An Agricultural Law Research Article

Agricultural Use of Pesticides: Farmer and Manufacturer Liability for Groundwater Contamination

by

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Originally published in ALBANY LAW JOURNAL OF SCIENCE & TECHNOLOGY
3 ALB. L.J. SCI. & TECH. 185 (1993)

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I. INTRODUCTION

Current federal law does not adequately address the issue of liability for groundwater contamination caused by agricultural use of pesticides. The recent Environmental Protection Agency Report, "*Pesticides and Groundwater Strategy*,"[1] does not seem to offer any solution to the issue of liability for those harmed by this serious and worsening problem. As a result, injured parties must look to common law remedies, such as public nuisance and trespass, to obtain compensation for their injuries.[2] It is the position of this Comment that farmers and manufacturers should be held liable as joint and several defendants for causing "unreasonable adverse effects" to neighboring drinking water. To ensure that innocent third parties recover damages resulting from contamination of their water supplies, those harmed must receive compensation from the responsible parties.

First, this Comment examines the problem of groundwater contamination, how it arises, and the risks and harms that can, and often do, result. Second, this Comment discusses the inadequacy of current federal law and how the EPA's new "Strategy" attempts, but fails, to solve many of the existing problems, particularly with respect to liability. Lastly, this Comment examines the issue of farmer and manufacturer liability using the theory of public nuisance.

II. THE PROBLEM

If you live near a farm, you may discover that your well-water contains trace amounts of pesticides that were applied for agricultural purposes.[3] Agricultural contamination by pesticides, a major cause of nonpoint source pollution, is pollution generated from dispersed application of pesticides over a wide area, and is currently a

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[1] PESTICIDES & TOXIC SUBSTANCES, U.S. ENVTL. PROTECTION AGENCY, PESTICIDES AND GROUND-WATER STRATEGY (1991) [hereinafter EPA].

[2] Debbie Sivas, *Groundwater Pollution from Agricultural Activities: Policies for Protection*, 7 STAN. ENVTL. L.J. 117, 131-32 (1987-88).

[3] Terence J. Centner & Michael E. Wetzstein, *Agricultural Pesticide Contamination of Groundwater: Developing a "Right-to-Spray Law" for Blameless Contamination*, 14 J. AGRIC. TAX'N & L. 38, 38 (1992); Pamela A. Finegan, Comment, *FIFRA Lite: A Regulatory Solution or Part of the Pesticide Problem?*, 6 PACE ENVTL. L. REV. 615, 615, 621 (1988-89); Kevin A. LaValle, *Groundwater Contamination: Removal of the Constraints Barring Recovery for Increased Risk and Fear of Future Diseases*, 1988 DET. C.L. REV. 65, 65-66; Sivas, *supra* note 2, at 122, 124-25.

very real and dangerous problem in the United States.[4] This example of nonpoint source pollution, unfortunately, is only peripherally dealt with under federal law.[5] A primary reason for this oversight is that point source pollution, or pollution that comes from a particular, identifiable source, is easier to locate, isolate, and control with available technology, and is, therefore, the preferred target of environmental litigation.[6]

There have been several serious incidents of groundwater contamination from agricultural use of pesticides in New York,[7] Wisconsin,[8] California,[9] and Florida,[10] among other states, that require immediate action.[11] Generally, this problem remains unaddressed by current federal legislation. Because awareness of the problem has increased, the Environmental Protection Agency (EPA) is working on "Pesticides and Groundwater Strategy" which it hopes to have in effect by the end of 1993.[12] However, given the amount of research yet to be completed, it is unlikely that the EPA will meet this deadline.[13]

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[4] Sivas, *supra* note 2, at 122, 128; *see also* PATRICK W. HOLDEN, PESTICIDES AND GROUNDWATER QUALITY - ISSUES AND PROBLEMS IN FOUR STATES 4 (1986). "Some 200 pesticides are in common use . . . ." *Id.*

[5] Lawrence Ng, *A Drastic Approach to Controlling Groundwater Pollution*, 98 YALE L.J. 773, 779 (1989). Nonpoint source pollution is generated over a broad area as opposed to point source pollution which comes from an isolated source like the end of pipe. Sivas, *supra* note 2, at 128 n.49.

[6] *See* Sivas, *supra* note 2, at 128.

[7] HOLDEN, *supra* note 4, at 31-57.

[8] *Id.* at 58-80.

[9] *Id.* at 14-30.

[10] *Id.* at 81-97.

[11] VERONICA I. PYE ET AL., GROUNDWATER CONTAMINATION IN THE UNITED STATES 7 (1983) (noting incidents in Arizona, Idaho, Illinois, New Mexico, New Jersey, Nebraska, and South Carolina); *see* Centner & Wetzstein, *supra* note 3, at 38 (citing NIELSEN & LEE, THE MAGNITUDE AND COSTS OF GROUNDWATER CONTAMINATION FROM AGRICULTURAL CHEMICALS (U.S. Dep't of Agriculture, Agricultural Economic Report No. 576, 1987); U.S. ENVTL. PROTECTION AGENCY, NATIONAL SURVEY OF PESTICIDES IN DRINKING WATER WELLS PHASE I REPORT (1990); BATIE, COX & DIEBEL, MANAGING AGRICULTURAL CONTAMINATION OF GROUNDWATER: STATE STRATEGIES (National Governors' Ass'n, 1989)). "Over 60 pesticides have been discovered in groundwater in 30 states." *Id.*

[12] EPA, *supra* note 1, at ES-14.

[13] *See EPA Should Act Promptly to Minimize Contamination of Groundwater by Pesticides: Testimony Before the Subcomm. on Oversight and Investigations of the House Comm. on Energy and Commerce*, 102d Cong., 1st Sess. 16-17 (1991) (statement of Keith O. Fultz, Director, Planning and Reporting Resources, Community, and Economic Development Division) [hereinafter *Testimony*].

A. Groundwater

Approximately half of the people in the United States[14] and seventy-five percent of American cities rely on groundwater as their primary source of drinking water.[15] This percentage jumps to ninety-five percent for people living in rural areas.[16] "Groundwater contamination from field-applied pesticides was almost entirely unexpected, particularly since the pesticides being found in groundwater included those generally assumed to degrade or volatize rapidly."[17] Only within the past decade has our society begun to understand the connection between surface activities and their corresponding effect on groundwater.[18]

Groundwater is located "beneath the water table in saturated soils and geologic formations known as aquifers."[19] Aquifers are geologic formations through which groundwater moves.[20] They can stretch hundreds of miles in length and are replenished by the percolation of surface water and rainfall through the soil above.[21] Percolating groundwater is called recharge, and it is the only natural means of replenishing groundwater supplies.[22] There are two types of aquifers, confined and unconfined. Confined aquifers are generally very deep and situated between two layers of impermeable rock.[23] Unconfined aquifers occur nearer to the earth's surface with their upper level forming the water table.[24] The latter type of aquifer is recharged over most of its surface area;[25] thus, contaminants leach into groundwater from anywhere on the aquifer's surface.[26] Confined aquifers, in contrast, are recharged only where permeable

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[14] EPA, *supra* note 1, at 1; PYE ET AL., *supra* note 11, at 38-41.

[15] PYE ET AL., *supra* note 11, at 38-41.

[16] *Id.* at 38, 39-41; *see* NANCY M. TRAUTMANN ET AL., GROUNDWATER: WHAT IT IS AND HOW TO PROTECT IT (Cornell Cooperative Extension Fact Sheet No. 400.4, 1985); *see also* EPA, *supra* note 1, at 1.

[17] HOLDEN, *supra* note 4, at 1. "[I]n 1988, [the] EPA reported that 46 pesticides had been found to contaminate groundwater solely as a result of normal agricultural use." *Testimony*, *supra* note 13, at 3.

[18] TRAUTMANN ET AL., *supra* note 16.

[19] Sivas, *supra* note 2, at 118.

[20] *Id.*; *see* PYE ET AL., *supra* note 11, at 2.

[21] Sivas, *supra* note 2, at 118-19.

[22] TRAUTMANN ET AL., *supra* note 16.

[23] Sivas, *supra* note 2, at 118-19. Confined aquifers are also known as artesian aquifers. PYE ET AL., *supra* note 11, at 2.

[24] Sivas, *supra* note 2, at 118; PYE ET AL., *supra* note 11, at 2. Unconfined aquifers are also known as water-table aquifers. *Id.* at 30.

[25] Sivas, *supra* note 2, at 119.

