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IS THE 1990 FARM BILL THE OPENING SHOT IN A "QUIET REVOLUTION?"

by
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SINCE the enactment of the National Environmental Policy Act¹ and the creation of the U.S. Environmental Protection Agency (EPA), the nation has undertaken to clean up its waters through the implementation of "command and control" regulatory programs at distinct point sources of water pollution: waste water treatment plants, industrial facilities, and hazardous waste management facilities. This concentration on "point source" discharges has considerably improved water quality over the last twenty years.² In Texas, the Houston Ship Channel was polluted to the point of flammability and almost acute toxicity twenty years ago.³ Today, the channel supports at least some fish and wildlife species,⁴ and room exists for even further improvement despite the intensive industry which surrounds it. The Trinity River, once little more than an open sewer in some reaches below the Dallas-Fort Worth Metroplex,⁵ now supports a diversity of pollution-sensitive fish species and studies indicate that it can be restored to its original condition as a high quality aquatic habitat.⁶ This same level of

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1. National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 42 U.S.C.A. §§ 4321-70b (West 1977 & Supp. 1990)).

2. COUNCIL ON ENVIRONMENTAL QUALITY, EXECUTIVE OFFICE OF THE PRESIDENT, ENVIRONMENTAL TRENDS 32-34 (1989). See also Casteel, *Pointless Pollution*, TEXAS SHORES 10 (Spring 1990); OFFICE OF WATER, U.S. ENVIRONMENTAL PROTECTION AGENCY, THE WATER PLANET 4-5 (Nov. 1989).

3. TEXAS WATER COMMISSION, REPORT NO. LP 86-07, THE STATE OF TEXAS WATER QUALITY INVENTORY B-13 (8th ed. 1986).

4. *Id.*

5. MONITORING AND DATA SUPPORT DIVISION, OFFICE OF WATER, U.S. ENVIRONMENTAL PROTECTION AGENCY, WATER QUALITY PROGRESS REPORT: UPPER TRINITY RIVER, TEXAS (July 1986). See also TEXAS WATER COMMISSION, *supra* note 3, at B-14.

6. J.R. DAVIS, TEXAS WATER COMMISSION, USE ATTAINABILITY ANALYSIS OF TRINITY RIVER SEGMENT 0805 (May 1989) (unpublished report).

surface water quality improvement can generally be seen throughout Texas and the nation.

The current regulatory regime, however, has yielded most of the benefits in water quality that it can be expected to yield, and it must be improved considerably in order to satisfy the requirement of the Clean Water Act that all the nation's waters be made "fishable and swimmable."⁷ The anticipated cost of that improvement and the diffuse nature of the remaining sources of water pollution require a revised approach to water quality regulation. This approach must combine command and control regulation of point source discharges with other regulatory efforts and policy initiatives, which must be as diffuse as the sources of pollution they intend to address.

I. INNOVATION AND INTEGRATION

The development of new strategies to meet the mandates of the Clean Water Act must take place against the backdrop of today's "quiet revolution" in the development of national environmental policy.⁸ As part of a far-reaching process of re-evaluating national environmental priorities and strategies, the EPA Science Advisory Board recently reported to the Administrator that the current array of laws, programs and tools addressing environmental problems in this country is unlikely to be as successful in the future as it has been in the past, primarily because the most obvious controls have already been applied to the most obvious problems.⁹ The Board recommended, and the Agency apparently adopted, a comprehensive approach to environmental protection that is as diverse as the human activities which affect the environment.¹⁰ Such an approach, if adopted by Congress and the executive branch agencies as a matter of national policy, may have far-reaching implications because environmental considerations affect and are affected by major decisions in energy, agriculture, taxation, transportation, housing, and foreign policy.¹¹

II. POINTLESS POLLUTION

The need for an integrated approach to achieving national clean water goals is nowhere more apparent than in the effort to control surface and underground water pollution from urban and agricultural runoff. This "nonpoint source" pollution emanates from small, diffuse sources either di-

7. Clean Water Act of 1977, Pub. L. No. 95-217, 91 Stat. 1566 (1977) (codified as amended at 33 U.S.C. § 1251(a)(2)(1988)).

8. Address by William K. Reilly, Administrator, U.S. Environmental Protection Agency, before the National Press Club, Washington, D.C. (Sept. 26, 1990).

