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Agricultural Chemicals and Groundwater Protection: Navigating the Complex Web of Regulatory Controls

by

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AGRICULTURAL CHEMICALS AND GROUNDWATER PROTECTION: NAVIGATING THE COMPLEX WEB OF REGULATORY CONTROLS

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I. INTRODUCTION

Much of the productivity of American agriculture is attributed to the use of agricultural chemicals to enhance production and control pests.[1] Yet, there is increasing concern for potential environmental problems associated with the use of these agricultural chemicals.[2] Indeed, the birth of the modern environmental movement is often traced to the campaign of thirty years ago to ban the agricultural chemical DDT.[3] These environmental concerns create a fundamental tension between the use of agriculture chemicals to insure a source of food and agriculture chemicals as a source pollution of the United States' water resources.

The impact of agricultural chemicals is nowhere less understood than upon groundwater.[4] Strides to control point sources of water pollution commonly associated with traditional industrial activities are not suited to deal with traditional uses of agricultural chemicals.[5] The regulators' attention must instead focus on the more diffuse nonpoint sources of pollution related to agricultural activities.[6] Society is, however, faced with important policy choices;

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1. ROBERT L. MAHLER ET AL., UNIVERSITY OF IDAHO, CURRENT INFORMATION SERIES NO. 865, QUALITY WATER FOR IDAHO: PESTICIDES AND THEIR MOVEMENT IN SOIL AND WATER 1 (1991) [hereinafter PESTICIDES AND THEIR MOVEMENT].

2. PATRICK W. HOLDEN, PESTICIDES AND GROUNDWATER QUALITY: ISSUES AND PROBLEMS IN FOUR STATES 1 (1986); UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, SERIES NO. 21T-1022, EPA PESTICIDES AND GROUND-WATER STRATEGY ii (1991) [hereinafter EPA PESTICIDES AND GROUND-WATER STRATEGY]. The EPA held its first major workshop on pesticide contamination in groundwater in 1986 with representatives from federal and state agencies, environmental groups, health groups, industrial groups and farmers, among others in attendance. *Id.*

3. *See* RACHEL CARSON, SILENT SPRING (1962). Rachel Carson's book summarizing the case against DDT is generally credited with the uproar which led to the ultimate ban on DDT for use in American agriculture. DDT is dichlorodiphenyltrichloroethane, a complex organic chemical, and a stable and therefore persistent pesticide.

4. HOLDEN, *supra* note 2, at 1.

5. Point sources are handled, controlled and permitted generally through the National Pollution Discharge Elimination System (NPDES) permits under the Clean Water Act, §§ 101-607, 33 U.S.C. §§ 1251-1387 (1988 & Supp. IV 1992).

6. As discussed *infra* notes 190 to 219 and accompanying text, § 319 of the Clean Water Act, 33 U.S.C. § 1329, and other state and federal programs, establishes a program for dealing with nonpoint sources of water pollution.

choices that are not fully dealt with in existing law and that must be based upon cause and effects and levels of risk only imperfectly understood by the scientific community and the public.

Any pollution[7] or impairment of groundwater is less obvious than surface water pollution. The source of a particular groundwater problem often cannot be traced if it originates from nonpoint sources.[8] Consequently, groundwater pollution has historically received much less attention than surface water pollution.[9] Only since the late 1970s has groundwater contamination even been considered a significant problem.[10] Government efforts to control, regulate and protect groundwater quality are even more recent.[11] Still on the rise, numerous federal and state laws and regulations now attempt to address facets of groundwater pollution and agricultural chemical use.[12] At this time, no comprehensive scheme has stitched together this patchwork of laws concerning groundwater quality, particularly as they affect agriculture.

This Comment focuses on one of the principle sources of contamination; agricultural practices and their impact on groundwater quality.[13] Specifically, this Comment focuses on the

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7. Idaho's Water Quality regulations define "pollutant" as:

> [D]redged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, silt, cellar dirt; and industrial, municipal and *agricultural waste*, gases entrained in water; or other materials which, when discharged to water in excessive quantities, cause or contribute to water pollution.

IDAPA § 16.01.02.003.41 (1993) (emphasis added). The regulations also define "water pollution" as follows:

> [A]ny alteration of the physical, thermal, chemical biological, or radioactive properties of any waters of the state, or the discharge of any pollutant into the waters of the state, which will or is likely to create a nuisance or to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, recreational, aesthetic, or other beneficial uses.

IDAPA § 16.01.02.003.66. These definitions track the definitions contained in the Federal Clean Water Act, 33 U.S.C. § 1362(6), 1362(19) (1988 & Supp. IV. 1992).

8. GROUND WATER QUALITY COUNCIL, IDAHO GROUNDWATER QUALITY PLAN: PROTECTING GROUNDWATER QUALITY IN IDAHO 7 (1992) [hereinafter IDAHO GROUNDWATER QUALITY PLAN].

9. HOLDEN, *supra* note 2, at 1.

10. HOLDEN, *supra* note 2, at 1.

11. EPA PESTICIDES AND GROUNDWATER STRATEGY, *supra* note 2, at ii.

12. These statutes and regulations are discussed in detail *infra* part III of this Comment.

13. Four principal categories of groundwater contamination are generally acknowledged: waste disposal, storage and handling of materials and waste,

impact or potential impact the normal application of agricultural chemicals has on groundwater and the regulatory responses to this problem.[14] Part II addresses Idaho groundwater use and supply, and the use of agricultural chemicals and their impact on this groundwater supply. Part III explores the federal and state statutory and regulatory efforts to control groundwater contamination arising from normal and appropriate agricultural practices. Part IV concludes that the best fashion in which to control groundwater contamination due to agricultural chemicals is not with enforcement actions available under regulatory authority against the users of agricultural chemicals but rather by establishing state programs to control the use and availability of chemicals posing a threat to groundwater in a particular state or locale, and by training the end users in appropriate methods and procedures.

II. WATER USE: SUPPLY AND CONTAMINATION IN IDAHO

This section examines the groundwater water resources in Idaho, how this groundwater is being used, and the potential impact of fertilizers and pesticides[15] on these resources. The application of

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agricultural practices, and saline water intrusions. *See* COLLEGE OF AGRICULTURE, UNIVERSITY OF IDAHO, VOL. 3, NO. 4, WATER QUALITY UPDATE 4 (1993). The Resource Conservation and Recovery Act of 1976, §§ 1002-8007, 42 U.S.C. §§ 6901-6992k (1988 & Supp. IV. 1992), deals with the first two categories, waste disposal and handling. In large part its substantive requirements are aimed at protecting groundwater contamination.

14. In addition to the use of pesticides and fertilizers, agricultural practices that potentially impact groundwater quality include the operation of confined animal feeding operations (CAFO) and fish farms. These operations are more directly regulated under the Clean Water Act NPDES point source permitting. The scope of this Comment is not intended to address these related activities or their regulation. This Comment also does not address common law remedies against parties responsible for groundwater contamination arising from pesticide or fertilizer use. For more information on this aspect see John W. Mill, *Agricultural Chemical Contamination of Groundwater: An Economic Analysis of Alternative Liability Rules*, 1991 U. ILL. L. REV. 1135.

15. The terms "fertilizers" and "pesticides" are collectively referred to as "Agriculture Chemicals" throughout this Comment. A fertilizer is any of a number of natural and synthetic materials, including manure, nitrogen, phosphorous and potassium compounds spread on or worked into the ground to increase its fertility. THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE (2nd ed. 1980). A pesticide is defined as: "(1) any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, and (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant . . . ." Federal Insecticide, Fungicide, and Rodencide Act, 7 U.S.C. §136(u) (1988 & Supp. IV 1992). A pest is "(1) any insect, rodent, nematode, fungus, weed, or (2) any other form of terrestrial or aquatic plant or animal life or

agricultural chemicals to the cropland, the potential contamination of the groundwater arising from these customary activities, and the changing world of groundwater quality regulation are of critical importance to the agricultural community, as well as to those who depend on groundwater for their drinking water. The tension between agriculture and groundwater withdrawal for drinking water will increase as the population of the United States and Idaho continues to increase, the demands on groundwater heightens, and the extent of groundwater contamination is studied and quantified.

A. Water Use in Idaho

Water is the most critical natural resource in Idaho. The vast systems for artificial diversion of water in place are the foundation of Idaho's agricultural economy and ultimately the economy of much of the entire state.[16] Statistics indicate that Idaho is among the heaviest users of water when compared to other western states. Idaho uses 22.3 billion gallons of water per day.[17] Only California

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virus, bacteria, or other micro-organism . . . which the Administrator declares to be a pest . . . ." *Id.* § 136(t). Pesticides can be broken down into the following categories: herbicide (to kill weeds), insecticide (to kill insects), fungicide (to kill fungi that cause plant disease), rodenticide (to kill rodents) and miticide (to kill mites). T. D. STIEBER & ROBERT L. MAHLER, UNIVERSITY OF IDAHO, BROCHURE WQ-19, CROPPING PRACTICES SURVEY, PESTICIDE RESULTS, IDAHO SNAKE-PAYETTE RIVERS USDA WATER QUALITY PROJECT 1991-1993 [4] [hereinafter CROPPING PRACTICES SURVEY].

16. The Idaho Supreme Court has long noted that water is a resource which is the foundation of much of Idaho's economic well being. In Kunz v. Utah Power & Light Co., 117 Idaho 901, 792 P.2d 926 (1990), the Idaho Supreme Court stated: "Idaho's extensive agricultural economy would not exist but for the vast systems of irrigation canals and ditches which artificially deliver stored or naturally flowing water from Idaho's rivers and streams into abundant fields of growing crops . . . . This Court has long been cognizant of the crucial role which artificial water systems serve in this state." *Id.* at 904, 792 P.2d at 929. In Miles v. Idaho Power Co., 116 Idaho 635, 778 P.2d 757 (1989), the Idaho Supreme Court wrote "[t]he water of this arid state is an important resource. Not only farmers, but industry and residential users depend on it. Facilitating the settlement of competing claims to our scarce supply of water is an important governmental objective." *Id.* at 645-46, 778 P.2d at 767-68. The same can also be said of claims of water quality as well as water supply, because the quality affects the amount available for beneficial uses. The Idaho Supreme Court in another context has noted that conflicting claims to water use on the Snake River "are of large significance to the majority of the people of the state." Idaho Power Co. v. State, 104 Idaho 575, 578, 661 P.2d 741, 744 (1983).

17. ROBERT L. MAHLER & MARK M. VAN STEETER, UNIVERSITY OF IDAHO, CURRENT INFORMATION SERIES NO. 887, QUALITY WATER FOR IDAHO: IDAHO'S WATER RESOURCE 1 (1991) [hereinafter IDAHO'S WATER RESOURCE]. Water use in

uses more water.[18] On a per capita basis, Idaho leads the nation with consumption of 22,000 gallons per day per person.[19] In comparison, the average daily use in the United States is 1,408 gallons per person.[20]

Agriculture is the primary use of water in Idaho. Indeed, 97% of all water used in Idaho, 21.6 billion gallons per day, is applied for agricultural purposes.[21] Again, Idaho comes in second only to California when water withdrawals for agriculture in the United States is considered.[22] While California accounts for 22.3% of the agricultural water withdrawal in the United States, Idaho accounts for 15.3%.[23] The next closest state is Colorado at 8.9%.[24] Agriculture constitutes Idaho's largest industry.[25] In addition to the world renowned potatoes, Idaho farmers produce onions, sugarbeets, hops, corn, mint, beans, alfalfa, grains, seed crops and a host of other products.[26] In 1986, 24,000 farms produced $354 million in income in Idaho.[27] Maintaining this agricultural economy is of major importance to Idaho in particular and to the country as a whole.

Domestic and commercial use of water in Idaho also exceeds the national average.[28] On a per capita basis, the United States average is 147 gallons per person per day.[29] Idahoans, however, use an average of 311 gallons per person per day.[30] In contrast, Wyoming consumes 259 gallons per person per day.[31]

Idaho is divided among the following uses: agriculture, hydropower, forestry, mining, fish and wildlife, industry, recreation and population/domestic uses. *Id.* Consumptive uses are typically considered as agricultural, industrial and mining, and domestic and commercial uses.