[26] *Id.* at 119 (citing VERONICA I. PYE ET AL., *supra* note 11, at 4-5).

strata reach to the surface in what are called recharge zones.[27] Recharge zones are very important in the context of agricultural pollution, particularly if cultivated farmland is located over or near a recharge zone.

B. The Contaminants

Organic compounds, including pesticides, are a specific kind of groundwater contaminant.[28] Pollution of groundwater by agricultural activities occurs when pesticides leach through permeable strata in the soil and into the water table.[29] Groundwater may move a few feet per month or as little as a few feet per year.[30] The contaminants, however, can travel a considerable distance over time.[31] After the contaminants enter the water table, they move with the groundwater and may form an "elliptical plume of contamination."[32] It may take years for pesticides used on a farm to reach a neighbor's well, but if the farm has been operating for generations, which is true in many instances, leaching pesticides already may have reached an aquifer supplying neighboring wells.[33]

Unfortunately, by the time the contamination is detected, it is likely to be widespread,[34] making clean-up virtually impossible and extremely costly.[35] Chemicals get trapped in rock formations and can stay in the same location for years, never decomposing or evaporating and continually spoiling all the groundwater that flows through the area.[36] In many cases of severe groundwater contamination, the only feasible solution is to supply an alternate source of

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[27] *Id.*; PYE ET AL., *supra* note 11, at 31.

[28] *See* TRAUTMANN ET AL., *supra* note 16.

[29] Sivas, *supra* note 2, at 122; *see* TRAUTMANN ET AL., *supra* note 16.

[30] Palma J. Strand, Note, *The Inapplicability of Traditional Tort Analysis to Environmental Risks: The Example of Toxic Waste Pollution Victim Compensation*, 35 STAN. L. REV. 575, 580 n.21 (1982-83) (citing COUNCIL ON ENVTL. QUALITY, ELEVENTH ANNUAL REPORT 85 (1980)); TRAUTMANN ET AL., *supra* note 16. "[G]roundwater moves very slowly, on the average only three inches per day." LaValle, *supra* note 3, at 70 (citing WATER POLLUTION CONTROL FED'N, GROUNDWATER, WHY YOU SHOULD CARE (1987)).

[31] David R. McAvoy, Note, *The Applicability of Civil RICO to Toxic Waste Polluters*, 62 IND. L.J. 451, 455 (1986-87) (citing A. BLOCK & F. SCARPITTI, POISONING FOR PROFIT: THE MAFIA AND TOXIC WASTE IN AMERICA 52-53 (1985)). "Contaminants from leaking dumpsites have even been found 50 miles away." *Id.*

[32] PYE ET AL., *supra* note 11, at 51.

[33] *See* TRAUTMANN ET AL., *supra* note 16.

[34] *Id.*

[35] PYE ET AL., *supra* note 11, at 8.

[36] *See* TRAUTMANN ET AL., *supra* note 16.

drinking water.[37]

Pesticides in groundwater create an extremely dangerous situation because many are known or, at least, suspected to be carcinogens.[38] Of the fifty-four pesticides known to have contaminated groundwater, nine are classified as "probable" human carcinogens and six are "possible" human carcinogens, according to the EPA.[39] Some pesticides have been shown to cause liver damage, neurological disorders, and birth defects.[40]

Pesticides have different effects depending upon their concentration.[41] However, because crop pests can become immune to pesticides,[42] farmers apply pesticides in greater amounts and in combination with other organic compounds creating unknown disasters for the water table below.[43] Additionally, pesticides can decompose into other chemicals or combine with natural soil components to form other dangerous toxins.[44] This phenomenon is yet another factor complicating the establishment of safe drinking water standards.

III. Inadequacy of Current Federal Law

Action taken by the federal government concerning the contamination of groundwater by agricultural use of pesticides has only recently become substantial.[45] The previous inaction is due, in part, to the complicated scientific aspects of analyzing the problem.[46] Legislative inaction is also caused by the strength of the farm lobby in this country, which is opposed to any type of

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[37] Sivas, *supra* note 2, at 120; *see* Pye et al., *supra* note 11, at 8; *see also* EPA, *supra* note 1, at 55.

[38] Nancy M. Trautmann et al., Pesticides: Health Effects in Drinking Water (Cornell Cooperative Extension Fact Sheet No. 400.03, 1985).

[39] EPA, *supra* note 1, at 5.

[40] Trautmann et al., *supra* note 38; Office of Drinking Water, U.S. Envtl. Protection Agency, National Primary Drinking Water Regulations for 38 Inorganic and Synthetic Chemicals, Phase II Fact Sheet (1991).

[41] Trautmann et al., *supra* note 38.

[42] *See* Charlotte Uram, *International Regulation of the Sale and Use of Pesticides*, 10 Nw. J. Int'l L. & Bus. 460, 462 (1989/90).

[43] *See* James Gustave Speth, *EPA Must Help Lead an Environmental Revolution in Technology*, 21 Envtl. L. 1425, 1430 (1991).

[44] *See* Trautmann et al., *supra* note 16; *see generally* Pye et al., *supra* note 11, at 4 (describing the synthesis of complex organic compounds).

[45] *See, e.g.*, EPA, *supra* note 1; *see* James A. Sevinsky, *Public Nuisance: A Common-Law Remedy Among the Statutes*, Nat. Resources & Env't, Summer 1990, at 29, 30.

[46] Sivas, *supra* note 2, at 128.

and services.[248] However, in *Sony Corp. of America v. Universal City Studios*,[249] the Supreme Court imported from the patent laws an exception to contributory copyright infringement based on the nature of the use of the supplied product and, at the same time, limited the reach of the contributory copyright infringement doctrine.

In *Sony*, several owners of copyrights in television programs brought suit for copyright infringement against a number of defendants involved in the manufacture and sale of Sony's Betamax videotape recorder ("VTR").[250] The plaintiffs alleged that some Betamax owners had used their VTRs to make unauthorized copies of the plaintiffs' television programs, directly infringing the plaintiffs' copyrights.[251] They urged that the defendants be held liable as contributory infringers because they marketed the Betamax, the copying device, to the direct infringers.[252]

A five-member majority of the Court ruled that because the Betamax was capable of a commercially significant noninfringing use, the defendants were not liable for contributory infringement.[253] Citing the need to balance the copyright holder's right to protection with the "rights of others freely to engage in substantially unrelated areas of commerce,"[254] the Court stated:

> [T]he sale of copying equipment, like the sale of other articles of commerce, does not constitute contributory infringement if the product is widely used for legitimate, unobjectionable purposes. Indeed, it need merely be capable of substantial noninfringing uses.
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> The question is thus whether the Betamax is *capable of commer-*

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[248] *See, e.g.*, Gershwin Publishing Co. v. Columbia Artists Management, 443 F.2d 1159, 1162, 170 U.S.P.Q. (BNA) 182, 184-85 (2d Cir. 1971) (artists' management); Demetriades v. Kaufmann, 690 F. Supp. 289, 291-94, 8 U.S.P.Q.2d (BNA) 1130, 1131-34 (S.D.N.Y. 1988) (real estate brokerage); RSO Records v. Peri, 596 F. Supp. 849, 858, 225 U.S.P.Q. (BNA) 407, 413 (S.D.N.Y. 1984) (making of color separations used to produce cover graphics for pirated phonograph album); Calloway v. Marvel Entertainment Group, 1984 Copyright L. Dec. (CCH) ¶ 25,622, at 18,786, 18,788 (S.D.N.Y. 1983) (legal services); Screen Gems-Columbia Music v. Mark-Fi Records, 256 F. Supp. 399, 404-05, 150 U.S.P.Q. (BNA) 523, 526-27 (S.D.N.Y. 1966) (advertising agency and radio station that broadcast advertisements).

[249] 464 U.S. 417, 220 U.S.P.Q. (BNA) 665 (1984).

[250] *Id.* at 419-20, 220 U.S.P.Q. (BNA) at 669.

[251] *Id.* at 420, 220 U.S.P.Q. (BNA) at 669.

[252] *Id.*, 220 U.S.P.Q. (BNA) at 669.

[253] *Id.* at 456, 220 U.S.P.Q. (BNA) at 684.

