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Agriculture and the Polluter Pays Principle

I. INTRODUCTION

With more than 430 million acres of cropland[1] and 580 million acres of grassland pasture and range,[2] and over $200 trillion in agricultural products sold per year,[3] the United States is noted for high productivity and quality in agriculture production. A 2004 report by the Organization of Economic Cooperation and Development (OECD Report), entitled *Agriculture and the Environment: Lessons Learned from a Decade of OECD Work*,[4] aptly identifies the detrimental effects of intensive agricultural production, as in the US. These include "mainly water and air pollution, but also the loss of wildlife habitats and landscape features. Soil degradation and water depletion are also serious concerns in some areas."[5] The report asks "whether agriculture can efficiently produce the food to meet this growing world demand [in the next half-century] without degrading natural resources . . . and do so in ways that are socially acceptable."[6]

A growing concern with environmental protection in the United States is reflected in a closer scrutiny of the environmental impact of agricultural activities and operations in the United States.[7] There is

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1. USDA National Agricultural Statistics Service, 2002 Census of Agriculture — United States Data, at 8, Tables 1, 8, *available at* http://www.nass.gov/census/ [hereafter 2002 Census]. These figures include cropland used for crops and pasture and cropland idled.

2. USDA ERS [Economic Research Service], Agricultural Resources and Environmental Indicators, 2003, Agriculture Handbook No. AH722, ch. 1, p. 2, Table 1.1.1, Feb. 2003, *available at* http://www.ers.usda.gov/publications/arei/ah744.

3. 2002 Census, *supra* note 1, at 6, Table 1. The number is $200,646,355,000.

4. OECD, *Agriculture and the Environment: Lessons Learned from a Decade of OECD Work* (2004), *available at* http://www.oecd.org/dataoecd/15/28/33913449.pdf [hereafter 2004 OECD Report].

5. *Id.* at 12.

6. *Id.* at 11.

7. *See generally* Charles W. Abdalla, *The Industrialization of Agriculture: Implications for Public Concern and Environmental Consequences of Intensive Livestock Operations,* 10 PENN ST. ENVTL. L. REV. 175 (2002); Susan M. Brehm, *Comment: From Red Barn to Facility: Changing Environmental Liability to Fit the Changing Structure of Livestock Production,* 93 CALIF. L. REV. 797 (2005); Jody M. Endres & Margaret Rosso Grossman, *Air Emissions from Animal Feeding Operations: Can State Rules Help?*, 13 PENN ST. ENVTL. L. REV. 1 (2004); J. B. Ruhl, *Agriculture and the Environment: Three Myths, Three Themes, Three Directions,* 25-SPG ENVI-

keen awareness of the need to explore effective means, including Federal and State regulatory mechanisms, to maintain, restore, and improve the environment, as well as prevent and deter further environmental deterioration. Thus, new approaches are being examined.[8]

In the 1970s, the U.S. Federal government began to institute agri-environmental programs as part of Federal farm policy,[9] although historically agriculture in the U.S. has been almost exempted from environmental regulations.[10] Even at present, the polluter in agricultural activities rarely pays because subsidies and farm price or income support still constitute the core of U.S. agri-environmental policy. The emphasis remains on programs under which a prerequisite for receiving a subsidy is a basic level of environmental compliance, especially the adoption of certain resource conservation activities on highly erodible land (HEL) and for wetlands protection ("Swampbuster").[11]

RONS ENVTL. L. & POL'Y J. 101 (2002); J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law,* 27 ECOLOGY L.Q. 263 (2000) [hereafter Environmental Harms]. For several recent reports, see Jason Bernstein, *et al., Agriculture and the Environment in the United States and EU, in* U.S.-EU Food and Agriculture Comparisons / WRS-04-04, at 66-77 (2004) (discussing different instruments for environmental protection employed by the US), *available at* http://www.ers.usda.gov/publications/wrs0404/wrs0404g.pdf [hereafter US-E.U. Agriculture and the Environment]; Roger Claassen, *et al., Agri-Environmental Policy at the Crossroads: Guideposts on a Changing Landscape*/AER-794, Economic Research Service/USDA, Jan. 2001, *available at* www.ers.usda.gov/publications/aer794/aer794.pdf [hereafter Agri-Environmental Policy]; Jeffrey Hopkins & Robert Johansson, *Beyond Environmental Compliance — Stewardship as Good Business*, 2 Amber Waves No. 2 (April 2004), *available at* http://www.ers.usda/gov/amberwaves [hereafter Beyond Environmental Compliance].

8. One such approach is the provision of "ecosystem services." In 2003, the United States Environmental Protection Agency (EPA) established a Science Advisory Board of Valuing the Protection of Ecological Systems and Services. *See* Sci. Advisory Board, *Request for Nominations for Experts for a Panel on Valuing the Protection of Ecological Systems and Services,* 68 Fed. Reg. 11,082 (Mar. 7, 2003). For an insightful analysis of the usefulness of ecosystem services, see generally James Salzman, *Creating Markets for Ecosystem Services: Notes from the Field,* 80 NYU L REV. 870 (2005), a study of the experiments in New York City, BushTender (Australia), and Pagos por Servicios Ambientales (Costa Rica) [hereafter Ecosystem Services]. Professor Ruhl suggests crafting "a new law built around a core body of environmental law programs tailored specifically for farming." J.B. Ruhl, *supra* note 7, at 335-47.

9. Agri-environmental programs are those designed to encourage farmers to follow production practices that are environmentally sound. For a summary of the initiation of environmental regulatory mechanisms in the US, see generally J.W. Looney, *The Changing Focus of Government Regulation in Agriculture in the United States*, 44 MERCER L. REV. 763, 796-803 (1993) (summarizing the initiation of environmental regulatory mechanisms).

10. *See, e.g.,* Jim Chen, *Get Green or Get Out: DeCoupling Environmental from Economic Objectives in Agricultural Regulation,* 48 OKLA. L. REV. 333, 350-51 (1995) (agriculture enjoys both explicit and implicit exemptions); John Davidson, *Conservation Agriculture: An Old New Idea*, 9 NAT. RES. & ENV'T 20, 20 (1995) (exemption of agriculture from every major Federal environmental statute).

11. 16 U.S.C. §§ 3811-14 (HEL provisions); 3821-24 (Swampbuster provisions). For regulations implementing Swampbuster, see 7 C.F.R 21, 61 Fed.Reg. 47019.

In the next section, this paper reviews the Polluter Pays Principle (PPP) in U.S. law. The following sections examine the environmental impacts of U.S. agriculture, pertinent Federal and State agri-environmental laws and regulations, and selected court decisions.

II. THE PPP IN UNITED STATES DOMESTIC LAW

While the PPP has "informed the evolution of environmental law in the United States,"[12] recent policy shifts have limited some of its efficacy. The Principle may take the form of subsidies, of government mandating industrial polluters to meet environmental standards at their own expense or imposing direct charges for cleanup, fees, fines, penalties, and connected expenses, or taxes upon industries that are generally known to be polluters. This section reviews some statutory iterations of the PPP.

The Principle has been enacted in laws and regulations and upheld through judicial decisions. It provides the basis[13] for the major piece of environmental legislation regarding hazardous pollution, the Comprehensive Environmental Response, Compensation and Liability Act of 1980[14] (CERCLA), which assigns liability for expenses of cleanup of hazardous substance releases; it is a major component of the Resource Conservation and Recovery Act[15] (RCRA); and it is in-

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Under the HEL provisions, eligibility for Federal subsidies typically available to a farmer — commodity and disaster programs, loans, and conservation programs — depends on the producer's implementation of an approved conservation plan. Violations may lead to a producer losing Federal payments for all farmed land and all commodities. Wetland values and functions to be protected under Swampbuster include wildlife habitat, water purification, groundwater recharge, and flood peaks mitigation. Compliance with Swampbuster requires producers to refrain from altering wetlands for agriculture production. Violation may lead to a loss of Federal farm program benefits. *See generally* US-E.U. Agriculture and the Environment, *supra* note 7, at 66-71; Roger Claassen, ERS/USDA, *Environmental Compliance in U.S. Agricultural Policy,* AER-832, June 2004 [hereafter Environmental Compliance].

