFO pollution problems arise	Little cooperation and communication between regulators and conservation agencies
PRODUCER RISK	Low risk, high level of predictability for CAFO operators due to absence of regulatory program	Low risk, high level of predictability for CAFO operators due to articulation by regulators of expected water quality improvements after BMP implementation and the time frame for BMP implementation and water quality improvements	High risk, low level of predictability for CAFO operators due to high penalties and selective enforcement
PUBLIC SECTOR COST	Moderate, foreseeable, one-time costs in the form of cost-share fianc-ing	Moderate, foreseeable, one-time costs in the form of cost-share financing, some enforcement costs for "bad actors"	High, continual enforcement costs
EXTENT OF POLLUTION ABATEMENT	Incomplete pollution abatement due to presence of "bad actors"	Complete pollution abatement, initially through voluntary compliance, backed up by regulation of "bad actors"	Incomplete absent exorbitant regulatory personnel costs

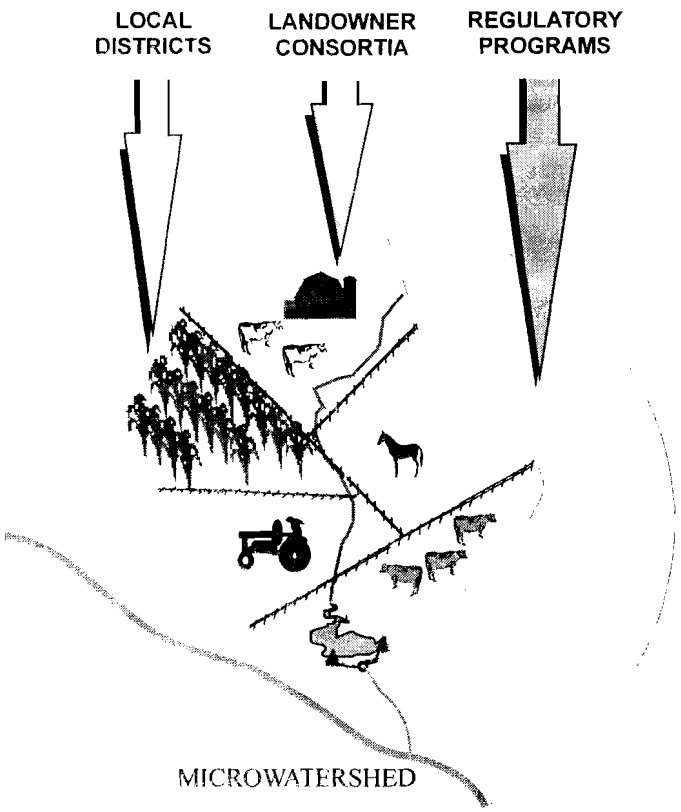
APPENDIX B

Agricultural "Planned Intervention" Abatement Strategy



APPENDIX C

Microwatershed Approach to Planned Intervention



APPENDIX D

Timeline for Proposed Draft Legislation