9. SCIENCE ADVISORY BOARD, RELATIVE RISK REDUCTION STRATEGIES COMMITTEE, U.S. ENVIRONMENTAL PROTECTION AGENCY, DOC. NO. SAB-EC-90-021, REDUCING RISK: SETTING PRIORITIES AND STRATEGIES FOR ENVIRONMENTAL PROTECTION (Sept. 1990).

10. William K. Reilly, Administrator, U.S. Environmental Protection Agency, Speech to National Press Club, September 1990.

11. NATIONAL RESEARCH COUNCIL, BOARD ON AGRICULTURE, COMMITTEE ON THE ROLE OF ALTERNATIVE FARMING METHODS IN MODERN PRODUCTION AGRICULTURE, ALTERNATIVE AGRICULTURE 68-69 (1989).

rectly or through rainfall runoff.¹² Individually, each source may negligibly impact the aquatic environment.¹³ The cumulative impact of nonpoint source pollution, however, prevents in most instances further significant improvement in water quality because no means exist to control it.¹⁴ Nonpoint sources generally do not respond to direct command and control regulation, if only because of their sheer number and diversity.¹⁵ As the President extols the virtues of the "thousand points of light" in American society, a "thousand points of pollution" foul our nation's waters. Therefore, reducing nonpoint source pollution will be one of the major environmental goals of the 1990s.

In the United States, pollution from point sources has become a lesser problem. Accordingly, concern now focuses on the effects of nonpoint source pollution.¹⁶ The major nonpoint sources of pollution that affect surface water include runoff from cropland, pasture, forest land, and animal feedlots; runoff from construction, mining and logging areas; drainage from waste disposal sites and landfills; runoff from urban areas and roads; and atmospheric deposition.¹⁷ Estimates indicate that agriculture causes between two billion and sixteen billion dollars in damage to surface water per year.¹⁸ The most commonly identified nonpoint sources affecting ground water quality are agricultural chemicals, faulty septic systems, and leaky underground petroleum storage tanks and pipes.¹⁹

The EPA has stated that pollutant loads from nonpoint sources continue to present water quality problems and prevent attainment of designated water uses throughout the nation.²⁰ According to a 1985 survey, virtually all states reported water in which uses were severely or moderately impaired by nonpoint sources or in which nonpoint sources threatened to impair designated uses.²¹ This survey included eleven percent of the nation's total river miles, thirty percent of total lake acres, and seventeen percent of total estuary square miles.²² The impact of nonpoint source pollution, however, varies by region.

III. AGRICULTURAL IMPACTS

One of the largest potential nonpoint sources that could pollute both surface and ground water is the commercial production of agricultural commodities, which provide food and fiber for our nation and much of the world. In 1985 the states reported that agriculture represented the primary nonpoint source in sixty-four percent of impacted river miles, fifty-seven per-

12. ENVIRONMENTAL TRENDS, *supra* note 2, at 32.

13. *Id.* at 34.

14. *Id.*

15. THE WATER PLANET, *supra* note 2, at 4.

16. ENVIRONMENTAL TRENDS, *supra* note 2, at 34.

17. *Id.*

18. ALTERNATIVE AGRICULTURE *supra* note 11, at 98.

19. ENVIRONMENTAL TRENDS, *supra* note 2, at 32.

20. *Id.* at 34.

21. *Id.*

22. *Id.*

cent of impacted lake acres, and nineteen percent of impacted estuary square miles.²³ Pesticide and fertilizer application, animal wastes from livestock and poultry production, soil erosion from cropland and overgrazing, and irrigation return flows constituted the main agricultural sources.²⁴

Fertilizers in large quantities can cause both acute and chronic destruction of fish and wildlife resources, and can also affect human health.²⁵ The added nutrients in fertilizers encourage plant and algae growth.²⁶ Rapid plant and algae growth changes the pH and depletes the dissolved oxygen in the water, killing fish.²⁷ The phosphorus and nitrogen compounds found in fertilizers chiefly contribute to the pollution.²⁸

Studies have estimated that fifty to seventy percent of all nutrients reaching surface water originate on agricultural land in the form of fertilizer or animal waste.²⁹ In the entire Dallas-Fort Worth metroplex segment of the Trinity River, the urban nonpoint source load of nitrate in the form of nitrogen was 3.2 million pounds per year, which is equivalent to 400,000 forty-pound sacks of chemical fertilizer.³⁰ This represents forty percent of the total nutrient load in that river segment, and the remaining sixty percent comes from agricultural activities upstream.³¹