12. Eric Thomas Larson, *Why Environmental Liability Regimes in the United States, the European Community, and Japan Have Grown Synonymous with the Polluter Pays Principle*, 38 VAND. J. TRANSNAT'L L. 541, 546 (March 2005). *See generally* Martina E. Cartwright, *Superfund: It's No Longer Super and It Isn't Much of a Fund,* 18 TUL. ENVTL. L.J. 299 (2005).

13. *See* Report of the House Subcomm. on Investigations and Oversight of the Comm. on Public Works and Transportation, Administration of the Federal Superfund Program, H.R. Doc. No. 103-55, at 12 (1993); Larson, *supra* note 12 at 547.

14. Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601-9675 (1994) (potentially responsible parties for CERCLA liability) [hereafter CERCLA]. *See generally* EPA, 2004 Superfund Annual Report, Sept. 2005, *available at* http://www.epa.gov/superfund/action/process/pdfs/fy2004/fy2004.pdf; Martina Cartwright, *supra* note 12.

15. Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901, *et seq.* (1994).

cluded in provisions of the 1970 Clean Air Act[16] (CAA) and the Act's 1990 Amendments,[17] and the 1977 Clean Water Act[18] (CWA).

CERCLA contains two primary elements: one, the enforcement of liability upon polluters, who are compelled to pay for the cleanup of their waste and two, the cleanup of "orphan" sites, often abandoned or belonging to bankrupt companies. It essentially assigns strict liability for all damages on any potentially responsible parties (PRPs)[19] and allows very limited defenses.[20] However, damages are capped in the absence of willful misconduct, willful negligence or "violation of applicable safety, construction, or operating standards or regulations," or refusal to cooperate with the authorities in their response.[21] CERCLA also empowers the EPA to order cleanup by a private party on penalty of treble damages for failure to comply.[22] Funds collected from PRPs contribute to the "Superfund."[23]

Key to the application of CERCLA is the provision added by the 1986 Superfund Amendments and Reauthorization Act (SARA)[24] that any person "may" seek contribution from any other liable or potentially liable person[25] "during or following any civil action" under CERCLA § 106, which empowers the government to compel responsible parties to clean up contaminated sites, or § 107(a), which authorizes the government to recover remediation costs from PRPs.[26]

16. Clean Air Act of 1970, Pub. L. No. 91-604, 84 Stat. 1676 (1970) (codified as amended at 42 U.S.C. §§ 7401-7671q) (1994 & Supp. III 1997)) [hereafter CAA].

17. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, § 501, 104 Stat. 2399, 2636 (1990), codified at 42 U.S.C. 13101, *et seq.* [hereafter Clean Air Act Amendments].

18. Clean Water Act of 1977, Pub. L. No. 95-217, 91 Stat. 1566 (1977) (codified as amended at 33 U.S.C. §§ 1251-1387 (1997 & Supp. III 1997)) [hereafter CWA]. Regarding the enforcement aspect, one commentator notes that "[t]his stringent liability regime is synonymous with the polluter pays principle." Larson, *supra* note 1, at 551. RCRA, the CAA, and the CWA provide up to 15 years in prison, very substantial fines, or both for knowingly violating specified substantive provisions of the Acts and knowingly endangering human beings: the Clean Water Act, 42 U.S.C. § 1319(c)(3)(A); the Resource Conservation and Recovery Act, 42 U.S.C. § 6928(e); and the Clean Air Act, 42 U.S.C. § 7413(c)(5).

19. CERCLA, *supra* note 14, 42 U.S.C. § 9622. CERCLA's primary provisions are enumerated at *id.* § 9607. *See also* Larson *supra* note 12, at 551.

20. CERCLA, *supra* note 14, 42 U.S.C. § 9607(b)(3).

21. *Id.* 42 U.S.C. § 9607(c).

22. *Id.* 42 U.S.C. §§ 9606(a); 9607(c)(3). *See also id.* §§ 9604, 9622; Larsen, *supra* note 12, at 554.

23. 26 U.S.C. § 9507 (1993) (Hazardous Substance Superfund); 42 U.S.C. § 9611(a)(1994) (defining its uses). "Superfund" also refers generally to all of CERCLA.

24. Superfund Amendments and Reauthorization Act of 1986, 100 Stat. 1613 (SARA).

25. Prior to the passage of SARA, this right was recognized as implied. *See Wehner v. Syntex Agribusiness,* 616 F.Supp. 27, 31 (E.D. Mo. 1985); *City of Philadelphia v. Stepan Chem. Co.,* 544 F.Supp. 1135, 1142 (E.D. Pa. 1982).

26. *See Cooper Industries, Inc. v. Aviall Services, Inc.,* 125 S.C. 577, 578 (2004): "A private party who has not been sued under CERCLA § 106 or § 107(a) may not obtain contribution under § 113(f)(1) from other liable persons."

Nearly 30 percent of all Superfund sites are "orphan" sites, for which there is no Responsible Party to pay.[27] Under CERCLA a Trust Fund was established to pay for cleanup of these sites. During President Jimmy Carter's term, Congress adopted legislation to raise taxes from polluting industries and dedicate the proceeds to the cleanup Trust Fund, which was subsequently renewed until 1995, when Congress let the "Polluter Pays" Superfund taxes expire, ending the flow of approximately $4 million per day to pay for Superfund orphan site cleanups.[28] A Senate bill to reinstate the taxes was defeated 53-43 in March 2004.[29] At the end of the year, Superfund program's budget was in the red about $250 million, with approximately 475 sites already in process and yet to be completed.[30] Thus, while the Polluter Pays Principle remains intact in the mandatory cleanup and penalties facet of CERCLA,[31] it is no longer viable with respect to the cleanup of orphan sites, due to lack of funds.

The PPP is also a significant feature of the Resource Conservation and Recovery Act[32] (RCRA), which requires subject parties to meet its standards at their own expense. It covers the treatment, storage, and disposal of hazardous wastes and the disposal of municipal solid wastes, as well as the storage of petroleum and other products in underground storage tanks. Most highly regulated are treaters, storers, and disposer (TSD) facilities. RCRA is often called a "cradle to grave" tracking program, referring to its requirements for paperwork and recordkeeping throughout the life of a substance.[33]

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27. *See generally* Michael J. Gergen, *Note, The Failed Promise of the "Polluter Pays" Principle: An Economic Analysis of Landowner Liability for Hazardous Waste,* 69 N.Y.U. L. REV. 624 (1994); Jonathan Remy Nash, *Too Much Market? Conflict Between Tradable Pollution Allowances and the "Polluter Pays" Principle,* 24 HARV. ENVTL. L. REV. 465 (2000).

28. *See* Martina Cartwright, *supra* note 12, at 315. *See also, e.g.,* National Environmental Trust, *Superfund and the "Polluter Pays" Tax: How the Funding Crisis Affects America's Worst Toxic Waste Sites* (2004), *available at* www.net.org/superfund/Superfund_Report.pdf.

29. *See Superfund "Polluter Pays" Amendment Loses in Senate,* Sierra Club, March 11, 2004, *available at* http://www.sierraclub.org/pressroom/releases/pr2004-03-11a.asp.

30. Michael Janofsky, *Change May Be Needed In Superfund, Chief Says,* N.Y. Times, Dec. 5, 2004, at sec. 1, p. 36.

31. *See, e.g., Weyerhaeuser to Cover Cleanup Costs,* N.Y. Times, Jan 4, 2005, at C4.

32. *Supra* note 15.

