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# Enforcing Environmental Regulations: Concentrated Animal Feeding Operations

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## I. INTRODUCTION

The production of animal waste has garnered considerable attention in recent scholarship,[1] and spurred efforts within the Environmental Protection Agency (EPA) and the U.S. Department of Agriculture to reduce pollution from animal feeding operations (AFOs).[2] As a result, new federal regulations

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1. *See, e.g.*, 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) (advocating greater regulatory attention to jurisdictional boundaries for regulating animals); Terence J. Centner, *Concentrated Feeding Operations: An Examination of Current Regulations and Suggestions for Limiting Negative Externalities*, 25 COLUM. J. ENVTL. L. 219 (2000) (advocating incentives for conservation buffers to intercept nutrient pollution); Terence J. Centner, *Establishing a Rational Basis for Regulating Animal Feeding Operations: A View of the Evidence*, 27 VT. L. REV. 115 (2002) [hereinafter Centner, *View of the Evidence*] (exploring the quality of evidence being cited to justify new federal regulations for CAFOs); Theodore A. Feitshans & Kelly Zering, *Federal Regulation of Animal and Poultry Production Under the Clean Water Act: Opportunities for Employing Economic Analysis to Improve Societal Results*, 10 PENN ST. ENVTL. L. REV. 193 (2002) (advocating regulations that consider social welfare and efficiency); Robert Innes, *The Economics of Livestock Waste and Its Regulation*, 82 AM. J. AGRIC. ECON. 97 (2000) (suggesting alternative regulatory institutions); Mark Metcalfe, *State Legislation Regulating Animal Manure Management*, 22 REV. AGRIC. ECON. 519 (2000) (noting that new state legislation may obviate the need for duplicative and disruptive federal action); Michael Steeves, *The EPA's Proposed CAFO Regulations Fall Short of Ensuring the Integrity of Our Nation's Waters*, 22 J. LAND RESOURCES & ENVTL. L. 367 (2002) (discussing problems with CAFO regulations); Nancy A. Welsh & Barbara Gray, *Searching for a Sense of Control: The Challenge Presented By Community Conflicts Over Concentrated Animal Feeding Operations*, 10 PENN ST. ENVTL. L. REV. 295 (2002) (evaluating decision making processes to address CAFO-related disputes); Amy Willbanks, *The Unified National Strategy for Animal Feeding Operations: Another Federal-State Partnership in Environmental Regulation*, 8 S.C. ENVTL. L.J. 283 (2000) (intimating that the federal government will become more active in responding to water pollution problems); David R. Gillay, Comment, *Oklahoma's Concentrated Animal Feeding Operations Act: Balancing the Interests of Landowners with the Exponential Growth of the Hog Industry*, 35 TULSA L.J. 627 (2000) (analyzing one state's regulations).

2. *See* Notice of Data Availability; National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines and Standards for

became effective April 14, 2003, for concentrated animal feeding operations (CAFOs), a long-regulated subcategory of AFOs, which are expected to enhance the protection of our nation's water resources.[3] The proposed federal regulations governing CAFOs generated 11,000 comments:[4] some showed strong feelings that regulators were not doing enough to abate agricultural pollution, while others objected to additional governmental oversight as too costly for the livestock industry.[5]

CAFOs are subject to the point-source provisions of the Clean Water Act.[6] Any operation that qualifies as a CAFO needs a National Pollutant Discharge Elimination System (NPDES) permit, or corresponding state per-

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Concentrated Animal Feeding Operations, 66 Fed. Reg. 58556 (Nov. 21, 2001) (providing data for new proposed federal regulations); OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, U.S. ENVTL. PROT. AGENCY, COMPLIANCE ASSURANCE IMPLEMENTATION PLAN FOR CONCENTRATED ANIMAL FEEDING OPERATIONS (Mar. 5, 1998) (addressing compliance and enforcement efforts to ensure compliance by CAFOs); OFFICE OF WASTEWATER MGMT., U.S. ENVTL. PROT. AGENCY, GUIDANCE MANUAL AND SAMPLE NPDES PERMIT FOR CONCENTRATED ANIMAL FEEDING OPERATIONS (Final Internal Review Draft, Sept. 21, 2000) (enumerating a policy that will protect water resources against potential discharges from large AFOs); OFFICE OF WASTEWATER MGMT., U.S. ENVTL. PROT. AGENCY, STATE COMPENDIUM: PROGRAMS AND REGULATORY ACTIVITIES RELATED TO ANIMAL FEEDING OPERATIONS (May 2002) [hereinafter STATE COMPENDIUM] (analyzing state efforts in response to pollution from AFOs); OFFICE OF WATER, U.S. ENVTL. PROT. AGENCY, ENVIRONMENTAL ASSESSMENT OF PROPOSED REVISIONS TO THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM REGULATION AND THE EFFLUENT GUIDELINES FOR CONCENTRATED ANIMAL FEEDING OPERATIONS (Jan. 2001) (containing data on water pollution); OFFICE OF WATER, U.S. ENVTL. PROT. AGENCY, MANAGING MANURE NUTRIENTS AT CONCENTRATED ANIMAL FEEDING OPERATIONS, (Jan. 2001) (delineating advice on manure management); *see also* U.S. DEP'T OF AGRIC. AND U.S. ENVTL. PROT. AGENCY, UNIFIED NATIONAL STRATEGY FOR ANIMAL FEEDING OPERATIONS (Draft, Sept. 11, 1998) (announcing a proposed strategy that the federal government will be more active with mandatory and voluntary programs regarding AFOs); U.S. GEN. ACCOUNTING OFFICE, ANIMAL AGRICULTURE: INFORMATION ON WASTE MANAGEMENT AND WATER QUALITY ISSUES (June 1995) (finding many unpermitted feedlot operations); U.S. GEN. ACCOUNTING OFFICE, LIVESTOCK AGRICULTURE: INCREASED EPA OVERSIGHT WILL IMPROVE ENVIRONMENTAL PROGRAM FOR CONCENTRATED ANIMAL FEEDING OPERATIONS (Jan. 2003) [hereinafter GAO 2003] (recommending that the EPA work with states to identify resources needed to carry out the CAFO permitting, inspection, and enforcement provisions).

3. National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations (CAFOs), 68 Fed. Reg. 7176 (Feb. 12, 2003) (codified at 40 C.F.R. pts. 122, 412, effective Apr. 14, 2003) [hereinafter Federal CAFO Regulations].

4. *Id.* at 7178.

5. *Id.* at 7189.