The effect of agricultural chemicals on ground water has been documented in isolated instances in Texas. In a large section of north central Texas, the ground water contains an abnormally high nitrate concentration.³² Preliminary results from a recent Texas Water Commission survey of 150 wells indicate that, of seventy-seven samples analyzed, approximately thirteen percent of the wells sampled exceeded EPA community well standards for nitrates in drinking water.³³ After analyzing all samples, the Texas Water Commission will determine whether any man-made sources caused nitrate levels in wells to exceed the EPA standard.³⁴

While the nitrogen may come from wells, waste materials, or natural sources, agricultural fertilizers cannot be ruled out as a source. Nitrogen compounds in ground water are a cause for concern because several studies have linked "blue baby syndrome" to the presence of nitrates in drinking

23. *Id.*

24. ENVIRONMENTAL TRENDS, *supra* note 2, at 34.

25. CASTEEL, *supra* note 2, at 14.

26. *Id.*

27. *Id.*

28. *Id.* See also HALLBERG, *From Hoes to Herbicides: Agriculture and Ground Water Quality*, 41 JOURNAL OF SOIL AND WATER CONSERVATION 358 (1986).

29. ALTERNATIVE AGRICULTURE, *supra* note 11, at 99.

30. Texas Water Commission (1978) (unpublished analysis).

31. Texas Water Commission analysis of data from "An Assessment of Pollutant Loadings to Lakes and Rivers in North Central Texas," prepared for the North Central Texas Council of Governments by Hydrosience, Inc. (1978) (unpublished analysis).

32. GROUND WATER PROTECTION UNIT STAFF, TEXAS WATER COMMISSION, REPORT NO. 89-01, GROUND-WATER QUALITY OF TEXAS—AN OVERVIEW OF NATURAL AND MAN-AFFECTED CONDITIONS, 151-52 (March 1989) [hereinafter GROUND-WATER QUALITY OF TEXAS].

33. Texas Water Commission (1990) (unpublished data).

34. Interview with Charles Rogers, Program Administrator, Ground Water Section, Texas Water Commission (October 23, 1990).

water.³⁵ The Texas Water Commission is developing some alarming data on the potential breadth of this problem throughout the state,³⁶ and the public has become very concerned about nitrate levels in rural areas that rely on ground water as a main source of drinking water.³⁷

The second threat to water quality from agricultural activities is the application of pesticides and herbicides. Although regarded by state regulators as less of a threat to surface and ground water quality in Texas than nitrates,³⁸ national public concern and political activity have focused on these chemicals.³⁹ The EPA estimates that as of 1987, the United States uses 1.1 billion pounds of pesticides annually, with seventy-seven percent of that amount used in agricultural production.⁴⁰ With about thirty million acres of cropland, Texas ranks near the top of the states in the volume of pesticides applied in agriculture, using about ten percent of the national total.⁴¹

Texas regulates pesticides primarily through product registration and label instructions, and state agencies and trade associations also provide education on proper use and disposal.⁴² The state cannot monitor surface and underground waters for the presence of all of these pesticides, so state data generally does not indicate the quantity of pesticides and/or residues found in the water. Nevertheless, some studies have shown elevated levels of environmentally persistent pesticides in Texas surface waters.⁴³ For example, fish tissue samples collected from the Trinity River in the Dallas-Fort Worth area and in the Colorado River between Austin and the coast detected chlordane, an organochloride widely used until 1988, at levels exceeding the U.S. Food and Drug Administration's action levels.⁴⁴ The chemical had accumulated in the tissues of invertebrates at the lower end of the aquatic food chain and concentrated in fish.⁴⁵ The EPA ordered manufacturers to discontinue sales and use of chlordane in 1988, but consumers still holding stocks of chlordane could use them until the end of 1990.⁴⁶

Nationally, pesticides have been detected in groundwater supplies in areas

35. OFFICE OF TECHNOLOGY ASSESSMENT, CONGRESS OF THE UNITED STATES, *BENEATH THE BOTTOM LINE: AGRICULTURAL APPROACHES TO REDUCE AGRICHEMICAL CONTAMINATION OF GROUNDWATER 3* (May 1990).