33. *See* Timothy O. Schimpf, *Note: Unleash RCRA! Letting Loose the Corrective Action Process of RCRA Can Change the World,* 29 WM. & MARY ENVTL. L. & POL'Y REV. 481, 482-83 (2005), *citing* Corrective Action for Solid Waste Management Units (SWMUs) at Hazardous Waste Management Facilities, 55 Fed. Reg. 30,798 (July 27, 1990); Richard G. Stoll, *The New RCRA Cleanup Regime: Comparisons and Contrasts with CERCLA,* 44 SW. L.J. 1299, 1303 (1991); Ralph A. DeMeo, Michael P. Petrovich, & Matthew L. Hicks, *Environmental and Land Use Law: More Flexible Cleanup in Florida: RCRA Corrective Action Reforms,* 77 FLA. BAR J. 46, 46 (2003).

The Clean Air Act, which embodies an extensive framework governing stationary and mobile sources of air pollution,[34] also requires polluters to satisfy environmental standards at their own expense.[35] 1990 Amendments to the Act "followed the PPP's prescriptions with remarkable fidelity."[36] Under the Amendments, sources that may cause air pollution must pay an annual fee to their states to obtain operating permits, which fees are required to be "sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program."[37] Section 110 of the CAA permits States, if they choose, to develop State implementation plans (SIPs) specifying the measures they will implement and enforce to achieve the target National Ambient Air Quality Standards (NAAQS), failing which the EPA prepares a federal implementation plan for the area.[38]

The CWA will be considered at length below with specific reference to agriculture. It prohibits the "discharge of any pollutant by any person"[39] into the waters of the United States and regulates the discharge of pollutants through a permitting program. It also requires each state to adopt water quality standards for the water bodies located within its borders which serve as the basis for treatment controls and water quality protection strategies. "Point source" discharges — discharges from discrete conveyances such as pipes or man-made ditches that go directly into surface waters — must adhere to the terms of a permit issued under the National Pollutant Discharge Elimination System (NPDES).[40] "Nonpoint source" pollution, not explicitly defined under the Act,[41] falls under state authority and control certification processes,[42] with the EPA exercising a review and approval — not rulemaking — function.[43] It is caused by many different sources as rainfall or snowmelt carrying natural and human-made pollutants (such as excess fertilizers, herbicides, insecticides, sediment, salts, nutrients, and bacteria) and depositing them

34. *See* CAA, 42 U.S.C. §§ 7401-7671q. *See also* The Clean Air Act Handbook (Robert J. Marineau Jr. & David P. Novello eds., 1998).

35. For example, CAA, 42 U.S.C. § 7502.

36. Sanford E. Gaines, *The Polluter-Pays Principle: From Economic Equity to Environmental Ethos,* 26 TEX. INT'L L.J. 463, 474-75 (1991). *See generally id.*

37. Clean Air Act Amendments, § 501. The costs include the processing of permit applications, monitoring, preparation of regulations, and air quality modeling studies. *Id.*

38. 42 U.S.C. §§ 7408-7410.

39. CWA, 33 U.S.C. § 1311(a).

40. *Id.* § 1342.

41. Defined by one court as "nothing more than a [water] pollution problem not involving a discharge from a point source." *National Wildlife Federation v. Gorsuch,* 693 F.2d 156, 166 n. 28 (D.C. Cir. 1982).

42. CWA, 33 U.S.C. § 1313.

43. *See City of Albuquerque v. Browner,* 97 F.3d 415, 425 (10th Cir. 1996), *quoting Natural Resources Defense Council, Inc. v. EPA,* 16 F.3d 1395, 1401 (4th Cir. 1993).

into waters — wetlands, lakes, rivers, coastal waters, and underground sources of drinking water.

In addition to the federal regulations, the states have their own versions of CERCLA for remediation of state hazardous waste sites. Examples include Texas,[44] New Jersey,[45] Massachusetts,[46] Georgia,[47] Indiana,[48] and California.[49]

Aside from CERCLA-type statutes, some States have endeavored to enact laws based on the Polluter Pays Principle. To illustrate, the 1994 Everglades Forever Act[50] allowed the state of Florida to impose a tax upon landowners for pollution abatement in the Everglades area but a 1996 amendment to the state's constitution held polluters "primarily responsible" for paying the costs of the abatement of pollution for which they were responsible.[51] The Florida state legislature, however, has failed to follow up the constitutional provision with the necessary legislation.[52]The California legislature broke new ground when in 2003 it passed and the governor signed a State Budget Act that "requires that the entire general fund portion of the SWRCB's Core Regulatory Program be paid by those to whom waste discharge requirements are issued,"[53] another significant step in making the polluter pay.

III. The Environmental Impacts of U.S. Agriculture

With its huge production of crops and animal products,[54] the U.S. faces enormous water and air pollution problems generated by

44. Texas Solid Waste Disposal Act, Tex. Health & Safety Code § 361.001, et seq. *See R.R. Street & Co., Inc. v. Pilgrim Enterprises, Inc.,* 166 S.W.3d 232 (Texas 2005).

45. N.J. Stat. § 58:10-23.11g: Liability for cleanup and removal costs.

46. General Laws of Massachusetts, General Law ch. 21E, § 5 (2005). *See Commonwealth v. Boston Edison Company*, 444 Mass. 324, 828 N.E.2d 16 (2005).

47. The Georgia Hazardous Site Response Act (HSRA) contains "procedural due process protections . . . not existing in CERCLA." O.C.G.A. § 12-8-96.1 (2005).

48. Indiana Code § 13-7-20-21 (1991). *See Bourbon Mini-Mart v. Gast Fuel & Servs.*, 783 N.E.2d 253 (Ind. 2003).

49. The Carpenter-Presley-Tanner Hazardous Substance Account Act (HSAA), is California's "Superfund" law. Cal. Health & Safety Code § 25360, et seq. The Polanco Redevelopment Act, Cal. Health & Safety Code § 33459.01, et seq., *inter alia*, authorizes a redevelopment agency of the state to collect costs of a hazardous substance release cleanup action from the responsible parties. *Id.* § 33459.4. *See Redevelopment Agency v. Salvation Army,* 103 Cal. App. 4th 755 (2002).

50. Fla. Stat. Ann. § 373.4592 (1994).

51. Florida Constitution, art. II, § 7(b).

52. For courts' interpretation of the amendment, see *Beanal v. Freeport-McMoran, Inc.*, 197 F.3d 161 (2002); and *Barley v. South Florida Water Management Dist.*, 823 So.2d 73 (2002).

53. State Water Resources Control Board Resolution No. 2003-0064 Adopting *Emergency Regulation Revisions to the Fee Schedules Contained in Title 23, Division* 3, Chapter 9, Article 1, Section 2200 of the California Code of Regulations.

54. *See supra* notes 1-3.

agricultural operations.[55] The 2004 OECD Report identified the following environmental impacts of U.S. agricultural practices: soil erosion, water pollution, excessive groundwater extraction, air pollution, and loss of biodiversity.[56]

According to the US Environmental Protection Agency (EPA), based on the *National Water Quality Inventory: 2000 Report*,[57] the agricultural sector, including aquaculture, is the leading source of pollutants in the nation's rivers and streams, lakes, ponds, and reservoirs, and the fifth leading polluter in the nation's estuaries.[58] The transmission of agricultural pollutants is caused by runoff, groundwater leaching, or through the atmosphere. According to Natural Resources Conservation Service estimates, the annual loss of soil from erosion amounts to approximately 1.07 billion tons per year.[59] Activities causing pollution include poorly managed or located animal feeding operations, overgrazing, plowing at the wrong time or too often, and "improper, excessive, or poorly timed application of pesticides, irrigation water, and fertilizer."[60] Farming and ranching operations cause pollutants including sediments; nutrients; pathogens; pesticides, fungicides, and herbicides; metals; and salts.[61]

The trend in the livestock and poultry industries in the U.S. is toward larger operations, combined with more intensive production methods, which result in more manure nutrients and animal waste,[62] with potential adverse effects on soil, air quality, water quality, and increased risks not only to aquatic and wildlife ecosystems but to human and livestock animal health, as well.[63] Consequently, the EPA is regulating nearly 60 percent of all manure generated by oper-

55. On environmental impacts of agriculture, see Agri-Environmental Policy, *supra* note 7, at 2.

56. OECD Report, *supra* note 4, at 12-13.

57. EPA, *National Water Quality Inventory: 2000 Report* [hereafter 2000 Water Quality Report], *cited in EPA, National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations (CAFOs); Final Rule, Part II,* 68 No. 29 Fed. Reg. 7176, 7181 (Feb. 12, 2003) [hereafter 68 Fed. Reg. 7176]. The Report is required to be prepared every two years under § 305/b of the Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. §§ 1251-1387. However, starting with EPA's *2002 National Assessment Database*, the Agency provides summarized information submitted by states electronically. The report is *available at* http://www.epa.gov/waters/305b/NAD_factsheet.html.