18. *Id.*
19. *Id.*
20. *Id.*
21. *Id.* Domestic and commercial uses account for 1%; and industry and mining uses account for 2%. *Id.* Included in the figure for agriculture use is that water used for aquaculture or fish farms, a substantial industry in Idaho. *Id.* The water quality issues facing Idaho's aquaculture industry, particularly those affecting the middle Snake River, are beyond the scope of this Comment.
22. *Id.*
23. *Id.*
24. *Id.*
25. TIM PALMER, SNAKE RIVER: WINDOW TO THE WEST 91 (1991).
26. *See* CROPPING PRACTICES SURVEY, *supra* note 15, at [5].
27. PALMER, *supra* note 25, at 91.
28. IDAHO'S WATER RESOURCE, *supra* note 17, at 3.
29. IDAHO'S WATER RESOURCE, *supra* note 17, at 3.
30. IDAHO'S WATER RESOURCE, *supra* note 17, at 3.
31. IDAHO'S WATER RESOURCE, *supra* note 17, at 3.

In the United States, groundwater provides 96% of the nation's water supply.[32] Fifty percent of the domestic water used in the United States is derived from groundwater.[33] In contrast, 90% of Idaho's population obtains their drinking water from groundwater.[34] The percentage is even greater along the Snake River Plain, where groundwater provides 99% of the population's drinking water.[35] The amount of groundwater used for drinking water is projected to increase with population increases and in those areas where surface water becomes more contaminated.[36] Maintaining groundwater quality is, consequently, of considerable importance.

B. Groundwater Resources in Idaho and the Hydrology of Contamination[37]

Groundwater is, quite simply, water located beneath the surface of the ground in areas known as aquifers.[38] An aquifer is "any body of porous saturated material, such as rock, sand, gravel, etc., capable of transmitting groundwater and yielding economically significant quantities of water to wells and springs."[39]

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32. PALMER, *supra* note 25, at 118-19.

33. PALMER, *supra* note 25, at 118-19.

34. 1991 DEQ & IDWR, IDHW, ANN. GROUND WATER CONTAMINATION REPORT, at 5 (1992) [hereinafter ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991].

35. PALMER, *supra* note 25, at 121. The Snake River Plain is also home to a significant portion of Idaho's agriculture. This can create a serious potential conflict between individuals who obtain their water supply from groundwater and agricultural interests in this area.

36. *See* ROBERT W. CLEARY, *Introduction to Groundwater Hydrology, in* GROUNDWATER POLLUTION: ENVIRONMENTAL AND LEGAL PROBLEMS 11 (Curtis C. Travis & Elizabeth L. Etnier eds., 1984).

37. For a comprehensive explanation of groundwater hydrology see CLEARY, *supra* note 36, at 11. Another general discussion of groundwater hydrology which briefly summarizes the evolution of the scientific community's understanding of groundwater hydrology and the struggles of the legal community to place this knowledge within the framework of water law is found in WATERS AND WATER RIGHTS Ch. 18 (Robert E. Beck, ed., 1991); *see also* GROUND WATER CONTAMINATION, INTERNATIONAL ASSOCIATION OF HYDROLOGICAL SCIENCES, PUBLICATION NO. 185 (Linda M. Abriola, ed., 1989).

38. The term "aquifer" is defined by the Idaho Department of Water Resources (IDWR) to mean "any geologic formation that will yield water to a well in sufficient quantities to make the production of water from this formation feasible for beneficial use." IDAPA § 37.03.09.010.03. In its regulation of injection wells IDWR adds the following qualifier to this definition, "except when the water in such formation results solely from fluids deposited through an injection well." IDAPA § 37.03.03.010.03.

39. IDAHO DEPARTMENT OF WATER RESOURCES, IDAHO'S STATEWIDE GROUND

Aquifers are classified in a variety of manners. Initially, aquifers are classified as either confined or unconfined.[40] A confined aquifer consists of an impenetrable material which acts as a barrier to water seeping into the aquifer from the surface.[41] As a result, recharge of confined aquifers may occur, if at all, in specific locations.[42] In contrast, unconfined aquifers have no such barriers.[43] They are recharged throughout their range by the infiltration of surface water.[44] The water table defines their upper levels.[45]

In Idaho there are three primary types of aquifers;[46] valley-fill aquifers, basalt aquifers, and sedimentary and volcanic aquifers.[47] There may be several layers of different aquifers in the same area.[48] For example, a perched aquifer[49] may occur over a larger, more critical aquifer.

Valley-filled aquifers, also referred to as unconsolidated alluvium, are unconfined aquifers consisting of unconsolidated sediments that are deposited across the valley floor.[50] Typically, they occur in the more mountainous portions of the state.[51] Valley filled aquifers are recharged from leaching of surface water.[52] Agricultural lands are consequently a source of recharge for these aquifers.

The second type of aquifer, a basalt aquifer, is characterized by numerous basalt flows and thin interbeds of sediments and/or

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WATER QUALITY MONITORING PROGRAM — THE FIRST SIX MONTHS AND BEYOND 20 (1991) [hereinafter MONITORING PROGRAM].

40. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 14; *see also* VERONICA I. PYE, GROUNDWATER CONTAMINATION IN THE UNITED STATES 2 (1983).

41. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 14.

42. PYE, *supra* note 40, at 2.

43. *Id.*; *see also* MARK M. VAN STEETER ET AL., UNIVERSITY OF IDAHO, CURRENT INFORMATION SERIES NO. 900, QUALITY WATER FOR IDAHO: GROUND WATER IN IDAHO 3 (1991).

44. PYE, *supra* note 40, at 2.

45. *See* IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 17.

46. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 17.

47. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 17.

48. *See* CLEARY, *supra* note 36, at 17.

49. A perched water table is a confined aquifer which occurs when semi-pervious or impervious material of limited extent occurs between the surface and the primary water table. *See* CLEARY, *supra* note 36, at 17. Contamination of a perched aquifer may not impact the lower principal aquifer unless there is a connection, typically a well, created between the two.

50. CLEARY, *supra* note 36, at 117.

51. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 17.

52. CLEARY, *supra* note 36, at 117.

pyroplastic volcanic rock.[53] Basalt aquifers in Idaho are divided into three subcategories: Columbia River Basalt, Snake River Basalt, and Banbury Basalt.[54] The Snake River Plain aquifer, made up of Snake River Basalt, is the largest in Idaho.[55] This aquifer is also the primary area within the state where drinking water is obtained from groundwater.[56]

Sedimentary and volcanic aquifers, the third common type of aquifer in Idaho, "consist of unconsolidated sediments with basalt and rhyolitic rocks and interbedded shale and sandstone."[57] Basalt aquifers and sedimentary and volcanic aquifers can be either confined or unconfined.[58] Recharge of these aquifers can also arise from any number of surface water sources including water applied to agricultural lands.[59]

A number of potential sources of groundwater contamination arise from agricultural practices.[60] These include accidental spills incidental to storage and handling of the agricultural chemicals.[61] Injection wells used to discharge irrigation waste water may also be a potential source of contamination.[62] Similarly, land application of waste water containing agricultural chemicals has the potential to result in the leaching of the agricultural chemicals into groundwater.[63]

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53. CLEARY, *supra* note 36, at 117.

54. MONITORING PROGRAM, *supra* note 39, at 8.

55. For a more detailed study of the groundwater of the Snake River Plain, see HAROLD T. STEARNS ET AL., U.S. DEP'T OF THE INTERIOR, GEOLOGY AND GROUNDWATER RESOURCES OF THE SNAKE RIVER PLAIN IN SOUTHEASTERN IDAHO, WATER-SUPPLY PAPER 774 (1938).

56. *See* PALMER, *supra* note 25, at 121.

57. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 17.

58. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 17.

59. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 17.

60. *See* IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at app. B, tbl. 1; MARK M. VAN STEETER ET AL., UNIVERSITY OF IDAHO, CURRENT INFORMATION SERIES NO. 900, QUALITY WATER FOR IDAHO: GROUNDWATER IN IDAHO 4 (1991) [hereinafter GROUNDWATER IN IDAHO].

61. *See* IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at app. B, tbl. 1.

62. *See* IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at app. B, tbl. 1. In many areas farmers may channel irrigation waste water directly into injection wells. As a result, the waste water may discharge directly into the aquifer. If this waste water is contaminated with agricultural chemicals or their residue it may directly impair the aquifer's quality. Injection wells are regulated by Idaho Department of Water Resources. *See* IDAPA §§ 37.03.03.000-.999.

63. *See* IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at app. B, tbl. 1. Land application of waste water is regulated by the Division of Environmental Quality, Idaho Department of Health and Welfare. *See* IDAPA §§ 16.01.17.000-.999.

Another source of contamination, and the focus of this Comment, is more problematic. This source of contamination arises from the normal application of agricultural chemicals to the crop.[64] After being applied to the fields many of these agricultural chemicals have the potential to leach into the groundwater. Various factors combine to determine whether an agricultural chemical will reach groundwater. These factors include the specific chemical's properties, such as persistence[65] and mobility, soil properties of the site including permeability and organic matter content, farm management, method and frequency of application and other site characteristics including amount and timing of rainfall and irrigation and depth of groundwater.[66] Leaching or infiltration of surface water into groundwater occurs when more water than the crop can utilize is applied to the land.[67] Also important is whether the aquifer is confined or unconfined and susceptible to leaching in the first place. If the correct combination of site specific factors are available, water applied to the surface which infiltrates the groundwater can contaminate groundwater with agricultural chemicals.[68]

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64. *See* IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at app. B, tbl. 1.

65. A persistent agricultural chemical is one that has a half life of greater than 100 days. Generally, if the agricultural chemical has a half life of less than 30 days it will not persist long enough to enter into the groundwater. As the half life of the chemical increases, so to does the potential for groundwater contamination. Specific site conditions, as always, impact any consideration of or potential for groundwater contamination. *See* PESTICIDES AND THEIR MOVEMENT, *supra* note 1, at 1.

66. *See* IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at app. B, tbl. 2. Included with this publication is a chart published by the USDA Soil Conservation Service of agricultural chemicals and their relative leachability and relative runoff potential. The chart also indicates which chemicals have been detected in groundwater in the United States.

67. Flood irrigation is a primary cause when too much water is applied to the land. *See* DIVISION OF ENVIRONMENTAL QUALITY, IDAHO DEPARTMENT OF HEALTH & WELFARE & SOIL CONSERVATION COMMISSION, IDAHO DEPARTMENT OF LANDS, IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, at VIIa-3 (1993) [hereinafter IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN]. In Idaho, flood irrigation is practiced on 1.3 million acres. IDAHO'S WATER RESOURCE, *supra* note 17, at 3. Leaching also occurs when fields are irrigated by other irrigation methods. Moreover, the problem is not limited to irrigated lands. Leaching also occurs on land which relies on natural rainfall for its water.

68. *See* PESTICIDES AND THEIR MOVEMENT, *supra* note 1, at [5]. As discussed in greater detail, *infra* part III, this site specific nature of the problem is being recognized by state and federal regulatory responses.

C. The Use of Agricultural Chemicals and Extent of Groundwater Contamination from Agricultural Chemicals in Idaho

Prior to 1980 it was generally believed that most agricultural chemicals degraded rapidly thus posing no risk to groundwater.[69] Discovery of dibromochlorophane (DBCP) and aldicarb (Temik) in California and New York groundwater in 1979 radically changed this belief.[70] Additional discoveries of DBCP and Temik as well as other pesticides in the groundwater in other states led the government agencies and the industry to rethink their prior positions.[71] It is now believed that certain agricultural chemicals do not rapidly degrade in the soil but have the potential to leach into and contaminate groundwater.[72] Because of the toxic nature of these chemicals, contaminated groundwater may pose a significant health risk when used as drinking water.[73]

There are over four million irrigated acres in Idaho,[74] representing 7.2% of the land in Idaho.[75] In addition to irrigated land, there are three million acres of agricultural land that are not irrigated.[76] There are also numerous acres of federal land managed

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69. *See generally* A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES 2-7 to 2-8 (1993).

70. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 2. DBCP and the pesticide Ethylene dibromide (EDB) also detected in groundwater were suspended by the EPA in 1979 and 1983, respectively, because of concern arising from contamination of drinking water. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 2.

71. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 2.

72. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 2. Eight pesticides which have the potential to leach into and contaminate groundwater have been identified. 56 Fed. Reg. 1470, 1472 (1991). The notice also identifies four pesticides that are most frequently detected in drinking water wells. *Id.* These four pesticides are Bentazon, DCPA, Parathion degradation product (4-N,trophenol) and Prometon. *Id.*

73. The fact that groundwater is commonly used as drinking water (99%) within the Snake River Plain agricultural area enhances the potential for a health risk from contaminated drinking water in this area. *See* PALMER, *supra* note 25, at 121.

74. PALMER, *supra* note 25, at 90; *see also* IDAHO'S WATER RESOURCE, *supra* note 17, at 1.

75. PALMER, *supra* note 25, at 90.

76. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIIa-1. The actual amount of agricultural land in Idaho is not well defined. IDAHO'S WATER RESOURCE, *supra* note 17, at 4, indicates that the total amount of agricultural land is 13 million acres. In contrast the IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIIa-1, indicates that there are

by the United States Forest Service (USFS) and the Bureau of Land Management (BLM) where agricultural chemicals maybe applied.[77] The potential for groundwater contamination from agricultural sources is consequently significant.

There is no clear understanding of the amount of agricultural chemicals applied to Idaho lands.[78] However, studies in various areas of Idaho indicate that the use of agricultural chemicals is considerable. One study that surveyed pesticide use found that, depending on the crop, two to twelve applications of various pesticides are applied throughout the growing year.[79] The general

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3,033,000 acres of nonirrigated cropland and 3.5 million acres of irrigated cropland. Finally, Tim Palmer asserts that Idaho farm land totals 6.5 million acres. PALMER *supra* note 25, at 90. Typically, the amount of land put to agricultural use any given year may be different. Furthermore, as the population increases more agricultural land is subdivided and developed, typically as residential subdivisions which can also be the source of substantial contamination arising from pesticide use.

77. For example, 63% of the 26.7 million acres of grazed lands in Idaho are controlled by the federal government. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIIc-1. Pesticides to control rangeland pests and herbicides to control noxious weds are used on both BLM and USFS lands. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIIc-1. *See generally* Northwest Coalition for Alternatives to Pesticides v. Lyng, 844 F.2d 588 (9th Cir. 1988) (involving use of herbicides on BLM administered land in Oregon). The issue of chemical use on public lands involves additional federal statutory considerations, including the National Environmental Policy Act of 1969, §§ 101-209, 42 U.S.C. §§ 4321-70(a) (1988 & Supp. IV. 1992), which is beyond the scope of this Comment.

78. IDAHO DEPARTMENT OF HEALTH AND WELFARE, DIVISION OF ENVIRONMENTAL QUALITY, 1992 IDAHO WATER QUALITY STATUS REPORT 40 (1992) [hereinafter WATER QUALITY STATUS REPORT]; PALMER, *supra* note 25, at 121.

79. CROPPING PRACTICES SURVEY, *supra* note 15, at 5. This data arose from the Idaho Snake-Payette Rivers Water Quality Project, a five year program funded by the United States Dep't of Agriculture Soil Conservation Service. CROPPING PRACTICES SURVEY, *supra* note 15, at 2. The USDA Soil Conservation Service financed and assisted in 74 studies including two in Idaho. The program studies irrigation, nutrient and pesticide management to determine in part the impact of pesticide use on groundwater quality. The purpose of the program is to develop Best Management Practices technology to protect and enhance water quality while securing the profitability of farming. In the Snake-Payette Hydrological Unit Area which includes parts of Washington, Payette, Gem and Canyon Counties, pesticide use on 11 of more than 50 crops were surveyed. CROPPING PRACTICES SURVEY, *supra* note 15, at 2-3. Focus on the Snake and Payette River Hydrological Area is critical because of the extensive use of groundwater for domestic needs and because this area is vulnerable to contamination from agricultural chemical use due to the shallow depth of the groundwater and the intensity of irrigation and agricultural chemical use. *See also* WATER QUALITY STATUS REPORT, *supra* note 78, at 40, which estimated the use of pesticides on various crops based on the acreage

conclusion of this study is that pesticide use within Idaho is intensive.[80]

Intensive use of agricultural chemicals creates a potential for groundwater contamination, particularly in areas where there is a shallow aquifer. Historically, little groundwater monitoring has been done in Idaho for agricultural chemicals.[81] This has left the regulators with a lack of information regarding groundwater contamination from agricultural sources.[82] Federal and state agencies are now working to gather the necessary information concerning the potential for an agricultural chemical to contaminate groundwater.[83] It was not until the spring of 1984 that the EPA first requested manufacturers of pesticides to provide it with information regarding the potential for the pesticide to create a groundwater contamination problem.[84] The chemical manufacturers however face the same dilemma as the EPA — lack of reliable information.

In 1988 the EPA published an Interim Ground-Water Data Base Report which evaluated 150 different monitoring studies from around the United States.[85] This compilation found that forty-six different pesticides whose origin could be attributed to normal field application have contaminated groundwater. In a subsequent study the EPA sampled and analyzed 1349 drinking water wells throughout the United States for pesticide and nitrate contamination.[86] The result of these surveys indicated that pesticide contamination at a level at or above the Maximum Contaminant Level (MCL)[87] or other

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harvested per crop and the representative pesticide application rate per crop.

80. CROPPING PRACTICES SURVEY, *supra* note 15, at 8. The authors are aware of no comprehensive study concerning residential use of pesticides and other "agricultural chemicals" in Idaho. The Idaho Department of Health and Welfare, Division of Environmental Quality engaged in limited urban pesticides use studies in 1991 in the City of Boise. WATER QUALITY STATUS REPORT, *supra* note 78, at 31. No pesticides were detected in this one time sampling event. WATER QUALITY STATUS REPORT, *supra* note 78, at 31. Nevertheless, regulation of private homeowners and commercial users, like golf courses, beyond labeling restrictions may be the next frontier of environmental regulation after the focus shifts from typical agricultural use of these chemicals.

81. Letter from Janet K. Crockett, Senior Groundwater Quality Analyst, Idaho Department of Water Resources, to Richard Burleigh, Hawley Troxell Ennis & Hawley (August 26, 1993) (on file with author) [hereinafter Crockett letter].

82. *Id.*

83. *Id; see also* 56 Fed. Reg. 1470 (1991); EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 3.

84. HOLDEN, *supra* note 2, at 6.

85. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 2.

86. 56 Fed. Reg. 1472 (1991); EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 2.

87. MCLs are established by the EPA under the Safe Drinking Water Act

available reference points,[88] and thereby posing a health risk, is relatively rare.[89] Unfortunately, incomplete information creates uncertainty whether and to what extent agricultural chemical contamination of groundwater threatens human health. It is clear, however, that it is possible for agricultural chemicals to contaminate groundwater.[90] Further, this contamination can result from traditional methods of ordinary application of at least some agricultural chemicals.[91]

Agricultural chemicals have been detected in rural well water samples in the monitoring tests conducted in Idaho.[92] For example, breakdown products of the herbicides Dacthal, 2,4-D and metribuzin and the insecticide Diazinon have been detected in a study area, which includes 840,000 acres in Canyon, Gem, Payette and Washington Counties.[93] Pesticide levels over the MCLs are rare, but more recent studies are still being analyzed.[94]

Nitrates, common components of fertilizers, have been found in concentrations in some Idaho groundwater studies thirty times that of surface water,[95] and in excess of drinking water standards.[96]

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and are the applicable levels for determining safe drinking water standards. 42 U.S.C. § 300g-1; *see also* 40 C.F.R. § 141.2, §§ 141.11 to .16, 141.5 to .63 (1993). *See infra* part III.C. for an additional discussion on MCLs.

88. The EPA identified various indicators or reference points for determining when a groundwater source is adversely impacted by a contaminate. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 16-20. The primary reason for identifying reference points in addition to MCLs is that MCLs have not been established for numerous agricultural chemicals. By looking to indicators other than MCLs it may be possible to protect the groundwater, and consequently human health, from additional risks. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 16. Care must be taken in assuming these reference points represent health risks, as they have not been formally established as MCLs.

89. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 3.

90. 56 Fed. Reg. 1472 (1991).

91. PESTICIDES AND THEIR MOVEMENT, *supra* note 1, at [1]-[2].

92. CROPPING PRACTICES SURVEY, *supra* note 15, at 2-3.

93. CROPPING PRACTICES SURVEY, *supra* note 15, at 2. This area is referred to as the Snake-Payette Hydrological Unit Water Quality Project. Surveys in this area were intended to determine the amount of pesticides used, best management practices (BMPs) that could be employed and to create interaction between industry and agency personnel with regard to pesticide distribution and management. WATER QUALITY UPDATE, *supra* note 13, at 5.

94. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 8; Crockett letter, *supra* note 81. The data obtained during 1992 and 1993 groundwater quality studies has not been fully analyzed or published.

95. PALMER, *supra* note 25, at 122.

96. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 6. Wells which contained greater than 2 ppm of nitrates are probably impacted by human activity. These elevated nitrate levels most likely arise from

Nitrate studies were conducted by both State agencies and private parties. While nitrates are not particularly dangerous to adults and older children unless ingested at levels substantially higher than the MCLs, ingestion of nitrate at levels greater than 10 mg/L, the established MCL for nitrates,[97] by infants younger than six months can be fatal.[98]

Moreover, the presence of nitrates in water can also indicate the presence of other mobile pesticides in the water.[99] Hence, establishing the presence of nitrates can provide significant information on which to base groundwater control efforts.

A private wellhead survey program, coordinated by the Idaho Farm Bureau, suggests that nitrate contamination of Idaho groundwater is not critical.[100] The survey was conducted from 1990 to 1992 in fourteen counties in Idaho.[101] The purpose of the survey was to determine the level of nitrates in drinking water wells.[102]

The survey results indicated that 6% of all the wells tested exhibited nitrate levels in excess of the MCL.[103] The greatest number of contaminated wells were found in southwestern Idaho, where 7% of the 1117 samples exceeded drinking water standards.[104] In contrast, less than 3% of the wells in northern Idaho and 4% of the wells in south central and southeastern Idaho found nitrate levels exceeding the drinking water MCLs.[105] This

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the use of nitrogen fertilizers, both natural and manmade. Other sources include animal waste, septic systems and plant residue. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 6.

97. 40 C.F.R. § 141.11(a)-(b) (1992).

98. ROBERT L. MAHLER ET AL., UNIVERSITY OF IDAHO, CURRENT INFORMATION SERIES NO. 986, QUALITY WATER FOR IDAHO: IDAHO WELLHEAD SURVEY FOR NITRATES 1990 to 1992 (1993) [hereinafter IDAHO WELLHEAD SURVEY FOR NITRATES]; *see also* ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 6.

99. IDAHO WELLHEAD SURVEY FOR NITRATES, *supra* note 98, at [2].

100. IDAHO WELLHEAD SURVEY FOR NITRATES, *supra* note 98, at [1]-[2].

101. IDAHO WELLHEAD SURVEY FOR NITRATES, *supra* note 98, at [1]. The counties which participated in the study were Cassia, Minidoka, Jerome, Canyon, Gem, Payette, Ada, Twin Falls, Latah, Benewah, Bonner, Bonneville, Elmore and Owyhee. The counties were selected based on locations of the highest risk in the state. IDAHO WELLHEAD SURVEY FOR NITRATES, *supra* note 98, at [1].

102. IDAHO WELLHEAD SURVEY FOR NITRATES, *supra* note 98, at [1].

103. IDAHO WELLHEAD SURVEY FOR NITRATES, *supra* note 98, at [2]-[3]; *see also* COLLEGE OF AGRICULTURE, UNIVERSITY OF IDAHO, VOL. 3, NO. 6, WATER QUALITY UPDATE 1 (1993) [hereinafter WATER QUALITY UPDATE].