6. 33 U.S.C. §§ 1251-1387 (2000 & Supp. 2002). *See* OFFICE OF WATER, U.S. ENVTL. PROT. AGENCY, PRODUCERS' COMPLIANCE GUIDE FOR CAFOS (Nov. 2003).

mit, unless it qualifies for an exception.[7] A CAFO may discharge pollutants into the waters of the United States only at levels below the thresholds incorporated in its NPDES permit.[8] While federal CAFO regulations are primarily concerned with unacceptable water impairment, commercial livestock production also implicates several other issues.[9] Public interest groups have identified five contemporary concerns with CAFOs: (1) health effects associated with animal production,[10] (2) objectionable odors,[11] (3) overuse of antibiotics,[12] (4) inhumane treatment of confined animals,[13] and (5) loss of landscape diversity.[14]

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7. Federal regulations allow owners or operators of large CAFOs to secure an exception from the NPDES permit requirements if they have "'no potential to discharge' manure, litter or process wastewater." 40 C.F.R. § 122.23(d), (f) (2003).

8. *See* 33 U.S.C. §§ 1311(a), 1342(a) (2000 & Supp. 2002); 40 C.F.R. pt. 122 (2003); *see also* Cmty. Ass'n for Restoration of the Env't v. Henry Bosma Dairy, 305 F.3d 943, 946 (9th Cir. 2002) (affirming the finding of ongoing violations by the defendant).

9. *See* TERENCE J. CENTNER, EMPTY PASTURES: CONFINED ANIMALS AND THE TRANSFORMATION OF THE RURAL LANDSCAPE (2004); TERENCE J. CENTNER, GOVERNMENTAL OVERSIGHT OF ANIMAL FEEDING OPERATIONS (Nat'l Ctr. for Agric. Law Research and Info. of the Univ. of Ark. Sch. of Law, April 2003) (discussing issues accompanying commercial livestock production), *available at* http://www.nationalaglawcenter.org/assets/article_centner_afos.pdf.

10. *See, e.g.*, MARK D. SOBSEY ET AL., PATHOGENS IN ANIMAL WASTES AND THE IMPACTS OF WASTE MANAGEMENT PRACTICES ON THEIR SURVIVAL, TRANSPORT AND FATE (Nat'l Ctr. for Manure and Animal Waste Mgmt. White Papers, 2002) (analyzing pathogens in animal waste and recommending the development and application of methods to detect pathogens); Dana Cole et al., *Concentrated Swine Feeding Operations and Public Health: A Review of Occupational and Community Health Effects*, 108 ENVTL. HEALTH PERSP. 685 (2000) (reviewing health issues associated with the swine industry); K.M. Thu, *Public Health Concerns for Neighbors of Large-Scale Swine Production Operations*, 8 J. AGRIC. SAFETY & HEALTH 175 (2002) (reporting health problems associated with the swine industry); Keynen J. Wall, Article, *Knowing When to Say When to Hog Waste: Do State Lagoon Regulations Adequately Protect Ground Water in Kansas?*, 11 KAN. J.L. & PUB. POL'Y 113, 119 (2001) (finding that animal waste poses a threat to drinking water supplies).

11. *See, e.g.*, LARRY D. JACOBSON ET AL., SITE SELECTION OF ANIMAL OPERATIONS USING AIR QUALITY CRITERIA (Nat'l Ctr. for Manure and Animal Waste Mgmt. White Papers, 2002) (discussing setback requirements and their relation to health concerns).

12. *See, e.g.*, ANIMAL & PLANT HEALTH INSPECTION SERV., U.S. DEP'T OF AGRIC., ANTIMICROBIAL RESISTANCE ISSUES IN ANIMAL AGRICULTURE (Dec. 1999) (addressing issues concerning antimicrobial resistance on farms); KENNETH H. MATHEWS, JR., ANTIMICROBIAL DRUG USE AND VETERINARY COSTS IN U.S. LIVESTOCK PRODUCTION (U.S. Dep't of Agric., Agriculture Information Bulletin 766, 2001) (discussing the use and costs of antimicrobial drugs in livestock production); KENNETH H. MATHEWS, JR., ANTIMICROBIAL RESISTANCE AND VETERINARY COSTS IN U.S. LIVESTOCK PRODUCTION (Econ. Research Serv., U.S. Dep't of Agric., 2000) (noting the changes that would accompany any decrease in antimicrobial drug use);

Because the EPA has delegated authority to most states to implement and administer the federal NPDES provisions, state regulatory agencies are responsible for issuing NPDES or similar state permits.[15] Many state governments have expended considerable effort to devise CAFO regulations addressing perceived water contamination.[16] Nevertheless, the EPA and the General Accounting Office have found that many CAFOs do not have the required permits,[17] and still others are violating the conditions of their per-

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Paul E. McNamara & Gay Y. Miller, *Pigs, People, and Pathogens: A Social Welfare Framework for the Analysis of Animal Antibiotic Use Policy*, 84 AM. J. AGRIC. ECON. 1293, 1299 (2002) (identifying strategies for the reduction of the use of antibiotics); Silvia Secchi & Bruce A. Babcock, *Pearls Before Swine? Potential Trade-offs Between the Human and Animal Use of Antibiotics*, 84 AM. J. AGRIC. ECON. 1279, 1284 (2002) (advocating that "human use of antibiotics should be decreased below the level resulting from private optimization").

13. *See, e.g.*, Donald M. Bruce & Ann Bruce, *Animal Welfare and Use*, *in* LIVESTOCK, ETHICS AND QUALITY OF LIFE 53 (John Hodges & In K. Han eds., 2000) (suggesting that society should not treat animals as machines); John Hodges, *Why Livestock, Ethics and Quality of Life?*, *in* LIVESTOCK, ETHICS AND QUALITY OF LIFE, *supra*, at 1 (asserting that the new world order of food production is an amoral system); Ruth Payne, Note, *Animal Welfare, Animal Rights, and the Path to Social Reform: One Movement's Struggle for Coherency in the Quest for Change*, 9 VA. J. SOC. POL'Y & L. 587 (2002) (examining how the legal world looks at animals); Katharine M. Swanson, Note, *Carte Blanche for Cruelty: The Non-enforcement of the Animal Welfare Act*, 35 U. MICH. J.L. REFORM 937 (2002) (arguing that animals should have the fundamental right of being free from pain and suffering); Jimena Uralde, Comment, *Congress' Failure to Enact Animal Welfare Legislation for the Rearing of Farm Animals: What Is Truly at Stake?*, 9 U. MIAMI BUS. L. REV. 193 (2001) (suggesting protective legislation concerning the humane treatment of animals).

14. *See, e.g.*, Robert A. Askins, *Population Trends in Grassland, Shrubland, and Forest Birds in Eastern North America*, 11 CURRENT ORNITHOLOGY 1, 10 (1993) (noting that grassland and shrub-land nesting birds have suffered significant declines); Michael R. Taylor, *The Emerging Merger of Agricultural and Environmental Policy: Building a New Vision for the Future of American Agriculture*, 20 VA. ENVTL. L.J. 169, 190 (2001) (suggesting that our country should view our "food needs in an environmentally and socially sustainable way and help build a global food system that provides sustainable food security for all").