58. 2000 Water Quality Report, *supra* note 92, at 7181. *See also* ERS/USDA, *Water Quality Impacts of Agriculture,* ch. 2.3, *in* Ralph Heimlich, *Agricultural Resources and Indicators,* 2003 Agricultural Handbook No. (AH722), Feb. 2003, *available at* http://www.ers.usda.gov/publications/arei/ah722.

59. Natural Resources Conservation Service, *cited in* Beyond Environmental Compliance, *supra* note 7, at 32.

60. EPA, *Protecting Water Quality from Agricultural Runoff,* EPA 841-f-05-001, Mar. 2005.

61. *Id.*

62. 68 Fed. Reg. 7176, *supra* note 57, at 7180.

63. *Id.* at 7181.

ations that confine animals.[64] Hazardous pollutants and odors from livestock operations[65] and loss of rural lands and degradation of habitat are among other negative environmental impacts of agriculture.

IV. Pertinent Statutes and Regulations

With a few exceptions to be discussed later, agriculture operations are exempt from Federal government regulations. There are no Federal agri-environmental taxes embodying the Polluter Pays Principle; the Federal agriculture policy relies primarily on incentives and subsidies.[66] This section will be divided into two parts: A) commodity price / farm income support and voluntary conservation programs aimed at reducing or mitigating impacts of agriculture production on the environment, and B) mandatory regulated activities.

A. Commodity Price/Farm Income Support and Voluntary Conservation Programs

In the post-World War II period, government farm price and income supports have been a constant feature of U.S. agricultural policy. Technological advances, coupled with the widespread use of pesticides and chemical fertilizers, resulted in higher production per acre and consequent surpluses of rice, grains, and cotton. Farmers received "deficiency" payments, payments for not farming and keeping land idle from production so that market prices could be kept up.

In 1985, Congress adopted the Food Security Act (FSA) of 1985,[67] which continued to provide farm price and income support. However, the Act constituted a shift, for it initiated voluntary conservation programs and compliance mechanisms under which agricultural producers are eligible for price and income support programs and voluntary conservation programs provided they undertake certain resource conservation activities. One significant voluntary program of the FSA, further modified and strengthened by subsequent acts in 1990[68] and 1996,[69] is the Conservation Reserve Program (CRP). Designed to

64. *Id.* at 7180.

65. For an insightful analysis, see Jody M. Endres & Margaret Rosso Grossman, *Air Emissions From Feeding Operations: Can State Rules Help?,* 13 PENN ST. ENVTL. L. REV. 1 (2004).

66. For example, in 1998 and 1999 farm legislation was approved to offset partially low market prices and other disasters, enhancing total direct producer payments to $14.4 billion in 1999 and $20.8 billion in 2000. Agri-Environmental Policy, *supra* note 7, at 4.

67. Food Security Act of 1985, 16 U.S.C. §§ 3801, *et seq.* [hereafter FSA].

68. Food, Agriculture, Conservation and Trade Act of 1990, Pub. L. 101-624, 7 U.S.C. § 1421, *et seq.*

69. Federal Agriculture Improvement and Reform Act of 1996, Pub. L. 104-127, 7 U.S.C. § 7201, *et seq.* [hereafter 1996 Farm Act].

conserve and improve soil, water, and related natural resources, the CRP's agri-environmental provisions encourage agricultural producers to remove highly erodible and other environmentally sensitive land from production in order to implement soil and water conservation measures and establish vegetative or water cover for the enhancement of wildlife.[70]

The FSA also authorizes enrollment of wetlands under the Wetlands Reserve Program (WRP) with the goal of protecting and restoring such lands through both permanent and long-term (30 years) easements.[71] The WRP, also voluntary, provides conservation easement payments and restoration cost-sharing to eligible farmers implementing a wetlands conservation plan to help restore and protect wetlands on agricultural lands.

The Environmental Quality Incentives Program (EQIP) was established in 1996, consolidating several Federal programs to provide flexible financial and technical assistance to farmers and ranchers implementing both State and Federal environmental laws related to soil, water, and air quality, wildlife habitat and water conservation, and also supports producers' management practices to conserve and improve soil, groundwater, and related natural resources. Technical assistance, cost-sharing and incentive payments, and education are provided to owners under contracts lasting from one to ten years to implement specified conservation land management practices (including nutrient and manure management), structural practices (including animal waste management facilities), and comprehensive nutrient management plans (CNMP).[72] All these programs are part of an overall Environmental Conservation Acreage Reserve Program.[73] Technical committees in each State established under the Act assist in implementing the Act's conservation provisions.[74]

The latest Federal legislation, the Federal Farm Security and Rural Investment Act of 2002 (2002 Farm Act),[75] provides the legal framework for U.S. farm policy and programs through the 2007 crop year. The Act continues most of the market-oriented reforms contained in the prior acts and provides income support for covered com-

70. *Id.* 16 U.S.C. §§ 3831-36. The CRP operates through a system of annual land rental payments govered by ten- to fifteen-year contracts with the produer.

71. *Id.* § 3837.

72. 16 U.S.C. §§ 3839aa-3839aa-9, CFR pt. 1466. On May 23, 2005, US Secretary of Agriculture Mike Johanns announced that 1,156 EQIP contracts covering nearly 436,000 acres of farm and ranchland were approved for limited resource farmers and ranchers in fiscal year 2004 for $183 million. USDA News Release No. 0176, 05, *available at* http://www.usda.gov/wps/portal/!ut/p/_s.7/0/A/7_0_ird?printable=true&contentidonly=. . .

73. 1996 Farm Act, *supra* note 105, Title III, Subtitle D, 16 U.S.C. §§ 331-336.

74. *Id.* Subtitle E, 16 U.S.C. §§ 342-43.

75. Pub. L. 107-171, 116 Stat. 134, *et seq.,* 7 U.S.C. 7901, *et seq.* [hereafter 2002 Farm Act].

modities,[76] including wheat, feed grains, upland cotton, rice, and oil seeds. It also provides support in several programs related to nutrition,[77] rural development,[78] research,[79] forestry,[80] and energy,[81] with projected payments of about $343 billion over fiscal years 2002-07.[82]

The Act especially retains the planting flexibility of the 1996 Farm Act[83] and continues direct payments for covered commodities while introducing several new initiatives. One is the counter-cyclical payments program[84] (CCP) that provides a safety net to farmers, for it offers benefits whenever the market price of the covered commodity falls short of its effective target price. Along with direct and counter-cyclical payments, marketing assistance loans are also extended to growers of certain commodities.[85] Special provisions are made for peanuts,[86] sugar,[87] and dairy.[88]

The Act expands direct payments.[89] Most commodity programs, conservation programs, and trade programs related to agriculture are funded by the Commodity Credit Corporation,[90] and according to the President's budget for fiscal year 2005, total payments are expected to amount to about $104 billion during fiscal years 2002-2007.[91]

Conservation programs under the Act include the retirement of environmentally sensitive land, with greater emphasis on the conservation of working land and environmentally friendly practices for livestock operations. The Act markedly increases conservation funding while earmarking most of the increase for working-land programs payments. While the CRP[92] and the EQIP[93] are expanded and the WRP is continued,[94] a new Conservation Security Program (CSP) is also established.[95] The CSP, which goes beyond the CRP and the