104. IDAHO WELLHEAD SURVEY FOR NITRATES, *supra* note 98, at [3].

105. WATER QUALITY UPDATE, *supra* note 103, at [2].

figure is slightly higher than the nation average of only 2.7% of rural wells exceeding the drinking water standard for nitrate.[106]

Similar results were reported by the Idaho Department of Water Resources (IDWR) Statewide Groundwater Quality Monitoring Program in 1992.[107] However, the IDWR study concluded that the maximum nitrate concentrations found in 1992 were higher than those detected in previous years.[108] Indeed, the maximum level detected in 1992 was five times greater than the previous year's maximum level.[109] Although only twelve of the 385 sites sampled by IDWR exceeded the MCL for nitrate, the overall trend demonstrated an increase in nitrate contamination.[110]

As part of the same study, 400 wells were also tested for pesticide contamination.[111] IDWR employed an immunoassay analysis, an enzyme specific technique,[112] to sample well water for three distinct families of pesticides: traizines, carbamates and 2,4-D.[113] Three other pesticide compounds[114] were included in tests for groundwater contamination by volatile organic compounds (VOCs).[115] These families of pesticides were chosen because the

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106. ROBERT L. MAHLER ET AL., UNIVERSITY OF IDAHO, CURRENT INFORMATION SERIES NO. 872, QUALITY WATER FOR IDAHO: NITRATE AND GROUNDWATER [2] (1991) [hereinafter NITRATE AND GROUNDWATER].

107. IDAHO DEPARTMENT OF WATER RESOURCES, NO. 3, IDAHO'S GROUNDWATER NEWSLETTER 2 (1993) [hereinafter GROUNDWATER NEWSLETTER]; *see* Crockett letter, *supra* note 81, at 1.

108. GROUNDWATER NEWSLETTER, *supra* note 107, at 2.

109. GROUNDWATER NEWSLETTER, *supra* note 107, at 2.

110. GROUNDWATER NEWSLETTER, *supra* note 107, at 1-2.

111. GROUNDWATER NEWSLETTER, *supra* note 107, at 2; Crockett letter, *supra* note 81, at 1.

112. The immunoassay analysis cannot distinguish between compounds within a single family. Superior gas chromatography techniques are not used due to the expense of utilizing such a method to analyze water from the 400 wells even though a greater number of compounds could be identified. During the summer of 1993 the IDWR did utilize five different gas chromatography techniques to test for 23 different intesticides. Because of the cost, these techniques were only utilized in the Boise Valley and Twin Falls County. Result from the 1993 testing will be available in the spring of 1994. Crockett letter, *supra* note 81, at 1-2.

113. Crockett letter, *supra* note 81, at 1-2. These families of compounds primarily consist of the following: traizines = atrazine, ametryn, propazine, prometryn, prometon, simazine, terbutryn, terbutylazine, and de-ethylated atrazine; carbamates = aldicarb and aldicarb sulfone; 2,4-D = 2,4-D, 2,4-D propylene glycol ester, 2,4-D ethyl ester, 2,4-D isopropyl ester, 2,4-D methyl ester, 2,4-D butyl ester, 2,4-D sec-butyl ester and 2,4-D butoxyethyl ester. Crockett letter, *supra* note 81, at 1-2.

114. Ethylene dibromide (EDB), 1,2-dichloropropane and 1,2,3-Trichloropropane. Crockett letter, *supra* note 81, at 1-2.

115. Crockett letter, *supra* note 81, at 1-2. VOCs make up inert ingredients in

testing methods used by the IDWR permitted detection of these pesticides.[116] Detection of these particular pesticides does not, however, preclude the possibility that other agricultural chemicals may be present in the groundwater.[117]

There have been limited detections of pesticides above the MCL drinking water standards.[118] Insufficient data exists, however, to make any regional interpretations.[119] Moreover, because of the lack of historical data, IDWR is uncertain if the pesticides tested for by the immunoassay technology pose the greatest threat to Idaho's groundwater.[120]

Future testing is planned to establish the necessary background data and enable IDWR to make regional interpretation.[121] To facilitate these efforts, IDWR is completing the Environmental Data Management System (EDMS), a database intended to serve as a central repository for all groundwater data.[122] IDWR is also expanding its groundwater monitoring program and prioritizing those areas where public health may be at the greatest risk.[123] IDWR also intends to conduct more detailed analysis of the trends and changes in Idaho's groundwater supply.[124]

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pesticides. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 9. They are also found in petroleum products, solvents, degreasers and other chemicals. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 9. Three VOCs, Trichloroethylene (TCE), Perchloroethylene (Perc) and EDB, have all been detected in excess of the established MCLs in locations southeast of Pocatello. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 9. TCE detected in the Fort Hall area was detected at levels as high as 780 µg/1. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 9. The MCL for TCE is 5 µg/1. GROUNDWATER NEWSLETTER, *supra* note 107, at 2.

116. Crockett letter, *supra* note 81, at 1-2.

117. Crockett letter, *supra* note 81, at 1-2.

118. There have been detections of pesticides in the Pocatello area, *see* GROUNDWATER NEWSLETTER, *supra* note 107, at 2, Eagle area and VOCs in Garden City. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 3.

119. Crockett letter, *supra* note 81, at 1-2.

120. Crockett letter, *supra* note 81, at 1-2.

121. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 19.

122. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 19.

123. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 19.

124. ANNUAL GROUND WATER CONTAMINATION REPORT FY 1991, *supra* note 34, at 19.

III. STATUTORY AND REGULATORY SCHEME FOR CONTROLLING GROUNDWATER CONTAMINATION IN IDAHO

A complex web of statutory and regulatory provisions deals with contamination of groundwater and with regulation, registration, and application of agricultural chemicals. Moreover, numerous federal and state regulatory agencies are involved in the abatement of agricultural pollution and groundwater protection. Among these are the EPA, the United States Dep't of Agriculture Soil Conservation Service, the Idaho Division of Environmental Quality (IDEQ), the IDWR, the Idaho Department of Agriculture, the Idaho Soil Conservation Commission and the fifty-one Soil Conservation Districts as well as various university agricultural extension services.[125] The following sections examine these various federal and state regulatory approaches and roles for dealing with potential groundwater contamination arising from application of agricultural chemicals.

A. FIFRA Control Over Pesticides

The starting point when looking at the regulation of pesticides is the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).[126] FIFRA, enacted in 1947, was primarily a licensing and labeling statute with no substantive control provisions.[127] In 1972, during the heyday of emerging and evolving environmental legislation,[128] Congress enacted substantial changes to FIFRA.[129] The changes to FIFRA permitted the regulation of "the use, as well as the sale and labeling, of pesticides; regulated pesticides produced and sold in both intrastate and interstate commerce; [and] provided for review, cancellation, and suspension of registration."[130]

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125. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at V-1. The roles of the various agencies is set out in detail in the report.

126. 7 U.S.C. §§ 136-136(y) (1988 & Supp. IV 1992).

127. *See* Ruckelshaus v. Monsanto Co., 467 U.S. 986, 990-91 (1984).

128. The National Environmental Policy Act was enacted in 1969, 42 U.S.C. §§ 4321-4370d (1988 & Supp. IV. 1992); the Clean Water Act, 33 U.S.C. §§ 1251-1387 (1988 & Supp. IV. 1992), underwent major revision in 1972, the Endangered Species Act, 16 U.S.C. §§ 1531-1544 (1988 & Supp. IV. 1992), was enacted in 1973; the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6992k (1988 & Supp. IV. 1992), in 1976; and the Clean Air Act, 42 U.S.C. §§ 7401-7671q (1988 & Supp. IV. 1992), in 1973.

129. Federal Environmental Pesticide Control Act, ch. 135, § 7, 86 Stat. 973 (1972) (current version at §§ 7 U.S.C. 136-136(y) (1988 & Supp. IV. 1992)).

130. Wisconsin Public Intervenor v. Mortier, 111 S. Ct. 2476, 2479-80 (1991)

FIFRA recognizes the dangers of pesticides to human health and the environment while attempting to balance the important role pesticides play in the production of a safe, stable food supply for the United States and the world.[131] Indeed, the stated purpose of FIFRA is to provide, "for the more complete regulation of pesticides in order to provide for the protection of man and his environment and the enhancement of the beauty of the world around him."[132] This goal is accomplished by requiring registration of pesticides,[133] limiting the use of pesticides,[134] requiring that pesticides only be applied in the manner prescribed by the label[135] and by creating a nationwide system of training and certifying applicators of pesticides.[136] FIFRA expressly provides for the individual states to assist in the effort to register and control pesticide use.[137]

It is generally accepted that once groundwater is contaminated it can be extremely expensive and impractical to clean up. Consequently, the primary strategy and overall goal of the EPA is prevention of groundwater contamination.[138] While groundwater contamination by pesticides is not specifically addressed by FIFRA, nevertheless, FIFRA provides a powerful tool to limit an agricultural chemical's impact on groundwater. Under FIFRA, the EPA's best tool to implement its groundwater contamination prevention strategy is through the registration of agricultural pesticide chemical.[139] FIFRA provides that the EPA may, "to the extent necessary to prevent unreasonable adverse effects on the environment . . . by regulation limit the distribution, sale, or use in any State of any pesticide."[140] The term "unreasonable adverse affects . . . means any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide."[141] Under this authority, the EPA restricts or prohibits

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(quoting Ruckelshaus v. Monsanto Co., 467 U.S. 986, 991-92 (1984)).

131. Federal Environmental Pesticide Control Act of 1972, Pub. L. No. 92-516, 1972 U.S.C.C.A.N. (86 Stat.) 3993, 3995.

132. *Id.*

133. 7 U.S.C. § 136a (1988 & Supp. IV 1992).

134. *Id.* §136i.

135. *Id.* §136j.

136. *Id.* §136i.

137. *Id.* §§ 136u, 136v, 136w-1, 136w-2.

138. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 9.

139. 7 U.S.C. § 136a(a).

140. *Id.*

141. *Id.* § 136(bb).

the use of pesticides to the extent it determines that there is an unreasonable adverse effect arising from their use.[142]

This registration of pesticides functions on a national level.[143] Certain pesticides, however, may create more significant problems in particularly sensitive areas while causing little or no groundwater impairment in others.[144] These localized problems are not particularly conducive to national labeling and restricted use requirements.[145] Nor is outright cancellation of a pesticide justified when it can be safely used in some areas.[146]

Under FIFRA, the EPA plans to implement this localized control of agricultural chemicals through the State Management Plan (SMP).[147] The EPA interprets its authority under FIFRA[148] to include the ability to require individual States to respond to the potential threat of specific pesticides.[149] Under this authority, the EPA intends to identify specific pesticides which pose a serious potential to injure groundwater.[150] The continued use of the pesticide in a given state will then be dependent on the state's promulgation of a pesticide—specific SMP.[151] Five such pesticides are scheduled for identification in 1994.[152]

Once the EPA determines that registration of a given pesticide requires a SMP, the pesticide may not be distributed in a given state until the SMP is approved by the EPA.[153] The effect of the failure of a state to promulgate an SMP is cancellation of the pesticide registration in that specific state.[154] Moreover, requirements under

142. *Id.* § 136a(a).

143. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 28-31.

144. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 28-31.

145. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 28-31.

146. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 28-31.

147. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 28-31.

148. 7 U.S.C. § 136a(d)(1)(C). At least one comment suggests that the EPA lacks the authority to require SMPs under FIFRA. Cynthia A. Lewis & J. Daniel Barry, *EPA's Pesticides in Groundwater Strategy: Will it Work,* NATURAL RESOURCES & ENVIRONMENT, Vol. 4 No. 1 (Spring 1989).

149. *See* EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 32.

150. *See* EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 32.

151. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 32.

152. Telephone Interview with Garrett Wright, Ground Water Specialist, EPA Region X (Mar. 24, 1994) (additional information on file with authors). This information was obtained from EPA Region X in Seattle through telephone conferences with the authors. At this time the EPA has not divulged the identity of the five pesticides, and does not expect to do so until the latter half of 1994.

153. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 30.

154. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 32.

an SMP are the same as any other restrictions.[155] Consequently, failure to comply with the SMP will be treated by the EPA as failure to comply with any other labeling requirement.[156]

The SMP is intended to focus on vulnerable areas in the state and permits the state to use an array of management tools to control specific problems including prohibition of the use of the pesticide.[157] SMPs enable the states to apply their specific knowledge to potential local problems created by a given pesticide.[158] The use of state expertise is one of the predominant keys to the EPA's pesticide and groundwater strategy. Indeed, the EPA considers the primary responsibility for groundwater protection to lie with the individual state.[159] Consequently, Idaho regulators can determine if a pesticide should be subject to specific restrictions for its use in southern Idaho, whereas, there would be no similar restrictions for use of the pesticide in northern Idaho.[160] Requiring the states to control the use of selected pesticides through SMPs permits the EPA to avoid national cancellation of a pesticide.[161]

The EPA also encourages the state to draft and implement generic SMPs.[162] Mandatory SMPs are pesticide specific.[163] Generic SMPs on the other hand are voluntarily implemented by the given state.[164] The intent of the generic SMP is to provide the state with a starting point for subsequent pesticide specific SMPs and a head start on the regulation of potential groundwater contaminates.[165]

Some commentators suggest that the EPA is exceeding its authority in requiring SMPs.[166] However, the states do not need to

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155. *See* EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 32.

156. Section 136j(a)(2)(G) provides that it is unlawful for any person "to use any registered pesticides in a manner inconsistent with its labeling." 7 U.S.C. § 136j(a)(2)(G).

157. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 32.

158. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 32.

159. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 14.

160. Cynthia A. Lewis & J. Daniel Barry, *EPA's Pesticides in Groundwater Strategy: Will it Work*, NATURAL RESOURCES & ENVIRONMENT, Vol. 4 No. 1 (Spring 1989). This article indicates that areas in southern Idaho incur greater detections of contamination . The SMP could be used to address these site specific problems.

161. EPA PESTICIDES AND GROUNDWATER STRATEGY, *supra* note 2, at 32.

162. EPA PESTICIDES AND GROUNDWATER STRATEGY, *supra* note 2, at 41.

163. EPA PESTICIDES AND GROUNDWATER STRATEGY, *supra* note 2, at 31.

164. EPA PESTICIDES AND GROUNDWATER STRATEGY, *supra* note 2, at 41.

165. EPA PESTICIDES AND GROUNDWATER STRATEGY, *supra* note 2, at 41.

166. Cynthia A. Lewis & J. Daniel Barry, *EPA's Pesticides in Groundwater Strategy: Will it Work*, NATURAL RESOURCES & ENVIRONMENT, Vol. 4 No. 1 (Spring 1989).

wait for the EPA's lead. FIFRA is not the exclusive source of potential regulation of the use of agricultural chemicals. The United States Supreme Court ruled, in *Wisconsin Public Intervenor v. Mortier*,[167] that local governments as well as state governments may regulate pesticide use.[168] *Mortier* addressed the question of whether FIFRA preempted the right to regulate use of pesticides on the local level.[169] This issue was brought to the Supreme Court's attention after the town of Casey, Wisconsin adopted a local ordinance requiring a permit for certain applications of pesticides on private land.[170] Mortier had sought a permit to spray a portion of his land. Casey declined to issue the required permit and prohibited Mortier from applying the pesticides to his property.[171] Mortier challenged the ordinance arguing that FIFRA preempted local governments from enacting any ordinances that limited or prohibited the application of a licensed pesticide.[172] The Wisconsin Supreme Court agreed with Mortier and, relying primarily on the legislative history of FIFRA, held that FIFRA preempted Casey's regulation of pesticides use.[173] This decision conflicted with other decisions concluding that FIFRA did not preempt local control over pesticide application.[174] The United States Supreme Court therefore granted certiorari.[175]

After a review of the statutory language the Supreme Court concluded that nothing in FIFRA precluded local governments from regulating the use of pesticides.[176] Indeed, the Supreme Court found statute was silent on this point.[177] The Wisconsin Supreme Court had also concluded that the statute itself did not demonstrate a clear intent to deprive local governments of authority to regulate pesticide

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167. 111 S. Ct. 2476 (1991).

168. *Id.* at 2487.

169. *Id.*

170. *Id.* at 2481.

171. *Id.*

172. *Id.*

173. Mortier v. Casey, 452 N.W.2d 555, 560 (1990); *see also* Professional Lawn Care Assoc. v. Milford, 909 F.2d 929, 934 (6th Cir. 1990) (holding that FIFRA preempts local control); Maryland Pest Control Assoc. v. Montgomery County, 646 F. Supp. 109, 113 (D. Md. 1986), *aff'd*, 822 F.2d 55 (4th Cir. 1987).

174. *Mortier*, 111 S. Ct. at 2481. The following cases held that FIFRA does not preempt local control, see Central Me. Power Co. v. Town of Lebanon, 571 A.2d 1189, 1193 (Me. 1990); Town of Wendell v. Attorney General, 476 N.E.2d 585, 590 (Mass. 1985); People ex rel. Deukmejian v. County of Mendocino, 683 P.2d 1150, 1157 (Cal. 1984).

175. 111 S. Ct. 750 (1991).

176. *Mortier*, 111 S. Ct. at 2483.

177. *Id.*

use.[178] However, relying on FIFRA's legislative history the state court found that Congress intended to preempt local control over pesticides.[179] The United States Supreme Court examined FIFRA's legislative history and reached the opposite conclusion.[180] The Supreme Court found that the two primary Committees responsible for FIFRA revision had diametrically opposed opinions regarding local authority to regulate pesticide use.[181] The Senate Committee on Agriculture and Forestry came down squarely on the side of preemption.[182] Counterbalancing this view was the Senate Commerce Committee's conclusion that, "[m]any local governments now regulate pesticides to meet their own specific needs which they are often better able to perceive than are State and Federal regulators."[183] In the absence of clear statutory language, these competing committee views essentially canceled each other out.[184] The Supreme Court concluded that, "FIFRA implies a regulatory partnership between federal, state *and* local governments."[185] Consequently, nothing in the Act prohibits the use of local ordinances to control the use of pesticides.[186] The Court found that labeling and certification issues may be preempted due to the express power delegated to the EPA to fulfill these functions.[187] However, local efforts to limit or even prohibit the use of specific pesticides in particular areas are not preempted.[188] Under *Mortier* the way is open for extensive state and local regulations of pesticides beyond the EPA's reasons apparent under FIFRA.[189]

B. The Clean Water Act

The second major federal statute that may offer authority for controlling the spread of groundwater contamination is the Clean

178. Mortier v. Casey, 452 N.W.2d at 560.
179. *Id.*
180. *Mortier,* 111 S. Ct. at 2483.
181. *Id.*
182. *Id.*
183. *Id.* at 2484 (quoting S. REP. NO. 92-970, 92nd Cong., 2nd Sess., 27 (1972), *reprinted in* 1972 U.S.C.C.A.N. 4092, 4111).
184. *Id.*
185. *Id.* at 2487.
186. *Id.*
187. *Id.*
188. *Id.*
189. For additional reading on *Mortier*, see James Ford Lang, *Federal Preemption of Local Pesticide Use Regulation: The Past, Present and Future of* Wisconsin Public Intervenor v. Mortier, 11 VA. ENVTL. L.J. 241 (1992).

Water Act.[190] The Clean Water Act, however, falls short of delivering adequate authority for the control of groundwater pollution caused by agricultural chemicals.

Congress' stated goal in the Clean Water Act is to protect and maintain the integrity of the Nation's Waters.[191] In doing so, the Clean Water Act focuses its control efforts on "navigable waters." The term "navigable waters" is defined in the statute as, "waters of the United States, including the territorial seas."[192] However, the Supreme Court in *United States v. Riverside Bayview Homes, Inc.*[193] concluded that, "the term 'navigable' as used in the Act is of limited import."[194] The Clean Water Act is confined only by the authority of the Commerce Clause of the United States Constitution.[195] The term "navigable waters" has been construed to include, in addition to surface waters, groundwater where there is a demonstrable hydrological connection between the surface water and groundwater.[196]

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190. 33 U.S.C. §§ 1251-1387 (1988 & Supp. IV 1992).

191. *Id.* § 1251(a).

192. *Id.* § 1362(7).

193. 474 U.S. 121, 133 (1985) (affirming the Army Corps of Engineers authority over adjacent wetlands under the Clean Water Act). The authority of Congress to regulate Waters of the United States arises under the Commerce Clause. U.S. CONST. art. I, cl. 3

194. 474 U.S. at 133.

195. Article I provides Congress with the power, "to regulate commerce with foreign Nations, and among the several states, and with the Indian tribes." U.S. CONST. art. I, cl. 3 With regard to water, this power to regulate commerce was originally limited to navigable in fact water bodies whereon a significant portion of the United States interstate commerce traveled. *See* Daniel Ball, 77 U.S. 557 (1870). Federal navigation servitude permitted the federal government to require removal of structures obstructing navigable streams without incurring the need to provide just compensation under the Fifth Amendment. As it became apparent that pollution of waters impacted numerous interstate activities, including agricultural practices, Congress extended its authority under the Commerce Clause to include the regulation and prohibition of polluting navigable streams. In doing so the judicial interpretation of the definition of "navigable" was relaxed until, as noted in *Riverside Bayview Homes,* 474 U.S. at 133 "the term 'navigable' as used in the Act is of limited import."; *see also* United States v. Holland, 373 F. Supp. 665, 676 (M.D. Fla. 1974) ("Congress has wisely determined that federal authority over water pollution properly rest on the Commerce Clause and not on past interpretations of an act designed to protect navigation.").

196. *Riverside Bayview Homes,* 474 U.S. at 138-39 (finding that wetlands hydrologically connected to surface waters are within the jurisdiction of the Clean Water Act; Exxon Corp. v. Train, 554 F.2d 1310, 1312 n.1 (5th Cir. 1977) (holding that isolated groundwater is outside jurisdiction of CWA while reserving any conclusion whether that tributary groundwater is within the jurisdiction of the CWA); United States Steel Corp. v. Train, 556 F.2d 822, 832 (7th Cir. 1977) (concluding that groundwater is within jurisdiction of CWA); Sierra Club v.

This conclusion has not been accepted by all courts that have considered the matter however.[197] Hence, as noted by *Inland Steel Co. v. EPA*,[198] whether hydrologically connected groundwater is within the jurisdiction of the Clean Water Act remains an "unresolved question."[199]

The other limitation in the Clean Water Act is that the permitting scheme is limited to regulation of pollution arising from point sources.[200] A point source is defined as:

> [A]ny discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft,

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Colorado Ref. Co., 838 F. Supp. 1428, 1434 (D. Colo. 1993) (concluding that CWA does apply to groundwater hydrologically connected to surface water); McClellan Ecological Seepage Situation v. Weinberger, 707 F. Supp. 1182, 1193-94 (E.D. Cal. 1988) (finding that ground water hydrologically connected to surface water is regulated under the Clean Water Act); New York v. United States, 620 F. Supp. 374, 386 (D.C.N.Y. 1985) (assuming without discussion that groundwater is regulated if there is a hydrological connection with surface water); United States v. GAF Corp., 389 F. Supp. 1379, 1383 (S.D. Tex. 1975) (holding that no permits are required under Clean Water Act for discharges into groundwater absent an allegation of hydrological connection between the ground water and the surface water); *see also*, Guy V. Manning, *The Extent of Groundwater Jurisdiction Under the Clean Water Act After Riverside Bayview Homes*, 47 LA. L. REV. 859 (1987) (arguing that *Riverside Bayview Homes* creates a convincing case resolving the issue of the Clean Water Act's jurisdiction over at least tributary groundwater).

197. Town of Norfolk v. United States Army Corps of Engineers, 968 F.2d 1438, 1450-51 (1st Cir. 1992) (adopting Corps interpretation that navigable waters under the Clean Water Act are limited to surface waters); Kelley v. United States, 618 F. Supp. 1103, 1107 (W.D. Mich 1985) (holding that CWA does not include regulation of groundwater regardless of hydrological connection).

198. 901 F.2d 1419 (7th Cir. 1990).