36. Texas Water Commission (1990) (unpublished data).

37. HALLBERG, *supra* note 29, at 357.

38. GROUND-WATER QUALITY OF TEXAS, *supra* note 33, at 148, 153.

39. MUNCH, GRAVES, MAXEY, & ENGEL, *Methods Development and Implementation for the National Pesticide Survey*, 24 ENVIRONMENTAL SCIENCE AND TECHNOLOGY 1146-51 (1990) (hereinafter MUNCH).

40. GROUND-WATER QUALITY OF TEXAS, *supra* note 33, at 153.

41. *Id.*

42. TEXAS DEPARTMENT OF AGRICULTURE, PESTICIDE SAFETY FOR TEXAS 30-42 (Oct. 1984).

43. J. DAVIS & M. BASTIAN, ANALYSIS OF FISH KILLS AND ASSOCIATED WATER QUALITY CONSIDERATIONS IN THE TRINITY RIVER, TEXAS: FINAL TOXICOLOGICAL CONSIDERATIONS 16 (Texas Water Commission Report No. LP-90-03, Feb. 1990). Pesticide contamination of ground water has been documented in Texas on a limited basis. GROUND-WATER QUALITY OF TEXAS, *supra* note 33, at 153-55.

44. See also CASTEEL, *supra* note 2.

45. *Id.*

46. *Id.*

with hydrogeology and agricultural practices that cause groundwater contamination through surface leaching.⁴⁷ In Long Island, New York, approximately one thousand wells have aldicarb concentrations that exceed New York's water quality standard of seven parts per billion (ppb).⁴⁸ At least 1437 wells in California are contaminated with dibromochloropropane (DBCP) exceeding the state's health standard of one ppb.⁴⁹ The human health effects of pesticide exposure have not been determined due to lack of data, but are presumed to depend on the degree of exposure, the toxicity of the pesticide, and the individual's health.⁵⁰ Nevertheless, the available data has led many policymakers to conclude that the normal field use of pesticides and herbicides has contaminated the groundwater in many parts of the country to an extent that potentially threatens the public health.⁵¹

Widespread research on fertilizer and pesticide water contamination and the corresponding effects on human health has just begun. Additional data and analyses are needed to determine (1) the human health effects of pesticides, and (2) whether widespread surface and ground water quality problems exist due to normal field use today. The sheer number of registered pesticides and the cost of analysis complicates the process of gathering data to support regulatory decisions. By comparison, the extent of nitrate contamination of groundwater is less difficult to assess because chemical analysis required to produce such data is less expensive and can be targeted to search for a handful of chemicals. Because of the lack of research, it is possible that pesticides cause problems not yet foreseen.

IV. FARM POLICY: POLLUTION PROMOTION OR PREVENTION?

While agricultural chemicals such as fertilizers, herbicides, and pesticides nevertheless remain necessary to sustain the viability and productivity of American agriculture, use of these chemicals must be reduced to the maximum extent feasible until more complete water quality data, which may be many years in coming, establishes the effect these chemicals have on water quality. Current law mandates several command and control approaches to address urban nonpoint source pollution, including implementing local municipal pollution abatement plans and controlling the content of urban stormwater.⁵² Reducing pollution from agricultural sources will present more challenges because of the economics and diversity of American agriculture that make it difficult for the government to implement effective command and control regulation. The 1990 Farm Bill⁵³ affords Congress an

47. HALLBERG, *supra* note 29, at 360-61. See also MUNCH, *supra* note 40, at 1446-47.

48. COMMITTEE ON GROUND WATER QUALITY PROTECTION, SCIENCE AND TECHNOLOGY BOARD, COMMITTEE ON PHYSICAL SCIENCES, MATHEMATICS, AND RESOURCES, NATIONAL RESEARCH COUNCIL, GROUND WATER QUALITY PROTECTION: *State and Local Strategies* 132 (1986).

49. *Id.*

50. ALTERNATIVE AGRICULTURE, *supra* note 11, at 121-26.

51. HALLBERG, *supra* note 29, at 361.

52. Clean Water Act of 1977, Pub. L. No. 95-217, 91 Stat. 1566 (1977) (codified as amended at 33 U.S.C. § 1314(f) (1988)).