15. All states are authorized to administer NPDES programs except Alaska, Arizona, Idaho, Massachusetts, New Hampshire, and New Mexico. Federal CAFO Regulations, *supra* note 3, at 7185. Moreover, Oklahoma does not have CAFO regulatory authority. *Id.*

16. Thirty-two states have incorporated additional state permit, license, or approval process requirements in their program governing CAFOs. STATE COMPENDIUM, *supra* note 2, at 5.

17. National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations, 66 Fed. Reg. 2960, 2969, 3080 (proposed Jan. 12, 2001) (to be codified at 40 C.F.R. pts. 122, 412) [hereinafter EPA Proposed Rule].

mits.[18] In addition, state findings suggest that the lax enforcement of existing CAFO regulations allows many violations to go undetected,[19] meaning that pollutants from CAFOs may be entering waters in violation of existing laws.

This article argues that the revised federal provisions governing potential pollutants from CAFOs do little to advance administrative and enforcement efforts. While the new provisions offer significant improvements for identifying which AFOs may be regulated as CAFOs, they do not address major enforcement issues.[20] The government's failure to administer and enforce existing regulations undermines efforts to regulate more AFOs or to impose more comprehensive (or more stringent) regulations. To achieve greater equity, and possibly to augment the long-term viability of agriculture, the EPA must direct more attention to helping the states administer and enforce existing regulations.[21]

## II. RESPONSES IN CLEAN WATER ACT CONTROLS

The major federal legislation governing animal waste pollution is the Clean Water Act,[22] which establishes national pollution thresholds in order to protect fish and wildlife and provide for recreation.[23] Another goal of the Act is to develop and implement programs to restore and protect the quality of the nation's waters.[24] These programs are structured to give states the primary

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18. A few cases support this contention. *See* Idaho Rural Council v. Bosma, 143 F. Supp. 2d 1169, 1181-82 (D. Idaho 2001) (alleging violation of an NPDES permit); United States v. New Portland Meadows, Inc., No. 00-507-AS, 2002 U.S. Dist. LEXIS 19153, at *7-8 (D. Or. July 30, 2002) (alleging a discharge in violation of a condition in the permit); Cmty. Ass'n for Restoration of the Env't v. Henry Bosma Dairy, 65 F. Supp. 2d 1129, 1133 (E.D. Wash. 1999) (alleging a permit violation).

19. For example, Colorado reported that "[t]here are no routine inspections." STATE COMPENDIUM, *supra* note 2, at 52. Thereby, the state only would detect a violation if someone reported a complaint and the violation was then observed.

20. GAO 2003, *supra* note 2, at 4-5 (recommending that the EPA increase its oversight of state CAFO programs including appropriate enforcement actions).

21. *See* Terence J. Centner & Jeffrey D. Mullen, *Enforce Existing Animal Feeding Operations Regulations to Reduce Pollutants*, 16 WATER RESOURCES MGMT. 133 (2002) (suggesting that governments direct their resources towards detecting and enforcing existing provisions); Dennis C. Cory & Anna Rita Germani, *Criminal Sanctions for Agricultural Violations of the Clean Water Act*, 4 WATER POL'Y 491, 513 (2002) (arguing that enforcement may be beneficial for an industry).

22. 33 U.S.C. §§ 1251-1387 (2000 & Supp. 2002).

23. 33 U.S.C. § 1251(a)(2) (2000). The Act sought to attain "an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water . . . by July 1, 1983." *Id.*

24. *Id.* § 1251(a). Considerable litigation concerning total maximum daily loads (TMDLs) has addressed the lack of effective efforts to address water impairment. *See, e.g.*, Jim Vergura & Ron Jones, *The TMDL Program: Land Use and Other Implications*, 6 DRAKE J. AGRIC. L. 317 (2001) (noting that nonpoint-source pollution is

responsibility to prevent, reduce, and eliminate water pollution.[25] Federal agencies work with state and local agencies to develop solutions for managing water resources and reducing pollution.[26]

The federal Clean Water Act establishes two classifications for water pollutants: those from point sources and those from nonpoint sources.[27] Only point source polluters require NPDES permits.[28] The Act further distinguishes concentrated animal feeding operations from all other AFOs by classifying only CAFOs as point sources.[29] CAFOs are defined by federal regulations as AFOs that have additional characteristics concerning the number of

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a major problem that may be addressed by TMDLs); Sarah Birkeland, Note, *EPA'S TMDL Program*, 28 ECOLOGY L.Q. 297 (2001) (recommending local action to supplement TMDLs in addressing nonpoint-source pollution); Mary E. Christopher, Note, *Time to Bite the Bullet: A Look at State Implementation of Total Maximum Daily Loads (TMDLs) Under Section 303(d) of the Clean Water Act*, 40 WASHBURN L.J. 480 (2001) (advocating the implementation of practical land-use restrictions to improve water quality, but finding that the implementation of TMDLs is a more attainable objective); Mandi M. Hale, Comment, Pronsolino v. Marcus, *The New TMDL Regulation, and Nonpoint Source Pollution: Will the Clean Water Act's Murky TMDL Provision Ever Clear the Waters?*, 31 ENVTL. L. 981 (2001) (arguing that the TMDL provisions are fundamentally flawed for addressing nonpoint-source pollution); R. Bryant McCulley, Note, *The Proof is in the Policy: The Bush Administration, Nonpoint Source Pollution, and EPA's Final TMDL Rule*, 59 WASH. & LEE L. REV. 237 (2002) (discussing options to alter TMDL rules).

25. 33 U.S.C. § 1251(b).

> It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under [the Clean Water Act].

*Id.*

26. *See, e.g.*, Envtl. Def. Ctr., Inc. v. United States EPA, 319 F.3d 398, 413-14 (9th Cir. 2003), *vacated by* 344 F.3d 832 (9th Cir. 2003) (noting the cooperative federalism of state and federal partnerships under the Clean Water Act).

27. 33 U.S.C. § 1251(a)(7). "[I]t is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this [Act] to be met through the control of both point and nonpoint sources of pollution." *Id.*

28. 40 C.F.R. 122.23(a) (2003).

29. 33 U.S.C. § 1362(14) (2000).

> The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

Id.

animals at a single facility and potential to discharge pollutants.[30] AFOs that do not qualify as CAFOs are not regulated under the Clean Water Act's NPDES provisions.

An AFO is an animal production operation that confines and feeds animals for a total of 45 days or more during any 12-month period.[31] In addition, the animals must prevent vegetative forage growth from surviving the normal growing season over a portion of the confined area.[32] Therefore, facilities where animals are fed for at least forty-five days but not confined, or those where animals are confined and fed for at least forty-five days but where vegetation survives in the confined area, are not considered to be AFOs under federal law. For example, ranches where thousands of animals graze outdoors rather than being fed in confined quarters are not AFOs. Since a CAFO must first be an AFO, such ranches are not governed by CAFO regulations.