199. *Id.* at 1422. *But see* Mary C. Wood, *Regulating Discharges into Groundwater: The Crucial Link in Pollution Control Under the Clean Water Act*, 12 HARV. ENVTL. L. REV. 569 (1988) (arguing that tributary groundwater could be regulated under the Clean Water Act either by including groundwater in the definition of a point source or by including groundwater in the definition of navigable waters). Neither Wood nor Manning, indicate how expanding the jurisdiction of the Clean Water Act over ground water resolves the problems arising from the normal application of agricultural chemicals. *See generally*, Manning, *supra* note 196, at 859. Such pollution arises from nonpoint sources with the potential to impact both tributary and nontributary groundwater.

200. 33 U.S.C. § 1311(a) prohibits "the discharge of any pollutant." *Id.* This term means "(A) any addition of any pollutant to navigable waters from any point source, (B) any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft." *Id.* § 1362(12).

> from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.[201]

Consequently, any discharges of pollutants from the normal application of agricultural chemicals are excluded from permitting under the Clean Water Act because they are nonpoint rather than point source discharges. Notwithstanding this limitation of the Clean Water Act, other provisions of the Act do provide, in a limited fashion, for control of groundwater contamination arising from nonpoint sources such as the normal application of agricultural chemicals.

Section 208,[202] one such provision, was one of the original tools in the Clean Water Act for controlling nonpoint source discharges.[203] As part of the 1972 amendments to the Clean Water Act, section 208 was intended to identify sources of nonpoint pollution arising from activities such as agriculture.[204] Identification of nonpoint sources was to be part of the area wide waste treatment management plans developed by the individual states.[205] However, because the Clean Water Act's permitting provisions focus on point source discharges, the states were given virtually unlimited discretion over the control of nonpoint sources through the application of section 208.[206] This voluntary nature of section 208 resulted in its failure as a tool for controlling nonpoint source pollution.[207] Moreover, given that the Clean Water Act and section 208 in particular did not specifically address groundwater, the states did very little to control these nonpoint source activities which contaminated groundwater.[208]

The focus of section 319,[209] like section 208, is nonpoint sources.[210] As the infiltration of pesticides into groundwater from

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201. *Id.* § 1362(14).

202. *Id.* § 1288.

203. Robert D. Fentress, *Nonpoint Source Pollution, Groundwater, and the 1987 Water Quality Act: Section 208 Revisited?*, 19 ENVTL. L. 807 (1989).

204. *Id.* at 817.

205. 33 U.S.C. § 1288(a)-(b).

206. Fentress, *supra* note 203, at 818.

207. Fentress, *supra* note 203, at 822 (quoting 2 J. BATTLE, ENVIRONMENTAL LAW, WATER POLLUTION AND HAZARDOUS WASTE 215 (1986)).

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

209. 33 U.S.C. § 1329.

210. Section 319 is entitled "Nonpoint Source Management Programs." *Id.* § 1329.

normal agricultural practices is considered a nonpoint source problem, section 319 might have been a useful vehicle for addressing the problem.

As under section 208, programs designed to control nonpoint sources under section 319, are the responsibility of the individual states.[211] Each state is required under section 319 to submit an assessment plan that identifies those surface waters that will not meet water quality standards and those nonpoint sources that attribute to the failure.[212] The state must also describe a process for identifying best management practices (BMP) to be used to reduce the impact from these nonpoint sources.[213]

The state is required to develop a management plan to control pollution from nonpoint sources.[214] The EPA may approve or disapprove the management plan submitted by the state.[215] However, if the state fails to submit a management plan, there is no authority permitting the EPA to draft one.[216] The management plan is intended to implement BMPs needed to control the nonpoint sources of contamination.[217] Development of BMPs must specifically take into account the impact on groundwater quality.[218]

Section 319 is not well-suited to protect groundwater from potential contamination arising from normal application of agricultural chemicals. This is due to the questionable jurisdictional limitations on the federal government's ability to protection of groundwater quality.[219] Moreover, section 319 does not contain any permitting enforcement mechanisms to bring to bear on a party causing contamination of groundwater. Finally, the Clean Water

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211. Section 319 requires states to prepare assessment reports and management plans for nonpoint sources. 33 U.S.C. § 1329(a)-(b).

212. *Id.* In contrast, section 208 did not tie nonpoint source discharges to a particular water body.

213. 33 U.S.C. § 1329(b)(2).

214. *Id.* § 1329(b). Idaho drafted the IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, in response, in part, to this directive.

215. 33 U.S.C. § 1329(d).

216. Section 319(d)(3) provides that the EPA may prepare an assessment report which identifies navigable water of concern. *Id.* § 1329(d)(3). There is no similar authority for the EPA to draft a management program required under 33 U.S.C. § 1329(b). However, the State of Idaho has complied with the requirements of 33 U.S.C. § 1329(b). *See supra* note 214 and accompanying text. The State of Idaho has also provided the IDAHO WATER QUALITY STATUS REPORT in response to the requirement under 33 U.S.C. § 1329(a). *See supra* note 214 and accompanying text.

217. 33 U.S.C. § 1329(b)(2)(B).

218. *Id.* § 1329(b)(2)(A).

219. *See supra* notes 193-96 and accompanying text.

Act's focus is on point source contamination, not nonpoint sources from which contamination from normal agricultural chemical usage would arise. Consequently, one must look elsewhere for appropriate protection of groundwater from agricultural chemicals.

C. The Safe Drinking Water Act

The Safe Drinking Water Act (SDWA)[220] regulates the quality of drinking water delivered to the public.[221] Because so much of the United States relies on groundwater for drinking water, the SDWA is useful for controlling groundwater contamination. There are two significant features under the SDWA. First, under the authority of the SDWA, the EPA establishes the Maximum Contaminate Levels (MCLs) for drinking water for various contaminants.[222] The MCL is set at or as close as feasible to "the level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety."[223] The MCL is the maximum permissible level of a contaminant[224] that can be delivered to any individual by a public water system.[225] The EPA has promulgated MCLs for eighteen pesticides and intends to promulgate MCLs for an additional fifty pesticides.[226]

The MCLs promulgated by the federal government are not specifically intended to directly address groundwater contamination. Rather, MCLs are used as the reference point for determining an acceptable level of contamination of drinking water.[227] As discussed

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220. 42 U.S.C. §§ 300f to 300j-26 (1988).

221. *Id.* § 300g.

222. *Id.* § 300g-1(a).

223. *Id.* § 300g-1(b)(4); EPA PESTICIDES AND GROUND WATER STRATEGY, *supra* note 2, at 16-17.

224. 42 U.S.C. § 300(f)(3); The specific MCLs are set out in 40 C.F.R. pt. 141.

225. Section 300(f)(4) defines "public water system" as a system providing piped water to fifteen connections serving at least twenty-five people. 42 U.S.C. § 300f(4). For a recent decision of interest to the agricultural industry, see Imperial Irrigation Dist. v. EPA, 4 F.3d 774 (9th Cir. 1993). The EPA argued that Imperial Irrigation Dist. was in violation of the SDWA because some of its customers used the canal water for cooking, dishwashing and oral hygiene, and some others actually drank the canal water. *Id.* at 775. The EPA sought to have the entire 1675 miles of canals declared to be a public water system within the meaning the SDWA. *Id.* at 775. The Ninth Circuit rejected this contention on the grounds that the Imperial Irrigation Dist. did not provide the public with "piped water" as required by 42 U.S.C. § 300f(4). *Id.* at 776.

226. 57 Fed. Reg. 31776 (1992); EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 18; *see also,* 40 C.F.R. pt. 141 (11)-(16) (1992).

227. 42 U.S.C. § 300f(3).

below, Idaho regulations also use these established MCLs as the standard for enforcement actions, for both surface and groundwater.[228]

The SDWA also requires the states to develop wellhead protection programs.[229] The purpose of the wellhead protection program is for each state to identify "the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield."[230] Once this area is identified, the state is to, "describe a program that contains, as appropriate, technical assistance, financial assistance, implementation of control measures, education, training, and demonstration projects to protect the water supply within wellhead protection areas from such contaminants."[231] At this time the wellhead protection provisions for Idaho are in draft form only and compliance with the plan is voluntary.[232] However, IDEQ is moving forward on the plan and hopes to have it submitted for approval by the EPA in the near future.[233]

The SDWA contains provisions for enforcement of the terms of the Act against the suppliers of drinking water through a public water system.[234] In addition to these general powers, the EPA has emergency powers to act whenever a contaminant is present or about to enter the drinking water source, expressly including underground drinking water sources, if it presents, "an imminent and substantial endangerment to the health of persons."[235] This provision does not require a showing of actual harm but merely the risk of harm.[236]

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228. *See infra* notes 261-64 and accompanying text.

229. 42 U.S.C. § 300h-7.

230. 42 U.S.C. § 300h-7(a), (e).

231. 42 U.S.C. § 300h-7(a)(4).

232. *See generally* IDAHO WELLHEAD PROTECTION WORK GROUP, IDAHO WELLHEAD PROTECTION PLAN - DRAFT (1993).

233. The authors contacted IDEQ and learned that IDEQ submitted the IDAHO WELLHEAD PROTECTION PLAN - DRAFT to the EPA. After review the plan, the EPA directed certain modifications of the draft. IDEQ currently plans to resubmit the draft in the spring of 1994.

234. 42 U.S.C. § 300j-4.

235. 42 U.S.C. § 300i(a). *See generally* Imperial Irrigation Dist. v. EPA, 4 F.3d 774, 776 (9th Cir. 1993) (finding that the EPA's authority under the SWDA does not extend to open canals or laterals).

236. *Id.; see also* Acorn v. Edwards, No. 1993 W.L. 505525 (E.D. La. Nov. 15, 1993) (holding that the risk of harm must be evident, the harm itself need not be); United States v. City of North Adams, No. 1992 W.L. 391318 (D. Mass. May 18, 1992) (stating that even without documented evidence of illness the enhanced risk demonstrates the gravity of the violation of MCL).

The SWDA further requires the EPA to consult with state and local authorities before proceeding with any enforcement.[237] The SDWA also specifically provides for citizens to enforce the terms of the SDWA if the EPA or the state and local authorities have failed to do so.[238]

Under the terms of section 300(i) of the SDWA the EPA's authority to act and to obtain an injunction is directed against, "persons who caused or contributed to the endangerment."[239] Therefore, it is possible for the EPA to bring an enforcement action under the SDWA against persons using agricultural chemicals if the agency can establish that the use of those agricultural chemicals have entered or are likely to enter an underground source of drinking water. No published decisions have been found where any such enforcement actions have been taken against agricultural interests. The authors are aware of no such actions having been brought in Idaho. Nevertheless, the EPA's enforcement powers under the imminent and substantial endangerment provisions of the SDWA provide the federal government with perhaps the strongest tool to bring an enforcement action to require cleanup of contamination of groundwater used as a drinking water source, even when the contamination resulted from normal and ordinary applications of agricultural chemicals.[240] This is not to say that there would be no defenses to such an action. If the state and/or EPA has approved the use of a particular agricultural chemical under FIFRA, it raises an interesting question of whether the EPA could establish the necessary "endangerment" after the chemical's approval. Nevertheless, used unwisely this authority could undermine the agricultural community and its reliance on agricultural chemicals.

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237. 42 U.S.C. § 300i(a). As with all other federal environmental statutes, Congress has created a federal-state partnership for the implementation and enforcement of the SDWA. *See* National Wildlife Federation v. EPA, 925 F.2d 470, 471 (D.C. Cir. 1991) (describing the partnership scheme under the SDWA in greater detail).

238. 42 U.S.C. § 300j-8; *see* Vernon Village, Inc. v. Gottier, 755 F. Supp. 1142, 1147 (D. Conn. 1990) (permitting a citizen suit under the SDWA for violations a the MCL).

239. 42 U.S.C. § 300i.

240. The Wellhead Protection Program, 42 U.S.C. § 300h-7, and the Sole Source Aquifer Program, 42 U.S.C. § 300h-6, provide additional authority for the EPA under the SDWA. The Spokane Valley-Rathdrum Prairie aquifer is the only "sole source" aquifer identified in Idaho. IDAPA § 16.01.02.299.01. The quality of this aquifer may not be impacted absent specific justification relating to necessary economical or social development.

Afterall, the EPA's burden is to show imminent and substantial endangerment, not actual harm.