[254] *Id.* at 442, 220 U.S.P.Q. (BNA) at 678.

effects to the environment . . . .' "[55] The EPA acknowledges the existence of many factors influencing whether pesticides will contaminate groundwater and, in light of this, suggests a different approach in their "Strategy" from current pesticide regulation under FIFRA.[56]

EPA's idea is *national* regulation through pesticide labels.[57] As part of their initiative, the EPA is compiling environmental fate data on selected pesticides with the potential to contaminate groundwater.[58] Approximately eighty-four pesticides are subject to this data collection program, authorized by 3(c)(2)(b) of FIFRA.[59] "Based on the environmental fate data, EPA will determine appropriate label conditions including: maximum rate of [pesticide] application, seasonal timing of application," and minimum distances for well-siting from places of application.[60] The agency also plans to provide grants under FIFRA to states to increase their ability to protect groundwater from pesticide contamination.[61] Once all the information is gathered, the EPA will determine the feasibility of national label restrictions and their ability to address leaching concerns.[62] This process will require a substantial period of time, given the amount of work that remains and the complicated factors involved. The United States General Accounting Office has already criticized the EPA Strategists for being "slow in assessing" the leaching potential of many pesticides.[63] The GAO report states that it could take more than fifteen years from the time a pesticide is discovered in groundwater to the time when the EPA completely assesses its leaching potential and makes a registration or label decision.[64]

The EPA further proposes resorting to national cancellation or State Management Plans, if the label regulations and restricted use regulations cannot ensure adequate protection.[65] Currently, under FIFRA, the EPA can cancel a pesticide's registration, thereby taking it off the market, if the pesticide's risks outweigh

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[55] *Id.* at 26.
[56] *Id.* at 27.
[57] *Id.*
[58] HOLDEN, *supra* note 4, at 6.
[59] *Id.*
[60] EPA, *supra* note 1, at 28.
[61] *Id.* at 24.
[62] *Id.* at 28.
[63] *Testimony, supra* note 13, at 6-8.
[64] *Id.* at 8.
[65] EPA, *supra* note 1, at 29, 30.

its benefits.[66] Even if the risks are judged "unreasonable" by the EPA under their proposed "Strategy," the states still will be given the opportunity to use the pesticide if they devise a "State Management Plan" (SMP) acceptable to the EPA.[67] The SMP might include a provision for user education, modified application practices, various restrictions based on specific site data, and agricultural best management practices.[68] Authority for the SMP under the "Strategy" would derive from FIFRA because use in accordance with the SMP would become a "condition of the pesticide's registration."[69]

The same "unreasonableness" standard referred to above is used with respect to classification of a pesticide as either "general" or "restricted."[70] "Where common application practices may lead to adverse effects on the environment . . . the pesticide (or a particular use of it) is classified for restricted use."[71] In effect, this means that even where a pesticide poses a potential or actual threat to the environment, it may *still* be used.

The EPA is currently working on improving the "restricted use" standards. Under the "Strategy," the EPA proposes "a 'Restricted Use Rule' aimed specifically at pesticides likely to contaminate groundwater based on their chemical characteristics or on actual detections."[72] The EPA claims this would be effective because applicators would be made aware of risks and specific techniques for avoiding contamination and because application practices would be enforceable requirements for use.[73] Again, the EPA's "Strategy" is fraught with hints of disaster because even the *current* restricted use standards are not enforced effectively under FIFRA.[74] Why, then, is there a presumption that further restrictions, though perhaps more stringent, will be more effectively enforced?

B. Recourse Under the Clean Water Act

The Clean Water Act (CWA)[75] also indirectly impacts the area

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[66] *Id.* at 30.
[67] *Id.* at 32.
[68] *Id.*
[69] *Id.*
[70] Sivas, *supra* note 2, at 147.
[71] *Id.*
[72] EPA, *supra* note 1, at 28.
[73] *Id.* at 30.
[74] *Testimony, supra* note 13, at 9-12.
[75] Federal Water Pollution Control (Clean Water) Act (CWA), 33 U.S.C.

of agricultural use of pesticides and contamination of groundwater. Section 208 of the CWA requires state or local governments to establish area-wide waste treatment management plans for areas with substantial water control problems.[76] The statute mandates that the plan identify agriculturally related nonpoint sources of pollution and set procedures and methods, including land use requirements, to control these sources.[77] A state is authorized to establish additional elements of a groundwater plan beyond the requirements of section 208 in order to address problems with groundwater pollution.[78]

Some localities have taken advantage of this provision. For example, Nassau and Suffolk counties in New York, where groundwater quality is known to be poor, applied for an EPA grant under section 208 and prepared an area-wide management plan according to the specifications of the section.[79] The counties were divided into eight management zones to which strict land-use controls were applied over prime recharge areas.[80] Analyses of wells took place under the plan, and, as a result, twenty-three wells in Nassau County and thirteen in Suffolk County were closed.[81] This type of plan is effective because it invokes preventative measures, such as regulation of recharge zones, to stop pollutant discharge at its origin.[82]

The main problem with section 208 is that the EPA lacks sufficient authorization to compel the development and implementation of section 208 plans.[83] The EPA is authorized to promote regulation of groundwater only by providing government grants.[84] The initiative for creation and implementation of the plans, however, is left to the states.[85] Most states create these plans on a voluntary basis;[86] unfortunately, their focus has been erosion of soil and contamination of surface water.[87]

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§ 1251 (1988 & Supp. 1990).

[76] Sivas, *supra* note 2, at 137; *see* 33 U.S.C. § 1288(a)(2).

[77] 33 U.S.C. § 1288(b)(2)(F).

[78] 40 C.F.R. § 130.6(c)(9) (1992).

[79] PYE ET AL., *supra* note 11, at 280.

[80] *Id.*

[81] *Id.* at 280-81.

[82] *See* Sivas, *supra* note 2, at 119, 175.

[83] *Id.* at 141.

[84] Ng, *supra* note 5, at 781.

[85] Sivas, *supra* note 2, at 141.

[86] *Id.*

[87] *Id.* at 138; PYE ET AL., *supra* note 11, at 11.

The 1987 amendments to section 319 of the CWA[88] directly address a management plan for nonpoint sources which includes identification of Best Management Practices and measures to reduce pollution loadings.[89] These measures take into account the impact of agricultural practice on groundwater quality.[90] "The new nonpoint source provision also requires the EPA to make federal grants to help states defer the costs of implementing section 319 management plans . . . ."[91] The EPA must pay half of the cost of the authorized groundwater protection activities to the states enacting section 319 plans.[92] This is a substantial advancement in recognizing groundwater contamination problems, even though the Act generally focuses on navigable waters.[93] The provision for a groundwater plan is a significant step toward a more comprehensive method of dealing with this particular environmental problem. The provision does address one aspect of agricultural nonpoint source pollution, but only as a supplemental issue and not a primary one.

In addition, the decision to implement a groundwater plan is voluntary.[94] States may, under the amendments, develop a groundwater plan only if they deem it necessary. A state's plan should include, according to the Act, monitoring and resource assessment programs and programs to control sources of contamination.[95] This provision has been under-utilized, most likely, because of its voluntariness. Although state and local governments may acquire federal technical and financial assistance to develop plans for agriculturally induced contamination problems, the CWA does not require it.[96] Even if there was a mandate, the same lack of enforcement problem that handicaps section 208[97] would diminish the effectiveness of this new section as well. In addition, states with a vested interest in the farming industry are unlikely to stir up trouble under this provision, unless they are required to do so.

The EPA's new pesticide "Strategy" may help reduce the

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[88] Water Quality Act of 1987, Pub. L. No. 100-4, 101 Stat. 7 (codified as amended in scattered sections of 33 U.S.C.).

[89] Sivas, *supra* note 2, at 140.

[90] *Id.*

[91] *Id.*

[92] *Id.* at 140 n.102 (citing 33 U.S.C. § 1329(i)(3)).

[93] *Id.* at 141 n.103; Ng, *supra* note 5, at 781.

[94] Sivas, *supra* note 2, at 141.

[95] *See* 33 U.S.C. § 1329(b)(2).

[96] Sivas, *supra* note 2, at 140-41.

[97] *See supra* text accompanying notes 83-85.

ineffectiveness of section 319, although its language is not sufficiently forceful or definitive. The "Strategy" plans on "*promoting* assessments of pesticide usage as well as ground-water vulnerability, and the development of management plans in agricultural areas vulnerable to ground-water contamination."[98] The "Strategy" also states that in 1992 and 1993, the Agency will be making efforts to increase grant funding under the CWA.[99] However, the language of the "Strategy" is no more forceful or definitive than that of section 319 of the CWA.