53. H.R. 3950, 101st Cong., 2d Sess. (1990).

opportunity to further the "quiet revolution" in environmental policy by developing new alternatives to the traditional command and control type of regulation which protects ground and surface water.⁵⁴

Current federal farm policy, embodied primarily in federal crop subsidy programs, promotes the use of high levels of fertilizers and pesticides. It discourages crop rotation and encourages maximum yields of single commodity program crops year after year, which impair water quality.⁵⁵ The base acre requirements and cross-compliance provisions of the existing commodity and deficiency payment programs, as explained below, economically penalize farmers who would otherwise rotate crops to minimize their use of chemical fertilizers and pesticides and to respond to changing market conditions.⁵⁶

Crop rotation practices can benefit water quality in two ways. First, rotation with nitrogen-fixing crops such as legumes and oilseeds adds nitrogen back to the soil and decreases the amount of chemical fertilizer needed in following years.⁵⁷ Second, rotation can reduce the need for pesticides by interrupting the food supply and life cycles of the pests.⁵⁸ Generally, less nitrogen and fewer pesticides are needed when crop rotation is employed than when it is not.⁵⁹ In addition to the water quality benefits of crop rotation, decreased reliance on agricultural chemicals reduces the cost of crop production.

The "base acreage" concept discourages crop rotation and therefore impairs water quality. "Base acreage" is the amount of land eligible for most commodity price support programs, and is defined as the average of the acreage enrolled in a particular crop program each year during the past five years.⁶⁰ Crop rotation decreases the number of acres eligible for payments in later years, even though it is often advantageous both environmentally and economically.⁶¹ For example, a farmer enrolled in the corn program may wish to plant some of his acreage in soybeans or canola (non-program crops) to respond to the expanding domestic market for oilseeds. The base-acreage policy discourages crop rotation because the rotated acreage will reduce the five-year rolling average, thereby reducing price support payments.⁶²

The deficiency payment program also impairs water quality. In most commodity support programs, the federal government sets per bushel target prices for certain commodities.⁶³ The government then makes deficiency

54. U.S. GENERAL ACCOUNTING OFFICE, REPORT TO THE CONGRESS, 1990 FARM BILL: OPPORTUNITIES FOR CHANGE (April 1990).

55. ALTERNATIVE AGRICULTURE, *supra* note 11, at 10.

56. *Id.* at 10-11.

57. *Id.* at 140.

58. *Id.*

59. *Id.* at 138-41. See also OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 36, at 67-75.

60. ALTERNATIVE AGRICULTURE, *supra* note 11, at 10.

61. *Id.*

62. *Id.*

63. *Id.* at 11.

payments to the producer amounting to the difference between the target price and the crop-specific loan rate or market price, whichever is less.⁶⁴ Farmers frequently receive deficiency payments that are almost as high as the market price,⁶⁵ which encourages farmers to attain maximum program crop yield per base acre, thereby encouraging maximum use of agricultural chemicals to sustain those yields year after year. Finally, the policy of cross-compliance, which prevents the producer from lowering the acreage base in one program crop without losing all benefits for other program crops, magnifies these disincentives to crop rotation.⁶⁶

These policies encourage farmers to manage their land to maximize their eligibility for program benefits, not to respond to the demands of the market or the constraints of the land. Farmers are effectively paid to keep as many acres as possible planted in a single crop and to maximize per acre yields (and the resulting deficiency payments). According to the National Research Council, farmers often use fertilizers and pesticides at rates that could not be justified economically without present or future farm program payments.⁶⁷ A need to insulate farmers from economic damage caused by wild fluctuations in market conditions from year to year has justified deficiency payments in the past.⁶⁸ Non-program commodity producers have worked successfully to maintain the current disincentives to crop rotation, arguing that it is unfair to require them to compete against farmers participating in crop subsidy programs.⁶⁹ Previously, these interests have combined with legislative inertia to prevent reform of the disincentives to crop rotation in current federal farm policy.

Now, reform appears imminent. Both the Senate⁷⁰ and House⁷¹ versions of the 1990 Farm Bill contained provisions in the general commodities title and individual commodities titles that would loosen the base acreage requirements to allow for planting flexibility, or crop rotation, on a limited percentage of farm base acres while maintaining a portion of crop subsidy payments.⁷² The House version gave farmers more flexibility by allowing authority to establish historical oilseed plantings.⁷³ The bill as passed by Congress⁷⁴ allows a farmer enrolled in a crop subsidy program to voluntarily rotate ten percent of his base acreage (the "flexible acreage") into non-pro-

64. *Id.*

65. *See id.*

66. *Id.*

67. *Id.* at 12.