D. Federal Hazardous Waste and Substances Regulation

A potential source of federal regulation of groundwater contamination also rests within the comprehensive federal regulation of hazardous materials and waste. Two federal statutes cover this realm: One is the Resource Conservation and Recovery Act of 1976 (RCRA);[241] and the other is Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).[242]

Neither statute is well suited to respond to the problem of groundwater contamination by fertilizers and pesticides. Both acts exclude in some fashion regulation of agricultural waste water. RCRA specifically excluded from the definition of a solid waste, "solid or dissolved materials in irrigation return flows."[243] In turn, a hazardous waste is defined in terms of solid waste.[244] Moreover, RCRA's regulatory focus is on treatment, storage and disposal of solid and hazardous waste.[245] Agricultural chemicals applied to the crops in the normal course cannot be characterized as treatment, storage or disposal of waste. Consequently, while improper manufacture, formulation or storage of pesticides resulting in their release into the environment may result in an enforcement action under RCRA,[246] proper use of agricultural chemicals on cropland is beyond RCRA's scope.

CERCLA also does not apply to the use of agricultural chemicals on cropland. Although CERCLA creates significant liability for any discharge of hazardous substances, it specifically exempts individuals who apply registered pesticides pursuant to the label

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241. 42 U.S.C. §§ 6901-6992k (1988 & Supp. IV 1992).

242. 42 U.S.C. §§ 9601-9675 (1988 & Supp. IV 1992). Both CERCLA and SARA are referred to collectively in this Comment as CERCLA.

243. 42 U.S.C. § 6903(27).

244. *Id.* § 6903(5).

245. *Id.* § 6924.

246. *See* Village of Bear Creek v. Monsanto Co., No. 87-C-1445, 1989 U.S. Dist. LEXIS 17443 (E.D. Wis. Mar. 1989) (finding that spills, discharges or leaks of pesticide at site where they are sold, mixed and stored constitutes a violation of RCRA); United States v. Vertac Chem. Corp., 489 F. Supp. 870, 885 (E.D. Ark. 1980) (holding that owners and operators of chemical manufacturing plants were liable under RCRA for improper disposal of pesticides into the environment).

instructions.[247] Moreover, the definition of a "release" which triggers the liability provisions of CERCLA specifically excludes, "the normal application of fertilizer."[248] CERCLA's application to the release of pesticides is, like RCRA, limited to those situations where the pesticide is improperly handled in its manufacture, formulation or storage resulting in an unintended release of the pesticide into the environment.[249]

E. Upcoming Federal Regulatory Efforts

The Clinton Administration has specifically targeted reduction of pesticide use as one of its administrative goals. In June of 1993, the Administration announced, "its commitment to reducing pesticide use and promoting sustainable agriculture through the development of legislative, regulatory, and administrative initiatives."[250] The Administration's primary focus is to reduce pesticide residue on or in the final food product thereby reducing the danger to human health. This goal is achieved in part through reform of FIFRA.[251] FIFRA amendments to be proposed will include eliminating pesticide use which threatens human health or the environment, an overall reduction of the use of pesticides coupled with encouraged use of safer alternatives, and to improved compliance with pesticide regulation.[252]

The goals of the Administration do not differ materially from the goals previously set forth by the EPA. As noted by the EPA, "[i]n the context of agricultural chemicals and pesticides, the long term solution to groundwater contamination is the development of safer chemical and nonchemical pest control alternatives (e.g., integrated pest management, sustainable agriculture) and the adoption of environmentally sound agricultural practices."[253] How the

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247. 42 U.S.C. § 9607(i).

248. *Id.* § 9601(22)(D).

249. The following cases concern a pesticide manufacturer's liability under CERCLA for release of pesticides from the plant. *See* Canadyne-Georgia Corp. v. Continental Ins. Co., 999 F.2d 1547, 1549 (11th Cir. 1993); United States v. Aceto Agri. Chems. Corp., 872 F.2d 1373, 1382 (8th Cir. 1989); Burlington N. R.R., v. Woods Indust. Inc., 815 F. Supp. 1384, 1389 (E.D. Wash. 1993); United States v. Taylor, 31 ERC (BNA) 1197 (M.D.N.C. 1989).

250. *Administrative Pesticide/Food Safety Legislative Reforms: Executive Summary of Testimony*, Before the jt. Subcommit. of the House Comm. on Health and the Environment & Senate Comm. on Labor and Human Resources, 103rd Cong., 1st Sess., 1 (September 21, 1993).

251. *Id.*

252. *Id.*

253. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 57.

Administration turns these goals into workable regulations remains to be seen.

F. Idaho's Regulatory Response to the Threat of Groundwater Contamination by Pesticides

The State of Idaho stands on the threshold of a new era of groundwater management. In response to federal mandates under the Clean Water Act section 319, Idaho drafted and implemented necessary plans for controlling nonpoint sources.[254] Only recently have the Idaho regulatory agencies publicly focused upon the potential impact of groundwater contamination arising from the use of pesticides. This section examines the approaches to potential groundwater contamination by agricultural chemicals taken by the various Idaho regulatory agencies.

The Idaho Department of Health and Welfare, Division of Environmental Quality (IDEQ) is authorized by the Idaho Environmental Protection and Health Act (EPHA),[255] to regulate water quality. Under Water Quality Standards and Wastewater Treatment Requirements,[256] the IDEQ has broad authority to regulate contamination of ground and surface water arising from both point sources and nonpoint sources.[257] Specific maximum allowable concentrations (MAC) standards for certain contaminants are included within the regulations.[258] In addition to the MAC levels, the IDEQ has a measure of discretion to determine the permittable level of contamination.[259] For example, the general groundwater quality criteria for hazardous materials is stated as follows: "Hazardous materials . . . shall not occur in concentrations

254. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIIa-3; WATER QUALITY STATUS REPORT, *supra* note 78, at 40.

255. IDAHO CODE §§ 39-101 to -148 (1993). The authority of the secretary of Health and Welfare to enact water quality regulations is at IDAHO CODE § 39-105 (1993).

256. IDAPA § 16.01.02.

257. IDAPA § 16.01.02.003.68 defines waters of the state to include groundwater. This is in contrast to the EPA's jurisdiction under the Clean Water Act. *See* discussion *supra* notes 193-196.

258. *See* IDAPA § 16.01.02.250. The MAC for domestic water supply generally track the MCL established by the EPA pursuant to the Clean Drinking Water Act.

259. IDAHO CODE § 39-105. Section 105 broadly delegates to the Director of the Department of Health and Welfare the obligation to promulgate the necessary no feasible requirements to prevent, control and abate environmental pollution or degradation. *Id.*

found to be of public health significance or to adversely affect designated or protected beneficial uses."[260]

The IDEQ can and does adopt the MCLs established by the EPA when determining what concentrations are considered to be of public health significance.[261] Moreover, although the MCLs are intended for determination of acceptable contamination of water "at the tap,"[262] the IDEQ applies these standards to groundwater, even when it is not presently used for drinking water purposes.[263] This approach is consistent with the EPA's use of the MCL as reference points to determine when groundwater is contaminated to the extent that a response of some type is necessary.[264] However, this approach is not intended to be applied in all cases as the EPHA specifically requires the IDEQ to consider existing beneficial uses of the resource and whether it is "feasible and appropriate" to restore contaminated groundwater.[265]

The IDEQ regulations specifically recognize that agricultural lands can be an origin of nonpoint source pollutants.[266] To deal with the threat of contamination of groundwater from agricultural lands, the regulations provide for implementation of BMPs.[267] However, "[v]iolations of water quality standards which occur in spite of implementation of best management practices will not be subject to enforcement action."[268] Consequently, the regulations provide the IDEQ with no enforcement authority against the owner or operator of agricultural land if the BMP is properly implemented, but fails to protect the groundwater.[269] The IDEQ is authorized to change the BMPs if actual monitoring and surveillance demonstrate that the nonpoint sources are causing failure to meet water quality

260. IDAPA § 16.01.02.299.04.a.

261. IDAPA § 16.01.02.299.03.a. provides that unless otherwise identified in IDAPA § 16.01.02.299.03.b., groundwater is designated and protected for potable water supplies unless it is shown to be economically infeasible to be used as a domestic source.

262. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 18.

263. IDAPA § 16.01.02.299.

264. EPA PESTICIDES AND GROUND-WATER STRATEGY, *supra* note 2, at 18.

265. IDAHO CODE § 39-102(2).

266. IDAPA § 16.01.02.003.30.a.

267. IDAPA §16.01.02.350.01.a. Best Management Practice is defined as: A practice or combination of practices determined by the Department to be the most effective and practicable means of preventing or reducing the amount of pollution generated by nonpoint sources. IDAPA § 16.01.02.003.02. There are five approved BMPs under the regulations. *See* IDAPA § 16.01.02.350.03. None of the approved BMPs are directly applicable to agricultural uses of pesticides.

268. IDAPA § 16.01.02.350.01.a.

269. *Id.*

standards.[270] The regulations further recognize that it may be the water quality standards that have to change as opposed to the activity impacting the water resource.[271]

The Idaho water quality regulations authorize the IDEQ to seek injunctive relief against nonpoint source when water quality standards are not met.[272] While suggesting that injunctive relief may be pursued, the regulations also state that failure to meet water quality standards while applying a BMP will not be considered a violation of the water quality regulations.[273] Where there are no approved BMPs, as in the case of the application of agricultural chemicals, the IDEQ recommends control measures to the operator who may then apply them on a voluntary level.[274] However, the regulations also provide that the IDEQ may require implementation of these recommended control measures, even in the absence of an approved BMP: "Such control measures may be implemented on a voluntary basis, or where necessary, through appropriate administrative or civil proceedings."[275]

Regardless of the actual extent of the IDEQ's authority under the regulations, the IDEQ has, to date, not pursued an administrative action against an agricultural operation for violation of nonpoint source BMPs or equivalent practices causing groundwater contamination. This may be in part due to insufficient evidence of contamination in excess of the water quality standards. Furthermore, on a practical side, it is often difficult to pinpoint the particular nonpoint source activity that creates the contamination.

In 1989 the Idaho Legislature formally entered the realm of groundwater protection by enacting the Groundwater Quality Protection Act of 1989.[276] The stated goal of the Act is to maintain the existing high quality of the state's groundwater and to satisfy existing and projected future beneficial uses including; drinking water, agricultural, industrial and aquacultural water supplies.[277] All groundwater is to be protected as a valuable public resource

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270. *Id.*

271. *Id.*

272. IDAPA § 16.01.02.350.02.a.

273. *Id.*

274. IDAPA § 16.01.02.350.02.b.ii(b).

275. *Id.* There are no approved BMPs applicable to pesticide use on agricultural lands. *See* IDAPA § 16.01.02.350.03. IDEQ enforcement authority is therefore confined within this area.

276. IDAHO CODE §§ 39-102, -120, -127.

277. *Id.* § 39-102(2).

against unreasonable contamination or deterioration.[278] Degraded groundwater shall be restored where feasible and appropriate to support identified beneficial uses.[279] To achieve this goal, the legislature pronounced that it is the policy of the state to prevent groundwater contamination to the, "maximum extent practical."[280]

In the Groundwater Protection Act the Idaho legislature made a special provision for the application of agricultural chemicals. Specifically, the Act provides that no person shall be liable for groundwater contamination arising from the use of pesticides or fertilizer so long as (1) the use was in compliance with generally accepted agronomic practices, or (2) the use was as set forth on the label of a FIFRA registered pesticide or fertilizer, and that (3) proper equipment was used, (4) the person was without negligence and (5) the application of the chemical was in accordance with state law.[281] This provision tracks similar provisions in federal law[282] and limits the IDEQ's or other party's ability to pursue an individual responsible for groundwater contamination which results from the normal application of agricultural chemicals.[283]

To address groundwater contamination under the Ground Water Protection Act, the state must first determine which contaminants pose a significant risk to the groundwater[284] and second, determine the appropriate actions are to respond to the problem.[285] To assist in making these determinations, the Act established the Groundwater Quality Council.[286] The purpose of the Groundwater Quality Council is to prepare a groundwater quality plan that identifies the problems, the available means to remedy the problems, and then recommend a course of action.[287] The Council fulfilled this purpose when the legislature adopted the IDAHO GROUNDWATER QUALITY PLAN.[288]

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278. *Id.*

279. *Id.*

280. *Id.* § 39-102(3)(a).