C. Recourse Under the Safe Drinking Water Act

Another federal act that tangentially deals with the problem of agricultural use of pesticides and groundwater contamination is the Safe Drinking Water Act (SDWA).[100] The SDWA is relevant in two aspects: it gives the EPA authority to set maximum contaminant levels (MCLs) for various substances,[101] and it contains a "sole source aquifer" provision.[102] Unfortunately, the SDWA addresses only "public water systems."[103] A public water system, according to the Act, is "a system for the provision to the public of piped water for human consumption . . . ."[104] This provision ignores approximately twelve to fourteen million private wells and aquifers in rural areas.[105]

However, in 1986, a Critical Aquifer Protection Areas (CAPA) program was added.[106] In applying for CAPA status, a state must submit a management plan which includes the identification of area boundaries, and existing and potential sources of point and nonpoint groundwater degradation; an assessment of the relationship between land use activities and groundwater quality; the specification of management practices to prevent adverse impacts on groundwater quality; and the identification of state authority and

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[98] EPA, *supra* note 1, at ES-2 (emphasis added).

[99] *Id.* at 15.

[100] Safe Drinking Water Act (SDWA), 42 U.S.C. § 300f (1988).

[101] *Id.* §§ 300g-1(a) to (b).

[102] *Id.* § 300h-3(e).

[103] Sivas, *supra* note 2, at 143; 42 U.S.C. § 300f(1)(A).

[104] 42 U.S.C. § 300f(4); *see also* 40 C.F.R. § 141.2 (1992).

[105] Ng, *supra* note 5, at 782 n.67 (citing *Groundwater Contamination and Protection: Hearings Before the Subcomm. on Toxic Substances and Environmental Oversight of the Senate Comm. on Environmental and Public Works, Part I*, 99th Cong., 1st Sess. 52 (1985) (statement of Sen. Dave Durenberger)).

[106] Sivas, *supra* note 2, at 144 (citing 42 U.S.C. § 300h-6).

financial resources to implement the program.[107]

The drawbacks with respect to the CAPA program are similar to the deficiencies of the CWA. First, the program depends upon voluntary participation.[108] Second, if there is an area where other sources of drinking water are available, the aquifer may not qualify as a sole source aquifer and, therefore, would be ineligible for CAPA status.[109] In addition, since the current program focuses on aquifers heavily exploited for drinking water, it has ignored protection of other aquifers likely to become just as critical in the future.[110] The EPA "Strategy," however, proposes to address this latter problem by "prioritizing" both currently used water supplies and "reasonably expected drinking water supplies."[111]

New York provides an example of the use of the "sole source aquifer" provision of the SDWA. "A vast aquifer system underlies Long Island. . . . [and] represents the only source of drinking water for more than 3 million people."[112] The aquifer contamination problems stem, in part, from agricultural pesticide pollution. Suffolk County yields agricultural products, mostly potatoes, with market values of over one hundred million dollars.[113] "Efforts to control potato pests . . . have been the source of the most important pesticide contaminants of Suffolk County groundwater."[114] The Suffolk County Department of Health Services sampled all the wells within 2,500 feet of potato farms.[115] Aldicarb, an insecticide, was one of thirteen pesticides found in the county's groundwater.[116] This program on Long Island represents one of the most comprehensive ever put into effect and has become a model for other states.[117]

Under the SDWA, the EPA has already developed Maximum Contaminant Levels (MCLs) for eighteen pesticides, which set limits for public drinking water supplies.[118] By 1992, the EPA planned

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[107] *Id.* at 144.
[108] *Id.* at 145; Ng, *supra* note 5, at 783 n.72 (citing 42 U.S.C. §§ 300h-6 to -7).
[109] Sivas, *supra* note 2, at 145.
[110] *Id.* at 146.
[111] EPA, *supra* note 1, at ES-7.
[112] HOLDEN, *supra* note 4, at 31.
[113] *Id.* at 32.
[114] *Id.*
[115] *Id.* at 36. CAPA authorizes a municipality to obtain funds to help finance programs addressing groundwater contamination which meet the CAPA requirements. 42 U.S.C. §§ 300h-5(c), (j).
[116] HOLDEN, *supra* note 4, at 33.
[117] *Id.* at 47-48.
[118] EPA, *supra* note 1, at 59.

to have promulgated nine more MCLs.[119] Under their new "Strategy," the EPA proposes to use these MCLs as "reference points" for groundwater contamination of current and reasonably expected sources of drinking water.[120] According to the EPA, the reference points will be used in conjunction with State Management Plans to identify how a state will respond to groundwater contamination exceeding MCLs, whether in public *or* private wells.[121] The MCLs will also be used in conjunction with FIFRA to weigh the risks and benefits of continued use of the pesticides at issue.[122]

The EPA "Strategy" proposes that, at a minimum, states have an option to develop State Management Plans to identify and track groundwater contamination.[123] States should determine which wells may be affected and then notify users of potential health risks.[124] The EPA "Strategy," which hinges on delegation of power to the states to track pesticide contamination, has been criticized as insufficient.[125] The State Management Plans need to address *all* pesticides with the potential to leach into groundwater, not just pesticides that have exceeded MCLs.[126] In addition, the MCLs themselves have been criticized because the combined effect of pesticides ingested in the form of food residues and groundwater has not been taken into account.[127] The MCLs, however, will provide some help in prioritizing contamination problems and in providing some knowledge about resulting health effects to individuals who ingest contaminated well water.[128]

The EPA "Strategy" also considers use of the SDWA's emergency powers.[129] These powers, including the pursuit of responsible parties, will be applied when groundwater contaminated with pesticides poses an imminent and substantial danger to public health.[130] The SDWA, it appears, may be a major source of authoritative action at both federal and state levels in the future.

The EPA "Strategy" consists of very promising outlines for

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[119] *Id.*
[120] *Id.* at 17.
[121] *Id.* at 39.
[122] *Id.*
[123] *Id.* at 35.
[124] *See id.* at 51-52.
[125] *See Testimony*, *supra* note 13, at 9.
[126] *See id.* at 16.
[127] *Id.* at 14-15.
[128] EPA, *supra* note 1, at 16-17.
[129] *Id.* at 54.
[130] *Id.*

preventing agricultural pollution of groundwater. Unfortunately, the "Strategy" leaves almost all impetus for implementation to the states and also concludes that "[t]he question of who should pay for long-term remedial actions at sites previously contaminated by the approved use of a pesticide is a legislative question."[131] In short, the federal government continues to avoid the liability issue. What remedies are available in the interim while the data is integrated and the implementation measures are put into place? Moreover, what if these new measures, when implemented at state and federal levels, continue to leave gaps as many critics believe?[132]

IV. An Alternative Solution: Public Nuisance as a Common Law Remedy

From the perspectives of both states and individuals, federal law is not comprehensive enough.[133] The proposed EPA "Strategy" avoids the liability issue and is actually a long way from implementation.[134] Several cases have illustrated the actions states or private individuals can take in situations of agricultural pesticide pollution of groundwater.[135]

The most flexible doctrine used to abate groundwater pollution is the common law theory of nuisance.[136] Public nuisance is being used to fill in the gaps of current federal and state law.[137] For example, state agencies and private plaintiffs have sought redress under public nuisance theory against owners of landfills and disposal sites from which toxic chemicals have leached into groundwater.[138] A valid argument, in light of these analogous cases, is that public nuisance theory will also attach liability to farmers and manufacturers in cases involving agricultural contamination of groundwater.

Typically, courts recognize two different types of nuisance actions: private and public.[139] A private nuisance action arises when

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[131] *Id.* at 55.

[132] *See Testimony*, *supra* note 13, at 16.

[133] *See generally Testimony*, *supra* note 13 (commenting on the EPA "Strategy").

[134] *Id.* at 16.

[135] New York v. Shore Realty Corp., 759 F.2d 1032 (2d Cir. 1985); Village of Wilsonville v. SCA Servs., 426 N.E.2d 824 (Ill. 1981); State v. Schenectady Chems., Inc., 479 N.Y.S.2d 1010 (N.Y. App. Div. 1984).

[136] Sevinsky, *supra* note 45, at 29.

[137] *Id.*

[138] 759 F.2d 1032; 426 N.E.2d 824; 479 N.Y.S.2d 1010.

[139] Restatement (Second) of Torts § 822 cmt. a (1977). The type of nuisance

the invasive conduct satisfies certain criteria:

> One is subject to liability for a private nuisance if, but only if, his conduct is a legal cause of an invasion of another's interest in the private use and enjoyment of land, and the invasion is either
> (a) intentional and unreasonable, or
> (b) unintentional and otherwise actionable under the rules controlling liability for negligent or reckless conduct, or *for abnormally dangerous conditions or activities.*[140]

There is no case law holding that the field application of pesticides by a farmer constitutes an abnormally dangerous activity, although that argument certainly can be made.