### *A. Maintaining Existing Size Regulations*

CAFOs have long been regulated under a three-tiered system based on the numbers of animals present at a facility and other factors relating to the probability of a discharge.[33] After considering several alternatives, the EPA decided to keep the existing three-tiered system for defining CAFOs in its new regulations.[34] Retaining the three-tiered system leaves states in a better position to continue with ongoing regulatory efforts.[35]

The Act delineates three categories of CAFOs: large, medium, and small.[36] Large CAFOs are defined entirely by the number of animals at a facility.[37] They are also subject to additional specifications concerning ma-

30. 40 C.F.R. § 122.23.

31. *Id.* § 122.23(b)(1)(i).

32. *Id.* § 122.23(b)(1)(ii).

33. *Id.* § 122.23(b)(4)-(9). Regulations on CAFOs were first drafted in the mid-1970s. *See* EPA Proposed Rule, *supra* note 17, at 2996.

34. Federal CAFO Regulations, *supra* note 3, at 7190. The options are delineated in the proposed rule. EPA Proposed Rule, *supra* note 17, at 2996-99.

35. The EPA noted that many states had three-tier systems in effect for two decades and years of practical experience based on existing definitions. Federal CAFO Regulations, *supra* note 3, at 7190.

36. 40 C.F.R. § 122.23(b).

37. Large CAFOs have as many or more of the following numbers of animals:

(i) 700 mature dairy cows, whether milked or dry;

(ii) 1,000 veal calves;

(iii) 1,000 cattle other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs;

(iv) 2,500 swine each weighing 55 pounds or more;

(v) 10,000 swine each weighing less than 55 pounds;

(vi) 500 horses;

(vii) 10,000 sheep or lambs;

nure, litter, and process wastewater transferred to other persons,[38] and must provide a nutrient analysis to the recipient of such products.[39] Finally, only large CAFOs are subject to effluent limitation guidelines.[40]

Medium CAFOs are facilities with fewer animals than large CAFOs that still discharge pollutants into waters of the United States.[41] Small CAFOs are those designated as such by the appropriate governmental authority.[42] Designation is made after an on-site inspection and only if an AFO is a significant contributor of pollutants to waters.[43]

### *B. Defining Potential Pollutants*

Four categories of potential pollutants are discussed in the regulations: manure, litter, process wastewater, and overflows. Under the CAFO regulations, NPDES permits apply to all manure, litter, and process wastewater generated by animals or the production of animals at an operation.[44] Manure is defined as the expected wastes and bedding materials.[45] Litter is not defined but refers to poultry droppings mixed with shavings or other absorbent material.[46] Process wastewater is defined as:

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(viii) 55,000 turkeys;
(ix) 30,000 laying hens or broilers, if the AFO uses a liquid manure handling system;
(x) 125,000 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system;
(xi) 82,000 laying hens, if the AFO uses other than a liquid manure handling system;
(xii) 30,000 ducks (if the AFO uses other than a liquid manure handling system); or
(xiii) 5,000 ducks (if the AFO uses a liquid manure handling system).

*Id.* § 122.23(b)(4).

38. *Id.* § 122.42(e)(3).

39. *Id.*

40. Federal CAFO Regulations, *supra* note 3, at 7208. Moreover, the best management practices for the land application of manure, litter, and process wastewater only apply to large CAFOs. 40 C.F.R. § 412.4.

41. 40 C.F.R. § 122.23(b)(6). In estimating tax costs of the revised regulations, the EPA suggested that 4,452 operations might be medium-sized CAFOs under the new regulations. Federal CAFO Regulations, *supra* note 3, at 7243.

42. 40 C.F.R. § 122.23(b)(9)-(c). In its proposed rule, the EPA suggested that less than ten operations a year would be designated as small CAFOs. EPA Proposed Rule, *supra* note 17, at 2986.

43. 40 C.F.R. § 122.23(c).

44. *Id.* § 122.23(a).

45. *Id.* § 122.23(b)(5).

46. Federal CAFO Regulations, *supra* note 3, at 7191 (noting that the new CAFO rules apply to dry litter chicken operations). The regulation of poultry operations using dry litter is new and involved controversy. Producers claimed that these

> spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other AFO facilities; direct contact swimming, washing, or spray cooling of animals; or dust control . . . [and] also includes any water which comes into contact with any raw materials, products, or byproducts including manure, litter, feed, milk, eggs or bedding.[47]

By defining process wastewater so broadly and by placing process wastewater within the regulated pollutants, the CAFO regulations govern waters used at a CAFO in the same manner as animal waste.[48]

Overflow is defined as the discharge of manure or process wastewater due to the inability of a storage structure to contain the material.[49] Overflow exceptions based on chronic or catastrophic rainfall events exempt discharges in limited situations.[50] For example, CAFOs with dairy cows or beef cattle cannot have any discharge of manure, litter, or process wastewater pollutants from the production area.[51] However, if precipitation from an unusual rainfall event causes an overflow of manure, litter, or process wastewater, pollutants in the overflow may be discharged into U.S. waters provided certain conditions are met.[52]

### *C. Separation of Production and Land Application Areas*

The NPDES permit requirements for CAFOs apply with respect to all animals in confinement at a facility and all manure, litter, and process wastewater generated by those animals or the production of those animals.[53] The federal regulations define production areas to include animal confinement

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operations did not have the potential to discharge so should not be regulated under the Clean Water Act. *Id.* The EPA noted that the application of dry litter could impair water resources and that dry-litter operations were contaminating waters. *Id.* at 7192.

47. 40 C.F.R. § 122.23(b)(7).

48. The effluent limitation guidelines prescribe requirements for all three categories of potential pollutants (manure, litter, and wastewater). *Id.* § 412.1.

49. *Id.* § 412.2(g).

50. *Id.* §§ 412.12(b) (horses and sheep), 412.13(b) (horses and sheep), 412.15(b) (horses and sheep), 412.25(b) (ducks), 412.26(b) (ducks), 412.31(a)(1) (dairy cows and beef cattle other than veal calves), 412.43(a)(1) (swine, poultry, and veal calves).

51. *Id.* § 412.31(a).

52. *Id.* Discharges are permitted from a storm event that occurs on the average of once every 25 years due to an exception from the zero discharge provisions. *Id.* The regulation allows discharges whenever "[t]he production area is designed, constructed, operated and maintained to contain all manure, litter, and process wastewater including the runoff and the direct precipitation from a 25-year, 24-hour rainfall event [and t]he production area is operated in accordance with the additional measures and records," yet there is an overflow due to precipitation. *Id.*

53. *Id.* § 122.23(a).

areas, manure storage areas, raw materials storage areas, and waste containment areas.[54] Further provisions define each of the four enumerated areas.[55] Production areas include feed silos, silage bunkers, bedding materials, berms, egg washing, egg processing, and mortality areas.[56]

In revising the CAFO regulations, the EPA recognized that some type of regulation of the land application of manure was needed to control pollution.[57] The Second Circuit has also noted the significance of this type of pollution in a suit against a dairy operation.[58] The court found that discharges from manure spreading could be from a point source within the meaning of the Clean Water Act.[59]

Under the new federal regulations, a separate definition is prescribed for a land application area.[60] It is defined as "land under the control of an AFO owner or operator, whether it is owned, rented, or leased, to which manure, litter or process wastewater from the production area is or may be applied."[61] Thus, land application areas are treated differently from production areas.[62] Whereas NPDES permit requirements apply to the physical areas of production,[63] they also apply to discharges occurring at land application areas.[64] The regulations provide that any discharge of manure, litter, or process wastewater on lands under the control of a CAFO is subject to NPDES permit requirements.[65]

### *D. Agricultural Storm Water Discharges*

One of the controversies in the regulation of CAFOs has been the application of the agricultural storm water discharge exclusion of the Clean Water

54. *Id.* §§ 122.23(b)(8), 412.2(h).