281. *Id.* § 39-127.

282. *See* the discussion regarding CERCLA and RCRA, *supra* notes 241-49, and accompanying text.

283. IDAHO CODE § 39-127.

284. *Id.* § 39-102(3)(b).

285. *Id.*; *see also id.* § 39-123(2).

286. IDAHO CODE § 39-122.

287. *Id.* § 39-123.

288. THE IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, was adopted in 1992, pursuant to IDAHO CODE § 39-124. *See* S. 1321, as amended, ch. 310, 51st Leg. 2nd Sess., 1992 Idaho Sess. Law 922.

In pursuing its purpose, the Council recognized that once an aquifer is contaminated it is extremely difficult and expensive to clean.[289] Consequently, the Council determined that preventing contamination in the first place was the most effective means for avoiding the problems associated with groundwater contamination.[290] Hence, the stated policy of Idaho is to require the management of potential agricultural contaminants so as not to, "impair existing or projected future beneficial uses of groundwater below the crop root zone."[291] To achieve this policy goal, the Ground Water Quality Plan requires that BMPs be developed on a site specific basis and voluntarily implemented.[292] This approach is the primary tool for preventing groundwater contamination arising from the normal and permitted use of agricultural chemicals.[293]

Under the Ground Water Quality Plan application of a BMP is given only a specific time in which to demonstrate its effectiveness.[294] If the voluntarily BMP fails to prevent groundwater contamination then the BMP will be implemented on a mandatory basis.[295] If this approach continues to result in ground water contamination then a more stringent BMP will be developed and applied.[296] Finally, the Council recommends that if the BMP fails "regulatory" programs or action are to be applied.[297]

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289. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 29.

290. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 29.

291. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 30.

292. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 30. BMP is defined in the Ground Water Quality Plan as:

> A practice or combination of practices determined to be the most effective and practical means of preventing or reducing contamination to ground water and/or surface water from nonpoint and point sources to achieve water quality goals and protect the beneficial uses of the water.

IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 61. Unlike the IDEQ regulations, *supra* notes 256-75 and accompanying text or the IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *infra* notes 298-317 and accompanying text, the Ground Water Quality Plan includes consideration of both surface and groundwater and both point and nonpoint sources.

293. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 30.

294. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 30.

295. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 31.

296. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 31.

297. IDAHO GROUNDWATER QUALITY PLAN, *supra* note 8, at 31. The Idaho Agricultural Pollution Abatement Plan directs the use of the IDEQ regulations IDAPA § 16.01.02.350, *supra* notes 268-271, as the appropriate back up regulatory program. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at XII-1.

Another part of Idaho's regulatory puzzle to control normal and permissible use of agricultural chemicals that may threaten groundwater is the Idaho Agricultural Pollution Abatement Plan (IAPAP).[298] The IAPAP was first implemented in 1979 in response to section 208 of the Clean Water Act.[299] Pursuant to the requirements of section 208, it detailed the management of agricultural nonpoint sources.[300] Revised in 1983 and again in 1991 in response to the Groundwater Quality Protection Act, the IAPAP specifically targets the impact of agricultural practices on groundwater.[301] It is also consistent with the requirements of section 319 of the Clean Water Act.[302]

The goal of the IAPAP is "to restore and maintain the waters of Idaho impacted by agricultural nonpoint sources to the point of fully supporting identified beneficial uses."[303] These goals are based on the federal Clean Water Act, which is the underlying basis for IAPAP.[304] In achieving the goal, IAPAP acknowledges that agricultural chemicals applied to both irrigated and nonirrigated crops can have an adverse impact on the groundwater.[305] IAPAPs response to this problem is to provide for the development and voluntary implementation of BMPs.[306] In this process every BMP must meet three criteria. A BMP must be (1) technically feasible, (2) economically feasible and (3) socially acceptable.[307]

A technically feasible BMP is one that has demonstrated that its component practices are effective in preventing or reducing pollution arising from nonpoint sources. BMPs are developed on a site by site basis taking into determination numerous site specific factors such as soils, slope, climate, topography, crop, equipment, water quality and

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298. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67.

299. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at I-1.

300. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at I-1.

301. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at I-1.

302. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at I-1.

303. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at IV-1.

304. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at I-1.

305. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VII-1.

306. BMPs are defined under IDAPA as: "a component practice or combination of component practices determined to be the most effective, practicable means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals." IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIII-1.

307. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIII-1, XI-1.

resource conditions.[308] Development of a BMP is based on research, field trials and years of experience referred to generally as a "feedback loop."[309] A BMP is economically feasible if it is cost effective. Determination of cost effectiveness is based on economic evaluation and practical experience.[310]

The third criteria calls for the BMP to be "socially acceptable."[311] A socially acceptable BMP is one which the "responsible party is willing to apply."[312] This criteria accentuates the voluntary nature of the program. A responsible party may be unwilling to apply a voluntary BMP if all of the benefits are incurred off site. This unwillingness is countered with incentives to the farmer who voluntarily implements BMPs. Such incentives typically take the form of grants and other financial assistance available from state and federal sources.[313] Many BMPs are financed through the State Agricultural Water Quality Program (SAWQP).[314] Grants, cost sharing and other financing methods are available under the SAWQP through the State Soil Conservation Districts.[315] The Soil Conservation Districts also play a primary role in the development of the BMPs.[316]

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308. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIII-1, XI-1.

309. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIII-2.

310. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIII-1.

311. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIII-1.

312. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIII-1.

313. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at XI-3, XII-2.

314. *See* IDAPA §§ 16.01.14.000-.999; *see also* DIVISION OF ENVIRONMENT QUALITY, IDAHO DEPARTMENT OF HEALTH AND WELFARE, SOIL CONSERVATION COMMISSION, IDAHO DEPARTMENT OF LANDS, STATE AGRICULTURAL WATER QUALITY PROGRAM (SAWQP) HANDBOOK (1993)

315. Soil Conservation Districts are formed pursuant to the authority of title 22, chapter 27 of the Idaho Code. *See* IDAHO CODE § 22-2719. The purpose of the Districts is to assist in the protection of Idaho's agricultural lands. There are 51 Soil Conservation Districts in Idaho.

316. *See* IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIII-6. Numerous other agencies also participate in this process including the Idaho Soil Conservation Commission, IDEQ, the USDA Soil Conservation Service, the Idaho Department of Lands, Idaho Department of Agriculture, the Idaho Department of Water Resources the U.S. Bureau of Land Management, the U.S. Forest Service and numerous others. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at V-1.

Five general agricultural BMPs have been developed in Idaho. They are Nonirrigated Cropland BMP; Irrigated Cropland BMP; Grazing Land BMP; Animal Waste Management BMP and Riparian/Wetland BMP. Each is made up of numerous component practices.[317] Component practices consist of the technical solutions or practices implemented to obtain the desired water quality goals. Each individual component practice must also meet the three criteria set forth above before being considered acceptable.[318] A Catalog of Component Practices is maintained by the Idaho Soil Conservation Commission.[319] The two component practices applicable to the use of agricultural chemicals are the Pest Management[320] and Nutrient Management practices.[321]

Several important characteristics of the component practices must be kept in mind. First, they are voluntary. There is no obligation for a farmer to apply any of the component practices. Second, although due consideration is given to the impact of agricultural chemicals on the groundwater during the planning stage of implementing the component practice, there is no specific prohibition against the use of the agricultural chemical beyond compliance with the labeling requirements.[322] Consequently, until specific prohibitions are implemented through the SMPs developed under FIFRA, the BMPs developed under IAPAP may not provide thorough protection for groundwater from agricultural chemical use on crops in the State.

IV. CONCLUSION

So far, the use of agricultural chemicals has not been shown to constitute a serious threat to human health or the environment in Idaho. The question though is not whether something will be done concerning potential groundwater contamination by agricultural

317. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIII-7. These BMPs do not rise to the level of approved BMPs under IDEQ regulations. *See* IDAPA § 16.01.02.350.03.

318. IDAHO AGRICULTURAL POLLUTION ABATEMENT PLAN, *supra* note 67, at VIII-8.

319. The SCC adopts many standard developed by the USDA Soil Conservation Service which are then modified if necessary to reflect local requirements.

320. SOIL CONSERVATION SERVICE, PEST MANAGEMENT 590-1 (May, Dec. 1990, March 1992).

321. SOIL CONSERVATION SERVICE, NUTRIENT MANAGEMENT 595-1 (May, Dec. 1990, March 1992).

322. PEST MANAGEMENT 595-1, *supra* note 320.

chemicals but what will be done. This Comment pointed out the primary efforts made in this direction.

The federal government and the State of Idaho have attacked the issue head-on in various efforts to comply with federal directives as well as under Idaho's own water quality statutes, regulations and standards. Arising out of this piecemeal regulatory structure is the conclusion that the best defense is a good offense, *i.e.* prevention of a groundwater contamination instead of efforts to abate the contamination. The authors believe that the best existing method for protecting groundwater from agricultural chemicals is pesticide registration and the development of SMPs under FIFRA. Limiting the supply of problem agricultural chemicals necessarily limits the risk. FIFRA and the SMPs provide clear direction to the end user through labeling requirements and protect the end users from liability under other state and federal statutes so long as the labeling requirements are followed. The SMPs also allow for the flexibility to apply local solutions to local problems rather than imposing a single, rigid federal mandate.

The greatest drawback is that the EPA is only beginning to examine the question of groundwater contamination from the normal and customary use of agricultural chemicals registered under the FIRFA. With the use of generic and pesticide specific SMPs the challenge is for the Idaho regulatory and agricultural community and the people of Idaho to develop a specific strategies that protect the quality of the groundwater and the viability of the agricultural industries of Idaho. This challenge can only be met through a cooperative effort to obtain and understand the information which will identify those agricultural chemicals and practices which truly pose a danger to public health and the environment and those which do not. Only with this knowledge can plans be developed which are adequate to protect the groundwater resources of this state and which allow agriculture to take advantage of those agricultural chemicals which increase productivity, in a way which minimizes the impact on Idaho's groundwater resource.

V. EPILOGUE

As previously discussed[323] the United States Supreme Court held in *Wisconsin Public Intervenor v. Mortier*[324] that local city and county governments could promulgate rules regarding the use and

323. *See supra* notes 166-189 and accompanying text.
324. 111 S. Ct. 2476 (1991).

control of agricultural chemicals in addition to or more stringent than the rules promulgated by the EPA under FIFRA.[325] This authority of the local governments has been short circuited by the Idaho state government. In the recent legislative session the legislature passed and Governor Andrus signed House Bill No. 754. This bill adds a new section to Chapter 34, Title 22, Idaho Code to be designed as 22-3426.[326] House Bill No. 754 states:

> UNIFORMITY OF STATE PESTICIDE REGULATION. Notwithstanding any other provision of law to the contrary, no city, county, taxing district or other political subdivision of this state shall adopt or continue in effect any ordinance, rule, regulation, resolution or statute regarding pesticide sale, use, or application including without limitation: registration, notification of use, advertising and marketing, distribution, application methods, applicator training and certification, storage transportation, disposal, disclosure of confidential information or product composition.[327]

This new statute vacates the Mortier holding as applicable in Idaho. Hence, while FIFRA does not prohibit local governments from regulating the use of agricultural chemicals, the new section 22-3426 precludes such authority both prospectively and retroactivity.

Control of the uses and application of agricultural chemicals in Idaho will only occur on the state and federal level. This control and resulting protection of ground water will be implemented through the development of the State Management Plan (SMP) and Best Management Practices (BMPs).[328] It is critical that local governments now prohibited from addressing their particular problems at the local level, as well as other interested parties, participate in the development of the SMP and BMPs at the state and federal level. Such participation can insure that local problems are adequately addressed while at the same time protecting local economies from excessive regulation.

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325. *Id.* at 2487.
326. H.R. 754, 52nd Leg., 2nd Sess., 1994 Idaho Sess., Law Ch. 102.
327. *Id.*
328. *See supra* notes 148-166 and notes 266-271 and accompanying text.