The second type of nuisance action is public nuisance. "A public nuisance is an unreasonable interference with a right common to the general public."[141] These actions can be brought by either the state or by private citizens who can show harm that is different in kind or degree from that suffered by other members of the public exercising a common right.[142] The focus below will be on public nuisance actions brought by the state.

A. The States' Cause of Action

Authority for states' action in public nuisance is derived from the sovereigns' police power as well as from current federal law.[143] In New York, public nuisance is defined in the case of *Copart Industries, Inc. v. Consolidated Edison Co.:*

> A public, or as sometimes termed a common, nuisance is an offense against the State and is subject to abatement or prosecution . . . . [It] consists of conduct or omissions which offend, interfere with or cause damage to the public in the exercise of rights common to all in a manner such as to offend public morals, interfere with use by the public of a public place or endanger or injure the property, health, safety or comfort of a considerable number of persons.[144]

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is distinguished by the affected interest, either "the public right or the private interest in the use and enjoyment of land." *Id.*

[140] *Id.* § 822 (emphasis added).

[141] *Id.* § 821(B).

[142] Robert Abrams & Val Washington, *The Misunderstood Law of Public Nuisance: A Comparison with Private Nuisance Twenty Years After Boomer*, 54 ALB. L. REV. 359, 364-65 (1990).

[143] Sevinsky, *supra* note 45, at 29, 30; Abrams & Washington, *supra* note 142, at 362.

[144] Copart Indus., Inc. v. Consolidated Edison Co., 362 N.E.2d 968, 971 (N.Y.), *reargument denied*, 369 N.E.2d 1198 (N.Y. 1977) (citations omitted).

In public nuisance, fault is irrelevant and strict liability is imposed.[145] These factors make public nuisance an attractive and viable theory of recovery for those harmed by agriculturally generated contamination of groundwater.

The interference with the public right, however, must be both substantial and unreasonable.[146] Factors indicative of unreasonableness include whether the conduct involves a significant interference with public health, or whether the conduct is of a continuing nature or has produced a long-lasting effect and the actor has reason to know of the effect on the public right.[147] With respect to the causal link connecting the harm or threat of harm ascribed to the pesticide itself, one court has held that studies relating certain chemicals to harm through experiments on animals is sufficient.[148] In addition, proof of the threat of harm is sufficient; actual harm is not necessary.[149]

To link the source of contamination to a neighboring farm, expert testimony can be used. For example, an expert witness could testify that particular agricultural use of pesticides, given known geographic factors, permeability of soil and known leaching qualities of the chemical, would likely contaminate the surrounding environment's groundwater.[150] According to the approach taken in *Schenectady Chemicals, Inc.*, the State will determine the percentage of contamination attributable to the defendant's operation compared with the percentage of contamination that may have

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[145] Abrams & Washington, *supra* note 142, at 370. Opinions regarding the role of fault in public nuisance suits differ because of discrepancies in the law.

> Judicial opinions do not always distinguish between public and private nuisance when outlining the elements of a cause of action in "nuisance." The same can be said of scholarly opinion. Thus, regardless of the type of nuisance action brought, a plaintiff is sometimes said to have to prove fault by showing either intentional or negligent conduct on the part of the defendant or that the defendant engaged in ultrahazardous activity, justifying the imposition of strict liability. The Restatement perpetuates the improper imposition of traditional fault concepts on the law of public nuisance.

Id. at 367 (citations omitted).

[146] *Id.* at 374 (citing RESTATEMENT (SECOND) OF TORTS §§ 821B(2)(a), 821F).

[147] *Id.* at 375 (citing § 821B(2)).

[148] LaValle, *supra* note 3, at 68-69 (citing Sterling v. Velsicol Chem. Corp., 647 F. Supp. 303, 480 (W.D. Tenn. 1986), *rev'd in part and aff'd in part*, 855 F.2d 1188 (6th Cir. 1988) (affirming the finding of proximate causation)). The Sixth Circuit did not comment on the validity of the use of animals to determine human carcinogens. *See* 855 F.2d at 1188.

[149] New York v. Shore Realty Corp, 759 F.2d 1032, 1051 (2d Cir. 1985).

[150] *See* State v. Schenectady Chems., Inc., 479 N.Y.S.2d 1010, 1013-14 (N.Y. App. Div. 1984); *see also* Village of Wilsonville v. SCA Servs., 426 N.E.2d 824, 829 (Ill. 1981).

come from other sources.[151] One Pennsylvania court has held that "even lack of proof of proximate cause did not defeat the state's public nuisance action"[152] if the activity can be pinpointed as the "dominant and relevant fact resulting in the nuisance."[153] "While public nuisance claims need not address conduct in order to establish liability for abatement and ordinary damages, conduct is relevant to punitive damage claims."[154]

B. Protection of the Public Right to Clean Drinking Water

The question what constitutes a public right is answered in *Village of Wilsonville v. SCA Services.*[155] The court held that the right to be free from potentially detrimental health effects is a public right.[156] Clean drinking water fits into this broad definition and was held in other cases to be a public right on its own merit.[157] Contaminated drinking water constituted significant interference with public health when the source of contamination was a disposal site.[158] Therefore, a court should not be reluctant to conclude similarly when the source of contamination is a farmer's field instead of a waste disposal site.

The number of affected people necessary before the problem constitutes a public nuisance has varied among courts. In *Village of Pine City v. Munch*, the court held that if the nuisance "affects the surrounding community generally or the people of some local neighborhood," it constitutes a public nuisance.[159] "A public nuisance is one which affects an indefinite number of persons, or all residents of a particular locality, or all people coming within the extent of its range or operation, although the extent of the

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[151] 479 N.Y.S.2d at 1012.

[152] Sevinsky, *supra* note 45, at 32 (citing Commonwealth v. Barnes & Tucker Co., 353 A.2d 471, 479 (Pa. 1976), *aff'd*, 371 A.2d 461 (Pa.), *appeal dismissed*, 434 U.S. 807 (1977)).

[153] *Id.* (citing 353 A.2d at 479).

[154] *Id.* at 58-59.

[155] *See* Village of Wilsonville v. SCA Servs., 426 N.E.2d 824, 834 (Ill. 1981).

[156] *See id.* at 838-39.

[157] Suffolk County Water Auth. v. Union Carbide Corp., N.Y. L.J., May 2, 1991, at 28, 28 (N.Y. Sup. Ct.); State v. Schenectady Chemicals, Inc., 479 N.Y.S.2d 1010, 1013 (N.Y. App. Div. 1984).

[158] New York v. Shore Realty Corp., 759 F.2d 1032, 1038 (2d Cir. 1985) (affirming an order for defendants to clean up hazardous substances leaching into groundwater); 26 N.E.2d at 834 (affirming an injunction enjoining a chemical waste disposal site which is contaminating the air, water, and groundwater nearby); 479 N.Y.S.2d at 1013-14.

[159] Village of Pine City v. Munch, 44 N.W. 197, 197-98 (Minn. 1890).

annoyance or damage inflicted upon individuals may be unequal."[160] This flexibility enables the state to take action even when a relatively small number of citizens are affected.

Applying this rationale to the farmer's situation, it can be argued that migration of pesticides from a nearby farm to neighboring wells constitutes a nuisance for which the farmer is liable. The farmer would be interfering with a public right to clean drinking water in a way that injures or threatens the health and safety of those affected. Therefore, under *Copart*, the farmer could ultimately be held liable because the interference easily passes the requirements for substantial and unreasonable harm.[161]

A causal link could be established if data were available on the particular pesticide detected and if an expert witness testified about the capacity for leaching of that particular pesticide.[162] Also, the EPA's ongoing investigation into the properties of pesticides will provide additional information necessary to establish a causal link. Evidence could also be provided by establishing the farmer's activity as the dominant one generating leachate of the particular pesticide discovered. If tangible evidence is limited, establishing threat of harm is sufficient under current case law.[163] In sum, analysis of existing case law and pending litigation suggests the potential for successful litigation against farmers under the theory of public nuisance.