55. *Id.* § 122.23(b)(8).

56. *Id.*

57. Federal CAFO Regulations, *supra* note 3, at 7196 (noting that pollutant discharges from CAFOs may come from the land application of manure).

58. Concerned Area Residents for the Env't v. Southview Farms, 34 F.3d 114, 118 (2d Cir. 1994).

59. *Id.* at 115. The farm was a CAFO and there was no agricultural exemption for the activity. *Id.*

60. 40 C.F.R. § 122.23(b)(3).

61. *Id.*

62. This was advisable due to the difficulty of defining a CAFO to include lands where manure application occurred. Thereby, the CAFO is the physical production area, conforming to the definition of an AFO. *See supra* notes 31-32 and accompanying text. Fields and lands that do not meet the definition of production areas are not part of the CAFO, but the application of manure, litter, and process wastewater is regulated for these acreages due to the potential for a discharge. Federal CAFO Regulations, *supra* note 3, at 7197.

63. 40 C.F.R. § 122.23(b)(1), (8).

64. *Id.* § 122.23(e).

65. *Id.*

Act.[66] Producers have long maintained that this exemption means that runoff from the application of manure cannot be regulated under the CAFO regulations.[67] The explicit provisions on land application areas in the new regulations cover discharges that may accompany manure application.[68] This solution addresses the impairment of water quality while deferring to the agricultural storm water discharge exclusion.[69]

Agricultural storm water discharges occur due to a rainfall event when manure, litter, or process wastewater is applied in accordance with site-specific nutrient management practices.[70] In these situations the producer applies manure, litter, or process wastewater in a manner to ensure appropriate agricultural utilization of the nutrients so that the application is intended as a production input.[71] Discharges from such applications continue to be excluded from point-source pollution controls by the agricultural storm water discharge exclusion.[72]

However, what if a discharge occurs from a CAFO's land application area because manure and process wastewater were *not* applied in accordance with site-specific nutrient management practices to ensure appropriate agricultural utilization of the nutrients?[73] In that case, the discharge would not be

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66. 33 U.S.C. § 1362(14) (2000).

67. Federal CAFO Regulations, *supra* note 3, at 7196; *see also* Concerned Area Residents for the Env't v. Southview Farms, 34 F.3d 114, 120-21 (2d Cir. 1994) (arguing that discharges of manure were agricultural storm water discharges); Water Keeper Alliance, Inc. v. Smithfield Foods, Inc., No. 4:01-CV-27-H(3), 2001 U.S. Dist. LEXIS 21314, at *11 (E.D. N.C. Sept. 20, 2001) (arguing the storm water exemption applied).

68. Federal CAFO Regulations, *supra* note 3, at 7197-98.

69. The new regulations seek to interpret the agricultural storm water exclusion to allow agricultural practices but to preclude runoff accompanying inappropriate agricultural practices that impairs water quality. *Id.*

70. *Id.* at 7197.

71. *Id.*

72. 40 C.F.R. § 122.23(e) (2003).

73. The EPA concluded that this was a discharge. *Id.* The site-specific practices are set forth in the regulations at 40 C.F.R. § 122.42(e)(1)(vi)-(ix). The regulations provide that a nutrient management plan included in a NPDES permit must:

> (vi) Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States; (vii) Identify protocols for appropriate testing of manure, litter, process wastewater, and soil; (viii) Establish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater; and (ix) Identify specific records that will be maintained to document the implementation and management of the minimum elements described [above].

*Id.* § 122.42(e)(1)(vi)-(ix).

an agricultural storm water discharge and would be subject to the new CAFO land application limitations.[74] Only discharges that occur despite the use of site-specific management practices to ensure appropriate agricultural utilization of the nutrients during the application of manure, litter, and process wastewater are excused by the agricultural storm water discharge exclusion.[75] All other discharges of manure, litter, or process wastewater are governed by the CAFO regulations because they are point-source discharges and are subject to NPDES permit requirements.[76]

### *E. Effluent Limitation Guidelines*

One of the issues more thoroughly covered in the new regulations is effluent limitation guidelines for large CAFOs,[77] with separate provisions for four categories of animals: (1) horses and sheep,[78] (2) ducks,[79] (3) dairy cows and cattle other than veal calves,[80] and (4) swine, poultry, and veal calves.[81] Different technological requirements are set for CAFO production areas, for CAFO land application areas, and for new sources.[82] At production areas for large beef cattle, dairy cow, veal calf, swine, and poultry CAFOs, liquid impoundments must be designed, maintained, and operated to contain all liquids associated with a 25-year, 24-hour rainfall event.[83] New large facilities for swine, poultry, and veal calves must design waste management facilities to handle liquids from the operation, storm runoff, and direct precipitation from a 100-year, 24-hour rainfall event.[84]

The effluent limitation guidelines seek to ensure the proper application of manure, litter, and process wastewater to land under the control of those

74. Federal CAFO Regulations, *supra* note 3, at 7197-98.

75. *Id.* Discharges from production areas including lagoons do not involve application of manure, litter, or process wastewater so the agricultural storm water exemption does not apply to such discharges. *Id.* at 7198.

76. *Id.* Such would include a dry weather discharge. *Id.*

77. 40 C.F.R. §§ 412.1-.47. Actually, exceptions excuse medium and small CAFOs from needing to meet the effluent limitation guidelines. *Id.* §§ 412.30, .40 (prescribing a size requirement so that medium and small CAFOs do not need to meet effluent limitation requirements).

78. *Id.* §§ 412.11-.15.

79. *Id.* §§ 412.20-.26.

80. *Id.* §§ 412.30-.37.

81. *Id.* §§ 412.40-.47.

82. *Id.* §§ 412.11-.47. Under the Clean Water Act, new sources must reflect effluent reductions that are achievable based on best available demonstrated control technology. Federal CAFO Regulations, *supra* note 3, at 7185. *See* 33 U.S.C. § 1316(a)(1) (2000).

83. 40 C.F.R. §§ 412.31(a)(1)(i), 412.43(a)(1).