76. *Id.* Title I, § 1103 7 U.S.C. §7913.
77. *Id.* Title IV, §§ 4001-4405.
78. *Id.* Title VI, §§ 6001-6304.
79. *Id.* Title VII, §§ 7001-7506.
80. *Id.* Title VIII, §§ 8001-8201.
81. *Id.* Title IX, §§ 9001-9010.
82. USDA, Steven Zahniser, *et al.*, *Recent Agricultural Policy Reforms in North America*, WRS/05/03, at 7, April 2005, *available at* www.ers.usda.gov [hereafter Recent Agricultural Policy Reforms].
83. 2002 Farm Act, *supra* note 75, at §§ 1106-07, 7 U.S.C. § 7916-17.
84. 2002 Farm Act, *supra* note 75, at § 1104, 7 U.S.C. 7914.
85. 2002 Farm Act, *supra* note 75, at §§ 1201-09, 7 U.S.C. 7931-39.
86. 2002 Farm Act, *supra* note 75, at §§ 1301-10, 7 U.S.C. 7951-60.
87. 2002 Farm Act, *supra* note 75, at §§ 1401-03, 7 U.S.C. 7271.
88. 2002 Farm Act, *supra* note 75, at §§ 1501-08, 7 U.S.C. 7981-84.
89. Recent Agricultural Policy Reforms, *supra* note 118, Table 3, at 9.
90. 2002 Farm Act, *supra* note 75, at § 1609, 15 U.S.C. § 714c.
91. Recent Agricultural Policy Reforms, *supra* note 118, at 7.
92. 2002 Farm Act, *supra* note 75, at §2101, 16 U.S.C. 3831, *et seq.*
93. 2002 Farm Act, *supra* note 75, at § 2301, 16 U.S.C. § 3839.
94. 2002 Farm Act, *supra* note 75, at §§ 2201-06, 16 U.S.C. § 3837.
95. *Id.* Title II, Subtitle A, §§ 2001-06; 16 U.S.C. §§ 3838-3838c; 7 CFR pt. 1469.

WRP,[96] provides for "green" incentive payments to producers for their implementation of a wide range of land management conservation practices on working land to address one or more resources of concern, such as soil, water, and wildlife habitat. The CSP uses a three-tiered approach of participation with larger payments for higher tiers that require greater conservation measures.

A special feature of the CSP, which has recently faced budget cuts, is that these payments are also available to farmers for maintenance of existing land management and vegetative practices prior to their enrolling in the program. The CSP and EQIP are apt examples of the "Provider Gets" principle, which means that producers receive payments as incentives to help them "provide environmental amenities (public goods) beyond mere avoidance of pollution and beyond the minimum level required by law."[97] Another voluntary program, the Resource Conservation and Development Program, helps protect and develop their economic, natural, and social resources.[98] Other such programs under the 2002 Farm Act[99] include the Wildlife Habitat Incentives Program,[100] Farmland Protection Program,[101] and Grassland Reserve Program.[102]

Other pertinent statutes supporting farmers in making environmentally sound decisions include the Agricultural and Risk Protection Act of 2000,[103] which extends the subsidization of crop insurance, thus reducing this cost to farmers and consequently encouraging insurance participation, at a total of about $1.9 billion for the 2003 crop year;[104] and the Trade Adjustment Assistance for Farmers Program under the Trade Act of 2002, which also provides technical assistance and cash benefits to eligible farmers, ranchers, fish farmers, and fishermen.[105]

96. *See generally* Roger Claassen, *Emphasis Shifts in U.S. Agri-Environmental Policy,* 1 Amber Waves No. 5, Nov. 2003, at 39, *available at* http://www.ers.usda.gov/amberwaves.

97. Margaret Rosso Grossman, *Agriculture and the Polluter Pays Principle: An Introduction,* J-11-1-1, J-1-24 (paper presented at the 26th Annual Meeting and Educational Conference of the American Agricultural Association, Kansas City, October 7-8, 2005.

98. 2002 Farm Act, *supra* note 75, at § 2504, 16 U.S.C. 3451, *et seq.*, *available at* http://public.nrcs.usda.gov/scripts/lpsiis.dll/M/M_440_513.htm.

99. For a summary account, see *US-E.U. Agriculture and the Environment*, *supra* note 7, at 69; USDA Andrea Cattaneo, *et al, Flexible Conservation Measures on Working Land — What Challenges Lie Ahead?,* Economic Research Report No. 5, June 2005, at 2, *available at* www.ers.usda.gov [hereafter Flexible Conservation Measures].

100. *See* 67 Fed. Reg. 142 (July 24, 2002).

101. 2002 Farm Act, *supra* note 75, § 388, 16 U.S.C. 3838h.

102. 2002 Farm Act, *supra* note 75, § 2401, 16 U.S.C. 3838n.

103. 7 U.S.C. § 1501, *et seq.*

104. Recent Agricultural Policy Reforms, *supra,* note 82, at 7.

105. For a summary account, see *id.* at 12.

As an appraisal of voluntary farm conservation programs such as the CRP, WRP, and EQIP shows, significant recent progress has occurred in addressing traditional concerns with the environmental impact of agriculture: "Soil erosion is down, wetland restoration and protection have increased, and more wildlife habitat exists on farmlands."[106] To illustrate, more than 34 million acres of cropland were retired between 1986 and 2004 with significant environmental benefits,[107] including soil erosion reduction and enhanced soil quality and wildlife protection.[108] Similarly, conversion of wetland for crop production has also decreased markedly — dropping from 593,000 acres annually in 1954-74 to 235,000 acres for 1974-84, 31,000 acres between 1982-92, and 26,000 acres from 1992-97.[109] Also, 990,000 acres of wetlands have been restored.[110]

B. Regulatory Mechanisms Applicable to Agriculture

1. Introduction

Agriculture is so diffused throughout the United States that the conventional regulatory approach of applying uniform national environmental laws to emissions from farms with their wide diversity is impractical and hence unworkable. Thus, farms are treated differently from other industries in the application of US regulatory laws to control pollution, not only for geographical reasons but economic and political reasons, as well.[111] However, several environmental statutes and regulations apply to agriculture. Also, plaintiffs have often invoked common law principles, especially nuisance and trespass, to support claims against polluters.

It should be noted at the outset that polluting agricultural activities are exempted from liability under the CERCLA program, discussed earlier,[112] and Emergency Planning and Community Right-to-Know Act (EPCRA) requirements.[113] Similarly, farms are exempted

106. Agri-Environmental Policy, *supra* note 7, at iii. For success of agri-environmental protection from 1985 to 2000, see *id.* at 3.

107. Economic Research Service/USDA, Patrick Sullivan, *et al., The Conservation Reserve Program: Economic Implications for Rural America* / AER-834, at iv, Sept. 2004, *available at* www.ers.usda.gov. For the amount of conservation expenditures for the period 1983-2000 on land retirements, cost-share, and incentive payment programs, and information and technical assistance, see Agri-Environmental Policy, *supra* note 7, at 8, fig. 1.

108. *Id. See also* Environmental Compliance, *supra* note 11, at 15 (noting that reduction in excess erosion on HEL [highly erodible land] cropped in 1982 and 1997 was 331 million tons).

109. *Id.* at 23.

110. Agri-Environmental Policy, *supra* note 7, at 3. *See also id.* at 1-5.

111. *See generally* J.P. Ruhl, *The Environmental Law of Farms: 30 Years of Making a Mole Hill Out of a Mountain,* 31 ENVT. L. REP. (Environmental Law Institute), 10203, 10205-10208 (2001).

112. 42 U.S.C. §§ 9601-76. CERCLA is discussed at *supra* notes 14-31 and accompanying text.