V. Farmer Liability: A Closer Look

Farmers seem to have very little room for escape under a public nuisance theory. New York, however, like many other states, has pledged by statute to protect the agricultural industry by promoting and encouraging the industry.[164] The New York statute also pledges "to remove unnecessary or unfair costs and obstacles in the transportation, storage, processing, distribution, marketing, and sale of agricultural products . . . ."[165] Farmer liability under the common law theory of public nuisance has yet to be tested. Such a case would create a forum in which the interests of the

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[160] 1 Victor J. Yannacone, Jr. et al., Environmental Rights and Remedies § 4.3, at 78 (1972) (citing Burnham v. Hotchkiss, 14 Conn. 311, 317 (Conn. 1841)).

[161] Copart Indus., Inc. v. Consolidated Edison Co., 362 N.E.2d 968, 972-73 (N.Y.), *reargument denied*, 369 N.E.2d 1198 (N.Y. 1977).

[162] 426 N.E.2d at 832-33.

[163] New York v. Shore Realty Corp., 759 F.2d 1032, 1051 (2d Cir. 1985).

[164] N.Y. Agric. & Mkts. Law § 3 (McKinney 1991).

[165] *Id.*

agricultural industry, which are also public interests, are balanced against the interests of public protection from contamination of vital resources.

A. Applying the Law to Farmers

The closest test case was in Connecticut. However, liability attached to the farmers involved under Connecticut's Potable Water Act,[166] not under the theory of public nuisance.[167] Under the Potable Water Act, the Commissioner of the Environmental Protection Agency of Connecticut issued administrative orders to several tobacco farmers and two manufacturers of the pesticide EDB to supply neighbors and businesses with drinking water.[168] The EPA discovered that as a result of use of EDB on the tobacco fields, the pesticide had leached into the groundwater, finding its way into neighboring wells.[169] Initially the administrative orders were appealed. However, the matter was ultimately settled.[170] The farmers and manufacturers split the costs and agreed to supply an alternate source of drinking water to all those affected.[171]

Other cases that will influence this area of environmental law, relatively untouched by the courts, include a case in Wayne County, New York in which a beef cattle farmer planned to sue an apple orchard farmer.[172] The cattle rancher's livestock drank from well water supplied on the rancher's farm and allegedly ingested pesticides that the apple farmer used on his crop.[173] The cattle farmer claimed that these pesticides leached into the groundwater contaminating his stock.[174] A local slaughterhouse refused to purchase the beef because it contained trace amounts of pesticides.[175] Should the apple orchard farmer be liable to the cattle farmer and the public for the resulting contamination?

In one case involving a strawberry farmer who properly applied pesticides yet contaminated his neighbor's well, the court decided

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[166] CONN. GEN. STAT. ANN. § 22a-471 (West 1985 & Supp. 1992).
[167] *See* HOGAN, *supra* note 47, at 5.
[168] *Id.*
[169] *Id.*
[170] Telephone Interview with Elsie Patton, Supervising Environmental Analyst, Connecticut Department of Environmental Protection (November 21, 1991).
[171] *Id.*
[172] HOGAN, *supra* note 47, at 5.
[173] *Id.*
[174] *Id.*
[175] *Id.*

that the fault lay with the pesticide itself, suggesting, perhaps, that the manufacturer was liable.[176] The court concluded that fault did not lay with the farmer's application process and therefore ruled in his favor.[177] The Washington Court of Appeals affirmed this landmark decision.[178]

These cases, along with cases seeking to attach liability to manufacturers, have generated great concern among farmers. Farmers across the country are keenly aware of their potential liability and have argued against this broad assignment of blame.[179] In response to their lobbying pressures, several states have proposed or enacted legislation that limits farmer responsibility in some way.[180]

Connecticut is a prime example of a state which has attempted to limit farmer responsibility for contamination of groundwater by pesticides.[181] In Connecticut, the Potable Water Act[182] was amended as a result of farm industry lobbying. The result was a compromise; if a farmer can show that he is using a Pesticide Management Plan and has records of all such pesticide use under that plan,[183] he will be exempt from the state commissioner's order requiring that "potable drinking water be provided to all person's affected by such pollution."[184] Compliance with the Potable Water Act, however, may not exempt a farmer from the commissioner's order in every instance. Since this modification does not exempt manufacturers of pesticides and it is not retroactive, the farmers in the EDB cases are still paying for drinking water for their affected neighbors.[185] Further, Connecticut law continues to allow for abatement,[186] a parallel to one of the remedies in a public nuisance action. Abatement would force a farmer to stop using a pesticide if the application results in any groundwater contamination, even if he is applying it legally.[187] Thus, a farmer who complies with the requirements of the Potable Water Act may, nevertheless, be

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[176] *Id.* at 4.
[177] *Id.*
[178] Harris v. Great Lakes Chem. Corp., 49 Wash. App. 1033 (Wash. Ct. App. 1987) (affirming by unpublished opinion), *rev. denied*, 110 Wash. 2d 1018 (1988).
[179] HOGAN, *supra* note 47, at 4.
[180] *E.g.*, GA. CODE § 2-7-170 (Michie 1992); *e.g.*, CONN. GEN. STAT. ANN. § 22a-471.
[181] *See* HOGAN, *supra* note 47, at 5.
[182] CONN. GEN. STAT. ANN. § 22a-471.
[183] *See id.* § 22a-471(f)(1).
[184] *Id.* § 22a-471(a)(1).
[185] Interview with Elsie Patton, *supra* note 170.
[186] CONN. GEN. STAT. ANN. § 22a-432.
[187] *Id.* §§ 22a-432 to -433.

responsible for clean-up costs under Connecticut's abatement laws.[188]

B. Legislative Initiatives

The New York State Farm Bureau considered farmers' liability for contamination of groundwater one of the top priorities of its legislative program.[189] There has been controversy in the State of New York over whether to include farmers in the notification requirements that govern the application of pesticides under Chapter 612, Laws of 1983.[190] The proposed application of these regulations would require farmers to provide such information as the identity of the pesticides used and an explanation of various application precautions to take when neighbors' wells are within specified distances of the application areas.[191] Farmers are fighting the proposal, claiming that it would be unduly burdensome.[192]

Another New York legislative bill, S. 1881-B, proposed an exemption for farmers from strict liability for damages occurring from non-negligent use or storage of pesticides.[193] Yet another bill, A. 8229, proposed to remove strict liability of farmers for damages resulting from groundwater contamination.[194] Because the farming lobby is very strong nationally, it is likely that farmer liability will be limited, if not completely removed in some states, in the near future. This would severely reduce a state or private party's options under the theory of public nuisance. Before these options are eliminated, the state should, at least, have established a fund from which those whose groundwater is contaminated by agricultural use of pesticides can retrieve money for clean-up costs or an alternative supply of drinking water.

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[188] Telephone Interview with Elsie Patton, Supervising Environmental Analyst, Connecticut Department of Environmental Protection (Mar. 26, 1993).

[189] HOGAN, *supra* note 47, at 1.

[190] JAMES HOGAN, AGRICULTURAL USE OF PESTICIDES 4 (Senate Research Service Issues in Focus No. 88-174, 1988); *see* 1983 N.Y. Laws 612.

[191] *Id.*

[192] *Id.* at 5.

[193] *Id.* at 6; S. 1881-B, 211th Leg., Reg. Sess. (N.Y. 1988). This bill passed the New York Senate. HOGAN, *supra* note 190, at 6. Subsequently the bill was referred to the Environmental Conservation Committee and was not enacted prior to the expiration of the legislative term. S. 1881-B, 1988 N.Y Leg. Dig. (Legislative Bill Drafting Commission) S 114 (Jan. 6 - Oct. 7, 1988).

[194] HOGAN, *supra* note 190, at 7; A. 8229, 211th Leg., Reg. Sess. (N.Y. 1988). This bill was referred to the Environmental Conservation Committee and was not enacted prior to the expiration of the legislative term. A. 8229, 1988 N.Y Leg. Dig. (Legislative Bill Drafting Commission) A 510 (Jan. 6 - Oct. 7, 1988).

Another proposed New York bill recognized that a landowner whose well has become contaminated by a neighbor's use of pesticides may seek recovery for damages under a nuisance theory and suggested expanding the state's "hazardous waste remedial fund" to include a "groundwater indemnification account."[195] The account would substitute for any potential liability on the part of farmers for the non-negligent application, storage or handling of pesticides and fertilizers used in farming operations. Such a bill would eliminate farmers from the scope of liability under nuisance. Manufacturers, however, presuming they do not fit into the definition of "one who produces a farm product" under section 2 of the Agriculture and Markets Law, would still be targets for liability.