84. *Id.* § 412.46(a)(1). This more stringent design standard was found to be technically feasible for new large CAFOs having these animal species. Federal CAFO Regulations, *supra* note 3, at 7219.

large CAFOs that are likely to employ land application practices.[85] Thus, with the exception of ducks, horses, and sheep, further land application guidelines apply to large CAFOs.[86] They are required to prepare and implement nutrient management plans based upon a field-specific assessment of the potential for nitrogen and phosphorus transport from the field.[87] Permittees must use technical standards in determining application rates for manure, litter, and process wastewater applied to land that minimize the movement of nitrogen and phosphorus to surface waters.[88] Permittees need to conduct annual analyses of manure for nitrogen and phosphorus content and analyze soils at least once every five years for phosphorus content.[89] Application rates are required to incorporate the results of these analyses.[90]

The guidelines also establish setback requirements for the application of manure, litter, and process wastewater to minimize opportunities for discharges.[91] Regulated CAFOs cannot apply these materials within 100 feet of "any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters,"[92] although an alternative compliance measure using a 35-foot vegetated buffer is permitted.[93] In certain situations, a CAFO may be able to demonstrate to the permitting authority that the required setback or vegetated buffer can be reduced or is unnecessary.[94]

The effluent limitation guidelines require the use of best management practices for land application of manure, litter, and process wastewater.[95] However, the guidelines apply only to dairy, beef cattle, swine, poultry, and veal calf CAFOs,[96] and only require minimum elements of effective best

85. *Id.* §§ 412.31(b), 412.43(b).

86. *Id.* These land application guidelines grant states discretion in setting technical standards that minimize phosphorus and nitrogen transport to waters. Federal CAFO Regulations, *supra* note 3, at 7209.

87. 40 C.F.R. § 412.4(c)(1).

88. *Id.* § 412.4(c)(2).

89. *Id.* § 412.4(c)(3). Due to the problems associated with applying small amounts of phosphorus, the EPA chose a multi-year phosphorus rate and to require soil testing less frequently than for nitrogen. Federal CAFO Regulations, *supra* note 3, at 7210.

90. 40 C.F.R. § 412.4(c)(3).

91. *Id.* § 412.4(c)(5).

92. *Id.*

93. *Id.* § 412.4(c)(5)(i).

94. *Id.* § 412.4(c)(5)(ii). Thus, the possibility of qualifying under the alternative practices negates the need to have a 100-foot buffer. *Id.* § 412.4(c)(5)(i)-(ii).

95. *Id.* § 412.4(c).

96. *Id.* § 412.4(a).

management practices appropriate on a nationwide basis.[97] States need to determine what further practices are appropriate at a more localized level to achieve required effluent limitations.[98] Permitted CAFOs must develop and implement nutrient management plans by December 31, 2006.[99]

## III. FOCUSING ON GREATER ENFORCEMENT

While the revised regulations address potential discharges of pollutants at 2,800 additional operations,[100] there is some question whether state governments are successfully implementing NPDES requirements. Public interest groups maintain that state enforcement of federal law is not working.[101] An examination of major facilities showed that 81 percent of CAFOs exceeded their Clean Water Act effluent permit limits over the two year period ending December 31, 2001.[102] An estimated 30 percent of major facilities were in significant noncompliance over a fifteen month period.[103] Moreover, the lax enforcement of federal air and water quality regulations by the EPA may be costing the federal government more than $20 million in penalties per year.[104]

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97. Federal CAFO Regulations, *supra* note 3, at 7212. The revised regulations do not cover practices such as manure application to frozen, snow-covered, or saturated ground. *Id.*

98. *Id.* State regulators need to establish these future practices in time to allow permitted CAFOs to develop and implement nutrient management plans by the December 31, 2006 deadline. *Id.* at 7268. Local governments may decide to go further and enact local ordinances to protect the health and welfare of citizens. Upchurch v. Cumberland County Fiscal Court, No. 2000-CA-002607-MR, 2003 Ky. App. LEXIS 22 (Ky. Ct. App. Jan. 31, 2003).

99. Federal CAFO Regulations, *supra* note 3, at 7268.

100. Approximately 15,500 AFOs are expected to meet the definition of a CAFO under the revised regulations. *Id.* at 7244. This may be contrasted to the 12,700 operations that were considered CAFOs under the former regulations. EPA Proposed Rule, *supra* note 17, at 3080.

101. TONY DUTZIK, THE STATE OF ENVIRONMENTAL ENFORCEMENT: THE FAILURE OF STATE GOVERNMENTS TO ENFORCE ENVIRONMENTAL PROTECTIONS AND PROPOSALS FOR REFORM 5 (Colo. Pub. Interest Research Group Found., Oct. 2002).

102. U.S. PUB. INTEREST RESEARCH GROUP, IN GROSS VIOLATION: HOW POLLUTERS ARE FLOODING AMERICA'S WATERWAYS WITH TOXIC CHEMICALS 10 (Oct. 2002). The ten states with "the highest percentage of major facilities to exceed their Clean Water Act effluent permit limits" included Ohio, New York, and Indiana. *Id.* at 9.

103. RICHARD CAPLAN, U.S. PUB. INTEREST RESEARCH GROUP EDUC. FUND, PERMIT TO POLLUTE: HOW THE GOVERNMENT'S LAX ENFORCEMENT OF THE CLEAN WATER ACT IS POISONING OUR WATERS 6 (Aug. 2002).

104. U.S. PUB. INTEREST RESEARCH GROUP, U.S. EPA ALLOWS POLLUTERS TO PAY LESS FOR VIOLATIONS OF ENVIRONMENTAL LAWS, GIVING VIOLATORS AT LEAST A $55 MILLION WINDFALL OVER THE LAST TWO YEARS 1 (Jan. 2003).

Evidence suggests that the federal government has assigned enforcement responsibilities to states without maintaining sufficient oversight of whether the states carry out the laws.[105] With inadequate resources and limited numbers of personnel, many states may not be able to meet their enforcement responsibilities.[106] In a few cases, political and economic pressures have also relaxed enforcement.[107]

Two developments have frustrated effective enforcement efforts. Diminished state tax revenues since the terrorist attacks of September 11, 2001, have left many states with fiscal problems[108] and fewer dollars for environmental regulators.[109] Second, the new regulations markedly increased the number of CAFOs with a corresponding increase in the oversight responsibilities of state regulators.[110] Given these conditions, state regulators may experience difficulties in administering the regulations.

### *A. Unpermitted CAFOs*

As the EPA compiled information on AFOs in 2001, it learned that most CAFOs had not secured an NPDES permit as required by federal regulations.[111] Although CAFO regulations had existed for more than twenty years,

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105. *See* Save the Valley, Inc. v. United States EPA, 99 F. Supp. 2d 981 (S.D. Ind. 2000) (finding that Indiana had not complied with the Clean Water Act); *see also* Jeffrey D. Mullen & Terence J. Centner, *Impacts of Adjusting Environmental Regulations When Enforcement Authority is Diffuse: Confined Animal Feeding Operations and Environmental Quality*, 26 REV. AGRIC. ECON. 209 (2004).