113. *See* 42 U.S.C. §§ 11004, 11022-023.

from the application of RCRA.[114] The EPA is, however, setting standards for the discharge of wastewater from concentrated aquatic animal production facilities, known as fish farms. The final rule, signed on June 30, 2004, establishes wastewater controls for such farms by establishing effluent limitation guidelines and new source performance standards for such operations. It requires best management practices to control the discharge of pollutants in the wastewater from these facilities.[115]

Pertinent statutes to be discussed here are: a) the Clean Water Act and Coastal Zone Management Act; b) the Clean Air Act; c) the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA); and d) the Endangered Species Act.

a. Clean Water Act and Coastal Zone Management Act

The purpose of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters."[116] "Pollutant" under the CWA includes "agricultural waste discharged into water."[117] A core provision of the Act's comprehensive program is the National Pollutant Discharge Elimination System (NPDES),[118] which established a mandatory permitting system for the discharge of pollutants from a "point source" to U.S. waters, requiring that the discharged effluent meet a set of water-based[119] and technology-based[120] standards except as authorized by a NPDES permit. Section 502 of the CWA specifically includes in the term "point-source"[121] large feedlots — concentrated animal feeding operations (CAFOs)[122] — thus mandating a permitting requirement for CAFOs. The CWA requires the EPA to establish technology-based effluent limitations and guidelines (ELGs) for different categories of sources, which the EPA did in the 1970s for CAFOs, along with establishing permitting

114. *See id.* §§ 6901-6992k.
115. 69 Fed. Reg. 51,892 (Aug. 23, 2004).
116. CWA, 33 U.S.C. § 1251(a).
117. *Id.* § 1362(6).
118. *Id.* § 1342.
119. *Id.* §§ 1312-15.
120. *Id.* §§ 1311, 1316-17.
121. A point-source is a facility that discharges directly into water resources through a discreet ditch or pipe. *See* 33 U.S.C. §§ 1362(12), (14).
122. EPA regulations, 40 CFR 122-23(b)(1), define an animal feeding operation (AFO) as a facility where:

> Animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and crops, vegetation, forage growth, post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility . . . .

A CAFO is defined as an AFO that confines a large number of animals, *e.g.,* 1,000 cattle or 125,000 chickens for a Large CAFO, with set size thresholds for Small or Medium CAFOs. 68 Fed. Reg. 7191 (Feb. 12, 2003).

regulations.[123] Federal NPDES permits may be issued by EPA or any of the 45 states authorized to implement the NPDES program.[124]

A powerful mechanism of the NPDES program is the citizen's suit to enforce both the Federal effluent limitations and the State-established standards under certain conditions. *Community Association for Restoration of the Environment v. Henry Bosma Dairy*[125] is an example of a citizen action against a polluter under the CWA where the violation is ongoing.[126] The dairy farm was sued for operation and discharge without a permit, discharges in violation of Washington's General Dairy NPDES permit and causing violation of water quality standards. The citizens group prevailed both at trial and on appeal, receiving judgment for damages as well as attorney fees.

It should be noted that other agricultural activities, including discharges of wastewater, stormwater, and dredge-and-fill material, for which NPDES permits would be required for other industries, are typically exempted (with a few exceptions) from NPDES requirements.[127] Also generally exempted from Federal regulations is nonpoint source pollution from agriculture because of the difficulty of applying uniform national controls. Instead, § 208 of the CWA requires States to develop waste treatment management plans on an area-wide basis, including a process for identifying nonpoint sources and establishing feasible control measures.[128] A State may receive Federal assistance for the planning process following the EPA's approval of the State's plan.[129] Under the 1987 amendments to the CWA, States are eligible for Federal financial assistance to implement their management programs, required under § 319, which prescribe the "best management practices" to control sources of nonpoint pollution after they have prepared State assessment reports on waters that cannot reasonably be expected to meet quality standards due to nonpoint source pollution.[130]

As States did not take effective measures to control nonpoint source pollution under the § 208 and § 319 provisions, in 1990 Congress amended the Coastal Zone Management Act,[131] requiring a State with a Federally approved Coastal Zone Management Plan to develop a Coastal Nonpoint Pollution Program subject to Federal ap-

123. 40 CFR 122,412.
124. 68 Fed. Reg. 7185.
125. *Community Association for Restoration of the Environment v. Henry Bosma Dairy*, 305 F.3d 943 (9th Cir. 2002).
126. *See* 33 U.S.C. 13659(a)(1).
127. *See* for wastewater discharges, 33 U.S.C. §§ 1362(14), 1342(1)(1), 1288(b)(2)(F); for stormwater discharges, § 1362(14); and for dredge-and-fill discharges, § 1344(f).
128. *Id.* § 1288(a).
129. *Id.* § 1329(f).
130. *Id.* § 1329(a), (b), (h).
131. Coastal Zone Management Act, 16 U.S.C. § 1451-1464.

proval.[132] The CWA also requires States to determine Total Maximum Daily Load (TMDL) programs to regulate nonpoint source discharges.[133] The enforcement is through the § 319 program. None of these programs is effective in regulating nonpoint sources.

Based upon increased reports of continued runoffs and large-scale discharges from CAFOs, resulting in impairment of many U.S. waters,[134] the EPA issued new regulations in 2002 under which producers of Large CAFOs must develop and implement appropriate site-specific comprehensive nutrient management plans (CNMPs).[135] The purpose was to further strengthen the regulation of point source pollution caused especially by animal wastes and manure nutrients of Large CAFOs, because these facilities often do not have sufficient land available to effectively re-use the manure as fertilizer.[136]

The proposed CAFO rule was challenged by a number of both environmental groups and industry groups in the U.S. Court of Appeals for the Second Circuit in *Waterkeeper Alliance, Inc. v. EPA*.[137] The environmental groups claimed that manure-applied lands, as part of CAFOs, are specifically listed as point sources for regulation under the CWA; the farm industry associations argued that the stormwater run-off from manure-applied lands was "agricultural stormwater"[138] and specifically exempted from the CWA.[139] The court upheld most of the specific technical standards for effluent limi-

132. Pub. L. No. 101-508, Title 6, § 6217 (1990); 16 U.S.C. § 1455b.

133. *See* 33 U.S.C. § 1313. *See generally* OLIVER A. HOUCK, THE CLEAN WATER ACT TMDL PROGRAM: LAW, POLICY, AND IMPLEMENTATION (Envtl. L. Inst. 2000); Robert W. Adler, *Integrated Approaches to Water Pollution: Lessons from the Clean Air Act,* 23 HARV. ENVTL. L. REV. 203, 215-30 (1999). The TMDL includes both nonpoint and point source discharges. *See Pronsolino v. Nastri,* 291 F.3d 1123 (9th Cir. 2002), *cert. denied,* 539 U.S. 926 (2003).

134. *See, e.g.,* Joby Warrick, *Spill May be Fault of Hog Farm,* The [North Carolina] News & Observer, June 24, 1995 (regarding one notable spill of CAFO waste: 25 million gallons of waste from swine farm spilled waste that stretched more than 10 miles downriver after a massive storm. Thousands of fish died because of the nutrient- and nitrogen-rich sewage and there were a number of human toxic injuries, as well). *See also* Ronald Smothers, *Spill Puts a Spotlight on a Powerful Industry,* N.Y. Times, June 30, 1995, at A10.

135. National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations, 68 Fed. Reg. 7176 (Feb. 12, 2003), codified at 40 C.F.R. Parts 9, 122, 123, and 412).

136. *See id.* at 7179-80. Earlier, in March 1999, the EPA and USDA had jointly developed a strategy which defined a national objective for all AFOs to develop CNMPs to minimize their impacts on water quality and public health. Unified National Strategy for Animal Feeding Operations, USDA/EPA Unified National AFO Strategy (1999).

137. *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486 (2d Cir. 2005).

138. *See* 33 U.S.C. § 1362(14). The rule classifies as agricultural stormwater any "precipitation-related discharge of manure, litter, or process wastewater from land areas under the control of a CAFO" where the "manure, litter or process wastewater has [otherwise] been applied in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization." 40 C.F.R. § 122.23(e).