A 1990 bill, which was not passed by the New York State Senate, similarly proposed to absolve farmers from strict liability for contamination of groundwater by their non-negligent use of pesticides.[196] However, this bill suggested a "miscellaneous special revenue fund" generated from pesticide registration fees and non-compliance penalties which would be used for state pesticide education and training programs.[197] The bill did not address remedial funds for neighboring landowners whose well water became contaminated.

The New York Legislature has made some innovative attempts to affect the issue of liability for contamination of groundwater. In future legislative terms, there are likely to be further attempts to enact legislation regarding this issue.

C. The Arguments for and Against Farmer Liability

Farmers question the fairness of holding them liable for actions they took that were sanctioned by the government.[198] The farmer, as applicator, may argue that he was simply following instructions according to directions of the manufacturer and to provisions of

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[195] S. 2686, 214th Leg., Reg. Sess. (N.Y. 1991). This bill was referred to the Finance Committee and was not enacted prior to the expiration of the legislative term. S. 2686, 1992 N.Y Leg. Dig. (Legislative Bill Drafting Commission) S 155 (Jan. 8 - Oct. 15, 1992).

[196] S. 8110, 213th Leg., Reg. Sess. (N.Y. 1990). This bill was referred to the Environmental Conservation Committee and was not enacted prior to the expiration of the legislative term. S. 8110, 1990 N.Y. Leg. Dig. (Legislative Bill Drafting Commission) S 516 (Jan. 3 - Oct. 12, 1990).

[197] S. 8110, 213th Leg., Reg. Sess. (N.Y. 1990).

[198] HOGAN, *supra* note 47, at 4.

state or federal law.[199] Another policy argument, albeit a weak one, might be that if a substantial number of farmers are found liable, they may either be run out of business or business may be curtailed significantly.[200] The result could be high food prices or actual food shortages which is, of course, contrary to the public interest.

The farmers' strongest argument is simple: that they were unaware, simply following instructions and, therefore, not culpable.[201] After all, it is the manufacturer who knows the most about specific properties of a pesticide, has the opportunity to test the pesticide for its impact on the environment, and actually dictates guidelines for its use.[202] The farmer is not a chemist and arguably the law should not hold him to that higher standard.[203]

Such an argument, nonetheless, misses the point for two reasons. First, when contamination of groundwater has occurred, such a situation constitutes a public nuisance under existing case law.[204] Whether the farmers or manufacturers had knowledge of the potential leachate qualities of a certain chemical and its potential for harm to humans is irrelevant.[205] The fact is that both contributed to the public nuisance, and under the law both can be required to abate the nuisance and remedy the harm done either through supply of an alternate source of drinking water or through clean-up of the aquifer.[206] The former is a much less expensive option.[207] Second, hazardous dump site and landfill owners and operators might argue precisely the same points about lack of knowledge or the effect of compliance with the law. Yet, case law supports attachment of liability to these parties even when they comply with federal and state regulations.[208]

Therefore, farmers who apply pesticides according to regulations

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[199] *Id.*

[200] *See id.*

[201] *Id.*

[202] *See* Suffolk County Water Auth. v. Union Carbide Corp., N.Y. L.J., May 2, 1991, at 28, 28 (N.Y. Sup. Ct.).

[203] *See id.*

[204] *Id.*; *see* New York v. Shore Realty Corp., 759 F.2d 1032 (2d Cir. 1985); *see also* Village of Wilsonville v. SCA Servs., 426 N.E.2d 824 (Ill. 1981); *see also* State v. Schenectady Chems., Inc., 479 N.Y.S.2d 1010, (N.Y. App. Div. 1984).

[205] *See* Abrams & Washington, *supra* note 142, at 368. The standard for public nuisance is strict liability. *Id.*

[206] *See* Sevinsky, *supra* note 45, at 29.

[207] *See* PYE ET AL., *supra* note 11, at 8.

[208] *See* 759 F.2d at 1032; *see also* 426 N.E.2d at 824; *see also* 479 N.Y.S.2d 1010.

should also be held accountable. If courts are not willing to release other law-abiding parties from liability, why should the farmers operate without consequence? The reasoning utilized by the courts in the landfill cases should be applicable to farmers as well. It may not be applicable, however, because of the historical preservation and protection of this nation's farming community as illustrated by our nation's comprehensive farm subsidy program and various state laws protecting and promoting the agricultural industry.

Many believe that farmers should be held liable, not only in cases where chemicals were applied according to federal, state or industry standards, but also when chemicals were applied by a previous farmer on the land many years prior to discovery of groundwater contamination.[209] Under the theory of public nuisance, liability would attach in *all* of the above cases because fault is irrelevant unless punitive damages are sought.[210] Public nuisance law does not recognize culpability.[211] The theory, instead, assigns liability to anyone instrumental in causing the public nuisance.[212] Strict liability, under the theory, could attach to both manufacturers and farmers. In addition, in comparing liability for toxic site clean-up under the new provisions of CERCLA, a purchaser of real estate who buys a parcel on which a toxic hazard exists must pay for its clean-up, regardless of whether he caused the danger.[213] The same reasoning and policy would seem to support farmer liability for past agricultural applications of pesticides if those applications led to groundwater contamination.

In determining whether farmers should be exempt, one must consider situations in which a manufacturer cannot be identified or is no longer in business or a farmer is applying pesticides improperly. Farmers, rather than innocent third parties, should bear the financial burden of remedying the harm. In fairness to these third parties, and in light of the current inadequate state and federal legal remedies, it is important not to close off this important avenue of redress. Those affected by the contamination are the ultimate victims in situations involving agriculturally generated

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[209] Hogan, *supra* note 47, at 4.

[210] Sevinsky, *supra* note 45, at 29. "Fault is simply not a basis for public nuisance liability to a state, and fault-based care and causation defenses are not appropriate elements of the basic claim, although, in some circumstances, they may be relevant to punitive damages." *Id.*

[211] *Id.*

[212] *See* United States v. Hooker Chems. & Plastics Corp., 722 F. Supp. 960, 965, 968 (W.D.N.Y. 1989).

[213] New York v. Shore Realty Corp., 759 F.2d 1032, 1044 (2d Cir. 1985).

groundwater pollution.

VI. Manufacturer Liability

Attaching liability to the manufacturer is also plausible under public nuisance and is happening in cases currently pending appeal. One case, *Suffolk County Water Authority v. Union Carbide Corp.*, currently on appeal from the Supreme Court of Suffolk County, provides a good example of nuisance theory as applied to a chemical corporation which distributed pesticides to farmers with instructions that complied with federal and state law.[214]

The Suffolk County Water Authority seeks compensatory and punitive damages for contamination of the water supply of nine wells by Aldicarb, a chemical manufactured by Union Carbide.[215] Union Carbide denounces the public nuisance theory arguing "that a product manufacturer cannot be liable in nuisance subsequent to releasing control of the manufactured product."[216] Because they were not participants in the actual pesticide application, Union Carbide argues that they should not be liable for the resulting injury.[217]

The court held that the Suffolk County Water Authority clearly stated a cause of action for public nuisance and, therefore, the motion to dismiss the complaint was denied.[218] The Suffolk County Water Authority alleged that Union Carbide "interfered with plaintiff's rights 'to use and enjoy its property' including the right to provide 'uncontaminated water, materially free of Aldicarb, to its customers.' "[219] The court cites *Shore Realty Corp.* and *Schenectady Chemicals, Inc.*, among other cases, to support the argument for manufacturer liability under the theory of public nuisance.[220]

The court acknowledged that normally nuisance is applied in the context of a wrongful act committed on land adversely affecting another person's interest in land.[221] Union Carbide asserts the position that nuisance arises only in connection with a defendant's

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[214] Suffolk County Water Auth. v. Union Carbide Corp., N.Y. L.J., May 2, 1991, at 28, 28 (N.Y. Sup. Ct.).
[215] *Id.*
[216] *Id.*
[217] *Id.*
[218] *Id.*
[219] *Id.*
[220] *Id.*
[221] *Id.*

use of land.[222] In response to this assertion, the court noted that under New York law, "the action may be brought against *everyone* who creates a nuisance or participates in the creation or maintenance of a nuisance."[223] The court reiterated that liability attaches regardless of fault when there is an unreasonable, dangerous activity or product involved.[224]

The court supplemented its argument with an explanation that neither possession of the property nor control over the product is required for responsibility of the resulting injury or damage.[225] In the brief requesting affirmance of this decision, the plaintiff cited *People ex rel. Bennett v. Lamary* [sic],[226] in which the court asserted the New York view that "given the elasticity of the word 'nuisance,' courts of equity will grant relief in almost any situation which threatens injury to the interests of the public."[227] The plaintiff further claimed that, under existing New York law, it is clear that just because a party is no longer in physical possession of the instrumentality of harm, he is not necessarily insulated from nuisance liability.[228]

The preliminary ruling in *Union Carbide* enlarges the scope of liability to those involved in pesticide manufacturing.[229] Note also, the language of the opinion clearly encompasses farmers within the scope of liability.[230] The question remains whether farmers should be allowed to escape liability for groundwater contamination by pesticides.