106. For example, Colorado only has two persons administering its CAFO regulations, had only issued 10 permits as of January 16, 2004, and anticipates a need to issue about 390 additional permits to meet the revised federal regulations. Telephone Interview with Ron Jepson, Colorado Department of Public Health & Environment, Water Quality Control Division, Denver, Colo. (Jan. 16, 2004).

107. For example, a new law in Washington transferred the regulation of the state's CAFOs from its Department of Ecology to the Department of Agriculture. S. 5889, 58th Leg., Reg. Sess. (Wash. 2003).

108. *See* Patricia Lopez, *Minnesota's Shortfall; Budget Cuts; Using Shifts and Cuts, Pawlenty Rebalances His Budget Proposal*, STAR TRIB. (Minneapolis, MN), Mar. 13, 2003, at 1B; Craig Timberg & Michael D. Shear, *Falling Tax Revenue Trips Budget Alarms; Area Braces for Economic Domino Effect*, WASH. POST, June 27, 2002, at A01.

109. For example, Ohio debated eliminating monies for maintaining fish-consumption advisories that are available so people can avoid unhealthy amounts of mercury, lead and PCBs contained in Ohio fish. Dave Golowenski, *Fish Advisory Program Spared: Budget Cuts Won't Ax Reports Covering Species' Toxin Levels*, COLUMBUS DISPATCH (Ohio), Sept. 1, 2002, at 15D.

110. Press Release, EPA, EPA and Agriculture Working Together to Improve America's Waters (Dec. 16, 2002) *available at* http://www.epa.gov/epahome/headline_121602.htm.

111. 33 U.S.C. §§ 1311, 1342 (2000); 40 C.F.R. pt. 122 (2003).

data from 1997 suggested that only about 20 percent of the nation's CAFOs had secured permits.[112] In a December 2002 press release accompanying its new regulations, the EPA estimated that 4,500 operations were already covered by permits, and that about 11,000 additional operations would now need to secure permits.[113]

There are a number of possible explanations for the paucity of CAFOs securing permits. The most prevalent is the producers' argument that if a CAFO did not have any discharge, it was not required to secure a permit.[114] There was also confusion about the "storm event exemption."[115] This ambiguous provision suggested that where a CAFO did not discharge nor was likely to discharge except in the event of a 25-year, 24-hour storm event, the operation was exempted from the permit requirement.[116] The storm event exemption has been removed from the new regulations.[117]

Some operations cited the agricultural storm water discharge exclusion[118] as a justification for failing to secure a permit. Producers maintained that this longstanding regulatory exemption meant that runoff from the application of manure was not regulated.[119] This exclusion has been clarified in the revised regulations so that some discharges from land application will now require a permit.[120] Another reason for not securing permits may be that operations have gradually grown above the threshold number of animals. Finally, some operators may have simply chosen to ignore the permitting provisions.[121]

In the EPA's proposal for revising federal regulations, one scenario defined CAFOs in such a manner as to increase the number of regulated operations threefold.[122] While the government may be able to justify regulating more AFOs under the Clean Water Act, the accompanying costs would be

112. EPA Proposed Rule, *supra* note 17, 2968-69, 3080.

113. Press Release, EPA, *supra* note 110.

114. Federal CAFO Regulations, *supra* note 3, at 7201.

115. *Id.* at 7195. The storm event exemption should not be confused with the agricultural storm water discharge exclusion.

116. *See* 40 C.F.R. pt. 122, app. B; *see also* Water Keeper Alliance, Inc. v. Smithfield Foods, Inc., No. 4:01-CV-27-H(3), 2001 U.S. Dist. LEXIS 21314, at *7-8 (E.D. N.C. Sept. 20, 2001) (denying defendants' assertion that the storm event exception meant defendants did not need an NPDES permit).

117. Federal CAFO Regulations, *supra* note 3, at 7195 (noting that the 25-year, 24-hour storm event exemption created confusion and ambiguity that undermined the ability of permitting authorities to implement the regulations).

118. 33 U.S.C. § 1362(14) (2000).

119. Federal CAFO Regulations, *supra* note 3, at 7196.

120. 40 C.F.R. § 122.23(e) (2003). *See supra* notes 70-76 and accompanying text.

121. A number of citizen suits show CAFO operators ignoring the permitting provisions. *See infra* notes 160-72 and accompanying text.

122. EPA Proposed Rule, *supra* note 17, at 2985.

significant.[123] The adopted regulations sought to achieve a balance between the expected benefits and the expected costs.[124]

### *B. Lack of Oversight*

The EPA has gathered information from the states and compiled a compendium of state activities concerning CAFOs.[125] Information contained in this compendium suggests that some states had not developed effective programs for enforcing CAFO regulations.[126] Considerable frustration about the inability of states to regulate the impairment of waters by CAFOs in a meaningful way has led citizen and environmental groups to seek redress in court.[127]

For example, in 2001 a federal court agreed with plaintiffs that the Indiana state CAFO program was not in compliance with the Clean Water Act.[128] Prior to 2001, the state did not require any CAFOs to apply for a permit.[129] Instead, the state approved permits for the construction and operation of manure management systems.[130] Moreover, the state regulatory agency had not inspected any CAFOs until 1999.[131] Despite these deficiencies, the court refused to compel the EPA to withdraw approval or to take over the enforcement of Indiana's NPDES program.[132]

Since the suit, the Indiana Department of Environmental Management has instituted an active CAFO inspection program. In 2001, the agency reported inspecting 1,064 sites, with a focus on active sites that had yet to be

123. Calculations by the EPA estimated the new provisions might impose costs of $831-925 million annually. *Id.* at 3086. The Proposed Rule was expected to reduce aggregate national economic output by nearly $2 billion per year. *Id.* at 3094.

124. Federal CAFO Regulations, *supra* note 3, at 7234, 7243 (suggesting that the estimated $326 million in additional annual costs would be offset by benefits of $204 to $355 million associated with the revised effluent limitation guidelines).

125. STATE COMPENDIUM, *supra* note 2.

126. *Id.* The GAO reached a similar conclusion, noting that at least one authorized state had not issued any CAFO permit prior to 2002. GAO 2003, *supra* note 2, at 9-11 (reporting on Michigan's failure to implement CAFO regulations).

127. *See infra* notes 160-72 and accompanying text.

128. Save the Valley v. United States EPA, 223 F. Supp. 2d 997, 1013 (S.D. Ind. 2002).

129. *Id.* at 1009. The 2001 date was approximate. *Id.*

130. *Id.* (citing IND. CODE § 13-18-10-2(c) (1998)).