68. *Id.* at 69.

69. *Id.*

70. S. 2830, 101st Cong., 2d Sess. (1990).

71. H.R. 3950, 101st Cong., 2d Sess. (1990).

72. H.R. REP. NO. 916, 101st Cong., 2d Sess., Titles I-XI §§ 101-1171, 136 CONG. REC. 11,034-268 (1990).

73. *Id.* § 1101, 136 CONG. REC. at 11,260. Historical oilseed plantings are those acres planted to oilseeds, such as soybeans, in addition to program crop acreage plantings. In the past, acres planted to oilseeds had not been counted in base acreage. The House version, H.R. 3950, would have included the amount historically planted in oilseeds as part of the base acreage. The House historical oilseed planting provision, however, was not part of the Conference Committee Bill. *See* S. 2830, 101st Cong., 2d Sess. (1990).

74. S. 2380, 101st Cong., 2d Sess. (1990).

gram crops without losing program eligibility for that flexible acreage in later years.⁷⁵ The President signed the Farm Bill on November 28, 1990.⁷⁶

Perhaps unintentionally, Congress helped to remove financial disincentives to crop rotation through the recent Budget Reconciliation Act.⁷⁷ As a budget-cutting measure, the Act apparently will render an additional fifteen percent of the producer's total base acreage ineligible for subsidy payments.⁷⁸ The producer may plant this additional acreage in any other crop, with the general exception of fruits and vegetables.⁷⁹ Although the agriculture community will certainly see this measure as a substantial cut in benefits, perhaps farmers will rotate crops more frequently on land ineligible for subsidies in order to cut chemical costs and offset the subsidy loss. The new oilseed loan program contained in the Farm Bill⁸⁰ will work in concert with the Budget Reconciliation Act to achieve this goal.⁸¹

The conservation title of the Farm Bill⁸² amends existing agricultural conservation programs which also incorporate environmental considerations into national farm policy,⁸³ but these amendments resemble the more traditional command and control approach rather than the incentive-based approach adopted by the commodities titles. For example, the bill requires management plans to be developed for highly erodible lands set aside in the conservation reserve program.⁸⁴ In addition, the bill retains the controversial "swamp buster" program designed to preserve wetlands from destruction by agricultural production by generally prohibiting wetlands from being used to produce eligible program crops.⁸⁵ These provisions require active regulatory intervention⁸⁶ and are therefore inherently less efficient than an incentive-based approach. Conversely, their implementation can be expected to yield only a minimum level of water quality improvement.

V. CONCLUSION

The sources of water pollution confronting policymakers, regulators and the public today are too diffuse to control solely through traditional means. In the long run, innovative incentive-based programs integrated into all aspects of government policy can provide that last margin of improvement in national water quality necessary to fully realize the lofty goals of the Clean Water Act. By changing the incentives built into farm policy, agricultural

75. H.R. REP. NO. 916 Title XI §§ 1101-1111, 136 CONG. REC. at 11,260-63.

76. Pub. L. No. 101-624, 101 Stat. 3359 (1990).

77. Omnibus Budget Reconciliation Act, Pub. L. No. 101-508, 104 Stat. 1388 (1990).

78. H.R. REP. NO. 964, 101st Cong., 2d Sess., Title I §§ 1001-1302, 136 CONG. REC. 11,242 (1990).

79. *Id.*

80. H.R. REP. NO. 916, 101st Cong., 2d Sess., Title VII § 701, 136 CONG. REC. 11,253-57 (1990).

81. Conserving use acreage planted to minor oilseeds are eligible for either deficiency payments or for the loan provisions included in the Act for minor oilseeds.

82. H.R. REP. NO. 916, Title XIV §§ 1401-1499, 136 CONG. REC. at 11,279-300.

83. *Id.*

84. *Id.* §§ 1401-1412, 136 CONG. REC. at 11,279-81.

85. *Id.* §§ 1421-1424, 136 CONG. REC. at 11,281-83.

86. *Id.* §§ 1471-1473, 136 CONG. REC. at 11,295-96.

practices less harmful to water quality should become more widespread. In future years, the 1990 Farm Bill may be viewed as an important first step toward the goal of improved water quality.