139. 33 U.S.C. § 1251.

tations of the rule as promulgated by the EPA, with a few exceptions.[140]

The PPP is a critical part of the CWA. For failure to comply with an NPDES permit, a farm operation can be assessed up to $32,500 per day in civil penalties;[141] a state may penalize a CAFO for each day the waste remains in state waters as a continuing violation even though there is only one actual "release."[142]

b. Clean Air Act

The CAA regulates hazardous air pollutants from major sources[143] which must obtain permits upon payment of annual fees. As agricultural operations are considered minor sources of air emissions, agriculture escapes CAA regulation[144] even if, unlike the CWA, there is no express exemption for agriculture.[145]

As stated earlier, the EPA allows States to develop State Implementation Plans to prescribe measures to achieve NAAQS,[146] which they have generally opted not to do in relation to agriculture. However, there is growing concern with, and hence public attention on, air emissions from livestock operations,[147] even though there is inadequate data on such emissions. In response, the EPA and the USDA jointly requested an ad hoc committee of the National Research Council (NRC) to evaluate the scientific information needed to define and support feasible regulation of air emissions from AFOs. The NRC recommended in its 2003 report that the EPA and USDA should develop credible scientific methods for estimating air emissions from

140. *Waterkeeper Alliance, Inc.*, 399 F.3d at 511-24. The court remanded the rule to the EPA to select a standard for pathogen reduction and also to justify why it had failed to promulgate water quality based effluent limitations (WQBELs) and whether States were barred from doing so under the rule. 399 F.3d at 524.

141. 33 U.S.C. § 1319(d) (raised from the statutory $25,000 due to the effects of inflation).

142. *See, e.g., Murphy Family Farms v. North Carolina Dept of Envtl. and Nat. Resources,* 585 S.E.2d 446 (N.C. Ct. App. 2003).

143. 42 U.S.C. § 7412(a)(1) defines major source of hazardous air pollutants as a source that emits 10 tons annually of any such pollutant or 25 tons annually of any combination of such pollutants.

144. However, grain elevators that store more than 2.5 million bushels are regulated for gas emission and particulate matter emission. *See* 40 C.F.R. subpart DD, § 60,300. Fertilizer and pesticide manufacturers are regulated for emissions of hazardous air pollutants. *See* 64 Fed. Reg. 31358 (June 10, 1999); 64 Fed. Reg. 33550 (June 23, 1999), respectively.

145. However, EPA has exempted ammonia and raised the threshold for propane, the two primary sources used by agricultural producers. Also, Congress has extended the implementation period for phasing out methyl-bromide because of the clout of the farm industry. *See* Ruhl, *supra* note 111, at 10214.

146. *Supra* note 61.

147. Endres & Grossman, *supra* note 65.

AFOs to develop mitigation strategies.[148] Subsequently, the EPA proposed and promulgated an Animal Feeding Operations Consent Agreement and Final Order in January 2005 to address emissions of air pollutants and hazardous substances from AFOs that may be subject to requirements of CAA, CERCLA, and EPCRA.[149]

Under this voluntary agreement, AFOs that signed by August 12, 2005, are committed to sharing responsibility for funding a nation-wide extensive emissions monitoring study. The proposed study is aimed at developing methodologies for estimating emissions from AFOs and helping AFOs determine and comply with their regulatory responsibilities under the CAA, CERCLA, and EPCRA. Once the EPA publishes applicable emission estimating methodologies, the agreement will then require all participating AFOs to certify that they are in compliance with all relevant requirements of these acts. Participating AFOs agree to pay a civil penalty and are committed to making their facilities available for monitoring. The EPA in turn agrees not to sue participating AFOs for certain violations of these Acts that may have occurred during the two-year study. By the end of the signing deadline, more than 2,000 AFOs had entered into these agreements, representing more than 37 states and all types of animal operations. The monitoring study is expected to begin in early 2006.[150]

c. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)[151] and the Toxic Substances Control Act (TSCA)[152]

FIFRA's primary focus is to provide Federal control of pesticide distribution, sale, and use, because registration of a pesticide with EPA is a prerequisite for selling, distributing, or using a pesticide.[153] The registration process leads to a label describing how the pesticide is to be used.[154] FIFRA in fact places no direct requirements or restrictions on farms, for it requires no permits and imposes no environmental, performance, or technology-based standards, and no reporting or monitoring of pesticide applications. States also vary in how effectively they regulate pesticide applications.

148. National Research Council, Air Emissions from Animal Feeding Operations: Current Knowledge, Future Needs (National Academy of Sciences, 2003), *available at* http://www.nap.edu/catalog/10586.html.

149. 70 Fed. Reg. 4958 (Jan. 31, 2005). For the text of the agreement, see http://www.epa.gov/compliance/resources/agreements/caa/cafo-agr-05021.html.

150. EPA Press Release, *Thousands Sign Up for Animal Feeding Operations Air Compliance Agreement,* August 15, 2005.

151. 7 U.S.C. §§ 136, *et seq.*

152. 15 U.S.C. § 2601-92.

153. *See* 7 U.S.C. § 136a(a).

154. *See id.* § 136a(c)(1)(C).

EPA issued an interpretive statement and a Proposed Rule to clarify questions raised about the CWA's permitting requirements for the application of pesticides "to or over, including near, the waters of the United States."[155] It stated that such an application of a pesticide "consistent with all relevant requirements under FIFRA does not constitute the discharge of a pollutant that requires a NPDES permit under the Clean Water Act" in two situations: 1) when such an application is directly to waters of the United States in order to control pests, or 2) the application of pesticides is "to control pests that are present over waters of the United States, including near such waters, that results in a portion of the pesticides being deposited to waters of the United Sates."[156]

Although TSCA requires premanufacture registration of the chemical ingredients of fertilizers,[157] it imposes no use restrictions and, as in the case of FIFRA, States vary in imposing effective controls regarding labeling and certification.

d. The Endangered Species Act (ESA)[158]

Farms are not exempted under this Act. Section 9 of the ESA prohibits "taking" of a listed animal species by any Federal, State, local, or private entity.[159] Under the regulations, "taking" is interpreted to prohibit "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."[160] This habitat modification provision has special importance for farmers.

Another such provision is section 7, which prohibits Federal agencies from funding, carrying out, or approving State, local, or private actions that jeopardize the continued existence of any listed species.[161] Actions of Federal agencies must conserve listed species.[162]

155. 70 Fed. Reg. 5093, Feb. 1, 2005; 40 C.F.R. Part 122.
156. *Id.*
157. 15 U.S.C. § 2604(a).
158. 16 U.S.C. §§ 1531-44.
159. *Id.* § 1538(a). *See generally* Frederico M. Cheever, *An Introduction to the Prohibition Against Takings in Section 9 of the Endangered Species Act of 1973: Learning to Live With a Powerful Species Preservation Law,* 62 UNIV. COLO. L. REV. 109 (1991).
160. 50 C.F.R. § 1703.
161. *See* § 7(a)(2), 16 U.S.C. § 1536(a)(2).
162. 16 U.S.C. § 1532(3) defines conservation in the Act as "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary." Under § 7(a)(1), Federal agencies are to "utilize their authorities in furtherance of the purposes of this chapter by carrying out programs for the conservation of endangered species and threatened species." 16 U.S.C. § 1536(a)(1). *See generally* J.B. Ruhl, *Section 7(a)(1) of the "New" Endangered Species Act: Rediscovering and Redefining the Untapped Power of Federal Agencies' Duty to Conserve Species,* 25 ENVTL. L. 1107 (1995).

Significantly, on September 29, 2005, the U.S. House of Representatives took steps to modify the law by eliminating the current system of designating "critical habitat," territory that is deemed critical to a species' survival.[163] The proposed legislation also provides for the reimbursement of property owners whose land values are reduced by the application of the ESA and gives financial incentives to those who work for species conservation.