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[222] *Id.*

[223] *Id.* (citing United States v. Hooker Chems. & Plastics Corp., 722 F. Supp. 960, 965 (W.D.N.Y. 1989) (emphasis added)).

[224] *Id.*

[225] *Id.*

[226] People *ex rel.* Bennett v. Laman, 14 N.E.2d 439 (N.Y. 1938). The respondent-plaintiff's brief misspells and incorrectly cites this case as People *ex rel.* Bennett v. Lamary [sic], 227 N.Y. 268. Respondent's Brief at 29, Suffolk County Water Auth. v. Union Carbide Corp., N.Y. L.J. May 2, 1991, at 28 (N.Y. Sup. Ct.) (No. 90-14163).

[227] Respondent's Brief at 29, Suffolk County Water Auth. v. Union Carbide Corp., N.Y. L.J. May 2, 1991, at 28 (N.Y. Sup. Ct.) (No. 90-14163) (citing 14 N.E.2d at 444).

[228] *Id.* at 38.

[229] *See* Theodore V. H. Mayer, *Cleanup Cost Liabilities Flowing from Product Sales*, N.Y. L.J., Dec. 17, 1991, at 1, 7. "Pending the outcome of this appeal, manufactures of pesticides and other chemicals should carefully consider the risks of selling their products in the New York market." *Id.*

[230] *See* Suffolk County Water Auth. v. Union Carbide Corp., N.Y. L.J., May 2, 1991, at 28, 28 (N.Y. Sup. Ct.).

VII. Apportionment of Damages

In cases of aquifer contamination by agricultural use of pesticides, both the manufacturer and the farmer have engaged in activity causing the public nuisance.[231] They should, therefore, each be held accountable for the harm.[232] The ultimate goal is to "make whole" the injured third parties. The injured third parties who bring the action under public nuisance should be able to recover fully from any of the implicated parties. The parties would then face a jury for their proportionate assignment of blame. In New York, for example, one party who paid in full could seek contribution from the other parties in amounts decided by a jury.

On Long Island, for example, there were many farms contributing to contamination of the single aquifer by Aldicarb, commonly named Temik.[233] Obviously, some farms used more of the pesticide than others. To the extent that damages can be apportioned, such an effort should be made. The implicated parties should be able to seek contribution for damages from other implicated parties to the extent they can show that another party caused the nuisance.

Dividing the cost of liability between farmers and manufacturers is more difficult. Who was the greater contributor to the nuisance, the party who created and distributed the chemical or the party who actually applied it, thereby proximately causing injury to a public resource? If it can be shown that a farmer misapplied chemical pesticides to his crops causing an unacceptable level of toxin in groundwater, then the answer is as simple as it is in cases in which a manufacturer provided misinformation on labels or instructions for use. However, where both the manufacturer and the farmer were in compliance with federal and state regulations, the answer is not so easy. In this case, too, both parties are liable under public nuisance and should be liable as joint and several defendants.

If the manufacturer alone pays the costs of damages, he will likely pass that cost onto the farmer who purchases his product. The farmer will, in turn, pass that cost onto the public, the consumers of his product. Market forces, however, will act to limit the amount by which either party can raise his prices. Therefore, farmers and manufacturers would both be absorbing some of the costs of the damages in proportions dictated by market forces. Consum-

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[231] *See* Mayer, *supra* note 229, at 7.

[232] *See id.*

[233] Holden, *supra* note 4, at 31, 33-35. Suffolk County Water Auth. v. Union Carbide Corp., N.Y. L.J., May 2, 1991, at 28, 28 (N.Y. Sup. Ct.).

ers who contribute to the nuisance by creating a demand for the farmer's products, will also absorb some of the damage costs.

From a practical standpoint, manufacturers are the preferred targets of recovery because large chemical corporations tend to have much "deeper pockets" than farmers, making collection from manufacturers more likely. However, neither farmer liability nor manufacturer liability should be abrogated in the event that insufficient damages are collected from either one of these parties. If a manufacturer is no longer in business, for example, collection of damages should be available from the farmers as joint and several defendants. In New York, for example, damages would be apportioned under the concept of comparative negligence with each party's degree of fault decided by a jury. Again, the farmers, limited by the forces of supply and demand, will pass on some of this cost to consumers and absorb the rest.

The plaintiff's brief in *Union Carbide* actually defends the position of farmers, stating that farmers were not aware that Aldicarb's leachate properties would affect "the particular sandy, low organic matter content and low microbial activity, soil conditions in Suffolk County, where there is heavy rainfall in the application season."[234] "Nor would the farmers be in a position to appreciate Temik's potential and actual impact on Suffolk County's shallow sole source aquifer for drinking water."[235] The brief also states that the farmers "were not advised that, even if they were to follow Appellant's instructions, the nuisance to the County's water supply would nevertheless result."[236] The brief suggests the farmers were more or less agents and, therefore, had little discretion with regard to application decisions.[237] The brief further suggests that New York courts have shown a willingness "to impose liabilities on those (including manufacturers) who cause an injury, even though they themselves do not physically wield the offending instrumentality . . . ."[238] Therefore, the plaintiff argued that Union Carbide should be held liable because the plaintiff had less discretion than the independent contractor in *Schenectady Chemicals Inc.*, a case in which the manufacturer was held liable.[239]

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[234] Respondent's Brief at 35, Suffolk County Water Auth. v. Union Carbide Corp., N.Y. L.J. May 2, 1991, at 28 (N.Y. Sup. Ct.) (No. 90-14163).

[235] *Id.*

[236] *Id.* at 36.

[237] *See id.* at 28-30.

[238] *Id.* at 34-35.

[239] *Id.* at 38.

While a very strong case is made for manufacturer liability in the brief, the reasons stated for absolving farmers from liability should not exempt them from a public nuisance claim. However, when apportionment of damages seems impossible because both parties were acting within the law, the manufacturer appears to be the more popular target for recovery of damages.[240]

The plaintiff in *Union Carbide* seeks to impose liability on Union Carbide for the design, manufacture, distribution and sale of Aldicarb based on the control the manufacturer had over its chemical action.[241] Farmers were not identified as defendants in this case for unknown reasons. However, it is likely that a successful action for public nuisance could also have been brought against *both* the farmers of Suffolk County *and* Union Carbide. The decision will have vast repercussions in this area of litigation, which is likely to increase in the next decade as people become more aware of the problem of groundwater contamination.

VIII. Conclusion

Comprehensive federal and state regulation is needed in the management of groundwater contamination due to the agricultural use of pesticides. Regulation must incorporate setting and testing for unacceptable levels of pesticide contamination of underground aquifers;[242] it must also provide a source of funds from which injured parties can recover the costs of an alternate supply of drinking water or clean-up.[243] Funding for recovery of potential harm to health must also be addressed in federal and state legislation. It has been suggested at both the federal and state level that government funds should be provided to cover these liability costs.[244] However, the source of the funds remains an issue.

In the absence of comprehensive legislation, public nuisance is an effective tool for the injured public to get the "necessaries," that is, abatement of the farmer's activity causing the nuisance[245] and monetary damages to cover the costs of an alternate supply of

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[240] *See* Suffolk County Water Auth. v. Union Carbide Corp., N.Y. L.J., May 2, 1991, at 28, 28 (N.Y. Sup. Ct.).

[241] *Id.*

[242] *See* EPA, *supra* note 1, at 28.

[243] *See id.* at 55.

[244] *Id.*; Hogan, *supra* note 200, at 3.

[245] *See* New York v. Shore Realty Corp., 759 F.2d 1032, 1050 (2d Cir. 1985); Sevinsky, *supra* note 45, at 31.

drinking water.[246] Even if the EPA implements their *new* "Strategy," public nuisance and other common law theories, such as trespass, should be utilized to fill in the gaps of this and any other program that may be instituted as a result of the "Strategy" at the federal or state level.

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[246] *See* PYE ET AL., *supra* note 11, at 8-9.