V. Nuisance Cases and Right-to-Farm Law

The common law theories of nuisance, trespass, and negligence remain good avenues for injured parties to obtain payment from polluters. However, immunity under so-called "right-to-farm" laws provides considerable protection for farming operations that are in place prior to the establishment of nearby residential areas. More precise standards under the new CAFO rule will, on the other hand, ease proof of negligence, as violation of the standards will arguably constitute negligence per se. A few illustrative cases follow.

In *Tibert v. Sliminski*,[164] the North Dakota court granted summary judgment in favor of a grain operation, including a grain elevator, and against its neighbors, who had primarily alleged nuisance.[165] Since the operation had been in existence for a number of years prior to the neighbors' moving in, the court found it immune and thus did not address the issue of nuisance.[166]

In *Vicwood Meridian Partnership v. Skagit Sand and Gravel,*[167] an action for nuisance and negligent interference with the use and enjoyment of the plaintiffs' land, the farm had existed at the site prior to 1967, when the area was rural. Now a residential neighborhood surrounded the farm. The court granted summary judgment for the defendant composting operation as an agricultural activity, based on the protections of the Washington Right-to-Farm Act,[168] which provides, *inter alia*, that

163. *See* Felicity Barringer, *House Votes for New Limits on Endangered Species Act,* N.Y. Times, Sept. 30, 2005, Sec. 1, at 20, col. 5.

164. *Tibert v. Sliminski*, 692 N.W.2d 133 (N.D. 2005).

165. The North Dakota right-to-farm statute reads: "An agricultural operation is not, nor shall it become, a private or public nuisance by any changed conditions in or about the locality of such operation after it has been in operation for more than one year, if such operation was not a nuisance at the time the operation began; except that the provisions of this section shall not apply when a nuisance results from the negligent or improper operation of any such agricultural operation." NDCC § 42-04-02. 692 N.W.2d at 136.

166. A trespass claim failed for lack of evidence of interference on the plaintiffs' properties.

167. *Vicwood Meridian Partnership v. Skagit Sand and Gravel*, 98 P.3d 1277 (Wn. App. 2004).

168. Wash. Rev. Code §§ 7,48.300-.310 and .905.

> agricultural activities conducted on farmland and forest practices, if consistent with good agricultural and forest practices and established prior to surrounding nonagricultural and nonforestry activities, are presumed to be reasonable and shall not be found to constitute a nuisance unless the activity has a substantial adverse effect on the public health and safety.[169]

In another Washington case, *Buchanan v. Simplot Feeders Limited Partnership*,[170] an industrial meat processing plant operator had significantly expanded its operation resulting in increase in odors affecting the plaintiffs' neighboring family farm, the basis for the plaintiffs' claim. The plaintiffs argued that their farm preexisted the meat plant and thus under the Washington Right-to-Farm Act,[171] which requires that the agricultural activities be "established prior to surrounding nonagricultural and nonforestry activities," it met the statutory presumption of no nuisance.[172] The court stated a test under which a nuisance action would be barred:

> An agricultural activity is presumed to be reasonable and shall not constitute a nuisance when: (1) the activity does not have a substantial adverse effect on public health and safety; (2) the activity is consistent with good agricultural practices, laws, and rules; and (3) the activity was established prior to surrounding nonagricultural activities.[173]

On the separate damages for trespass, the court said that, but for nuisance suits, the Act "does not preclude one from seeking damages in other causes of action."[174]

Trickett v. Ochs[175] dealt with the Vermont Right-to-Farm Act provision under which the nuisance immunity presumption "may be rebutted by a showing that the activity . . . has a noxious and significant interference with the use and enjoyment of the neighboring property."[176] The court determined that the noise complained of was an unreasonable and avoidable interference with the rights of the adjoining property owners and thus was not immune under the statute.[177] Furthermore, the two uses had arisen at the same time.

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169. *Id.* § 7.48.305.
170. *Buchanan v. Simplot Feeders Limited Partnership*, 134 Wn.2d 673 (1998).
171. Wash. Rev. Code § 7.48.300-.31, *et seq.*
172. *Id.* § 7.48.305.
173. *Buchanan*, 134 Wn.2d at 613-14.
174. *Id.* at 618. The Court added that damages could be awarded for trespass if "the agricultural activity interferes with neighbors' actual possession of their property, . . . [and] physically damages the property." *Id.* at 690. *See also Rancho Viejo, LLC, v. Tres Amigos Viejos, LLC,* 100 Cal.App.4th (2002).
175. *Trickett v. Ochs,* 838 A.2d 66 (Vt. 2003).
176. 12 V.S.A. § 5753.
177. *Trickett v. Ochs,* 838 A.2d at 78.

And in *Gacke v. Pork Xtra,*[178] the court found the Iowa Right-to-Farm statute's nuisance immunity provision,[179] broader than that in *Buchanan*, to be in violation of Iowa Constitution article I section 1, in that it did not require the offending operation to have pre-existed the residential complainants' use.

VI. Conclusion

As agriculture production is becoming more intensive, Congress and Federal agencies are increasingly under pressure to regulate those farming activities that have significant negative impacts on the environment. More recently, the EPA has strengthened its earlier regulations applicable to large CAFOs and is expanding its NPDES permit requirements to a large number of CAFOs. Similarly, it is mandating CAA permits as well as reporting requirements under the pertinent statutes to a larger number of livestock facilities. Also, through its recently promulgated Animal Feeding Operations Consent Agreement, EPA is instituting a national emissions monitoring program for and requiring certain environmental measures from participating livestock operations. USDA has studied the government's agri-environmental policy, with emphasis on evaluating the effectiveness of compliance incentives in preventing and mitigating nutrient run-off from crop production.[180]

While the Polluter Pays Principle is not fully applicable to agriculture in the United States, a combination of voluntary programs, cross-compliance measures, regulations, and in some instances penalties and taxes, endeavors to encourage conservation and address environmental impacts. Among solutions proposed for agriculture's environmental problems are those reflecting the PPP, that is, agriculture must pay for its polluting activities.[181] Others include the sug-

178. *Gacke v. Pork Xtra, L.L.C.*, 684 N.W.2d 168 (Iowa 2004).

179. Iowa Code § 657.11(2).

180. *See, e.g.,* Environmental Compliance, *supra* note 11; Agri-Environmental Policy, *supra* note 7; Katherine Smith & Marca Weinberg, *Measuring the Success of Conservation Programs,* 2 AmberWaves No. 4, at 14, Sept. 2004, *available at* http://www.ers.usda.gov/amberwaves; Flexible Conservation Measures, *supra* note 135; Keith Wiede, ERS/USDA, *Linking Land Quality, Agricultural Productivity, and Food Security,* Agricultural Economic Report No. (AER823) June 2003, at 49-51, *available at* http://www.ers.usda.gov/publications/aer823.

181. *See, e.g.,* Proposal by Oklahoma's Kerr Center for Sustainable Agriculture that "the polluter must pay for polluting activities," and encouraging "the adoption of state and local laws and regulations that prevent companies or individuals from contracting away their liability for polluting behavior." The proposal would specifically require that companies contracting for the raising of livestock be required to post a bond for the potential ill effects of this activity. *Available at* http://www.kerrcenter.com/contact.htm; A nationwide alliance of farm, consumer, and environmental groups is advocating the repeal of state sales tax exemptions for agricultural chemicals where such exemptions exist. Friends of the Earth, *Fair Agricultural Chemical Taxes — Tax Reform for Sustainable Agriculture, available at* www.foe.org.

gestion to create markets for ecosystem services[182] and the adoption of a watershed approach to solve the water pollution problem.[183]

The demographic characteristics of American farms — from small family farms to mega-CAFOs — and the diffused nature of emissions, make it impractical to prescribe an effective uniform regulatory system embodying the PPP as the solution. However, based on the recent developments, the trend is toward increased demands that agricultural producers assume responsibility for preventing and mitigating pollution and be held accountable so that they internalize the pollution costs.

182. *See* Ecosystem Services, *supra* note 8.

183. Environmental Harms, *supra* note 7, at 341-346. Some States have already adopted a watershed-based approach in some areas to address water pollution problems.