131. *Id.*

132. *Id.* at 1013-14. The state agency was ordered to bring its program into compliance with the Clean Water Act. *Id.* at 1013. Furthermore, contingency orders were entered requiring the EPA to take action to withdraw approval of Indiana's NPDES program if the state failed within a given time period to establish an NPDES permit program for CAFOs. *Id.* at 1015.

inspected.[133] The agency found 28 spill incidents and 32 significant violations.[134] More recently, the agency notified 529 operations that the new CAFO regulations may require them to seek coverage under an NPDES permit, suggesting an increase in the degree of state regulatory oversight.[135]

Yet two problems highlighted by the EPA's compendium of state activities may still continue. First, unnecessary water contamination may exist due to the absence of a purposeful inspection program by the state agency charged with overseeing the administration and enforcement of the federal regulations.[136] The compendium reported that a number of states based inspections solely on complaints.[137] Consequently, there was little governmental oversight of permitted CAFOs to ensure that no unpermitted discharges were impairing waters.[138] For some states, however, increased public scrutiny and citizen suits have altered the inspection practices reported in the compendium.[139]

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133. IND. DEP'T OF ENVTL. MGMT., 2001 ANNUAL SUMMARY CONFINED FEEDING REPORT, *available at* http://www.in.gov/idem/land/cfo/inspectionrpts/cfo01annual.html (last updated Nov. 1, 2002).

134. *Id.* Thirty-one Letters of Warning or referrals to the Office of Enforcement were issued. *Id.*

135. IND. DEP'T OF ENVTL. MGMT., REPORT OF THE CONCENTRATED ANIMAL FEEDING OPERATION (CAFO) NPDES RULE WORKGROUP (Dec. 2003), *available at* http://www.in.gov/idem/water/planbr/rules/011404wpcbpacket/cafowrkgrp.pdf.

136. This occurs in states that relied on complaints for its inspection program. STATE COMPENDIUM, *supra* note 2, at 39 (California), 47 (Colorado), 77 (Hawaii), 93 (Indiana), 115 (Kentucky), 125 (Maine), 177 (New Hampshire), 179 (New Jersey), 233 (Pennsylvania), 261 (Tennessee), 293 (Washington). Conversely, the Nebraska Department of Environmental Quality noted a decrease in the number of complaints about CAFOs in 2003. NEB. DEP'T OF ENVTL. QUALITY, ANNUAL REPORT TO THE LEGISLATURE 2003, at 42 (Dec. 1, 2003), *available at* http://www.deq.state.ne.us/Gen.nsf/Pages/528-2003.

137. STATE COMPENDIUM, *supra* note 2. For example, California reported that violators were identified by complaints for inspections, *id.* at 42, while Colorado admitted it had no routine inspections, *id.* at 52. Under Kentucky's CAFO program, the state responded "to complaints or identified problems" for periodic inspections, *id.* at 118, while Pennsylvania's inspection program was "generally complaint-driven," *id.* at 237.

138. This situation might be especially egregious in states with numerous CAFOs, such as California, Colorado, Indiana, and Pennsylvania.

139. A few examples show the changes. For the inspection year that ended June 30, 2003, Kentucky inspected all of its permitted CAFOs, and plans to inspect all 26 permitted CAFOs for the year ending June 30, 2004. Telephone Interview with Tom Gabbard, Kentucky Department for Environmental Protection, Field Operations Branch, Lexington, Ky. (Jan. 16, 2004). Pennsylvania is now inspecting all large CAFOs at a minimum of once per year. E-mail from Cedric Karper, Pennsylvania Department of Environmental Protection, Bureau of Watershed Management, Harrisburg, Pa. (May 8, 2003) (on file with author). Medium-sized CAFOs in Pennsylvania are inspected by the state's county conservation districts. Telephone Interview with

A second problem concerned the lack of enforcement actions when violations were discovered.[140] Due to a lack of personnel, a desire to attend to more important matters, a desire not to be too onerous on farm operators, or for other reasons, violations of CAFO regulations may not lead to enforcement actions.[141] One state environmental agency noted that it was "interested in bringing producers into compliance" rather than being concerned with punishment.[142] Regulators prefer to work with violators to resolve problems rather than spending time in contentious enforcement actions.[143]

The revised regulations could exacerbate the lack of oversight by state regulators.[144] State regulators need to revise their requirements for nutrient management plans to establish appropriate technical standards regarding application rates for fields.[145] Permittees need to evaluate their plans to conform with the revised state regulations.[146] With 11,000 operations needing permits,[147] and limited fiscal resources, state personnel may find it difficult to fully examine every permit application.[148]

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Bob Gibson, Pennsylvania Department of Environmental Protection, Bureau of Watershed Management, Harrisburg, Pa. (Jan. 21, 2004). However, Colorado's inspections of CAFOs continue to be complaint-driven. Telephone Interview with Ron Jepson, Colorado Department of Public Health & Environment, Water Quality Control Division, Denver, Colo. (Jan. 16, 2004).

140. This is inferred from the *State Compendium*. STATE COMPENDIUM, *supra* note 2. *See also* Cory & Germani, *supra* note 21, at 505-06 (reporting agricultural cases where courts declined to fully implement criminal sanctions).

141. Each citizen suit alleging a CAFO violation involves an underlying claim that the government has not enforced a provision of the Clean Water Act. *See infra* notes 160-72 and accompanying text.

142. LEGISLATIVE RESEARCH DIV. OF THE NEB. LEGISLATURE, FINAL COMMITTEE REPORT VOL. 10 NO. 2, NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY: ADMINISTERING THE LIVESTOCK WASTE MANAGEMENT ACT pt. II, at 28 (May 2003).

143. STATE COMPENDIUM, *supra* note 2, at 110. In some cases, this may be a superior response. An agency may issue a notice of violation and then decline to do anything further because it is already working with the operator in establishing meaningful measures to comply. Sometimes the proof needed to establish the violation may be too formidable. In other situations, the limited resources of an agricultural operator may recommend a warning rather than a fine or injunctive relief. *See* TERENCE J. CENTNER, LEGAL STRUCTURES GOVERNING ANIMAL WASTE MANAGEMENT, (Nat'l Ctr. for Manure and Animal Waste Mgmt. White Papers, 2002).

144. *See infra* notes 201-24 and accompanying text.

145. Federal CAFO Regulations, *supra* note 3, at 7213.

146. *Id.*

147. Press Release, EPA, *supra* note 110.

148. Virginia has noted that in fiscal year 2003 water permit fees only covered 12 percent of total program costs. VA. DEP'T OF ENVTL. QUALITY, PERMIT FEE PROGRAM EVALUATION: A REPORT TO THE GENERAL ASSEMBLY 2 (Jan. 2004), *available at* http://www.deq.state.va.us/regulations/reports.html.

### C. Citizen Enforcement

In response to continued pollution from CAFOs, citizen groups have acted to assist in the enforcement of water quality provisions.[149] Under citizen suit provisions, environmental groups act as "private attorneys general" in vindicating environmental interests.[150] At least sixty days prior to filing suit under citizen suit provisions, the citizens must notify the alleged violator and responsible enforcement agency of the planned filing.[151] The sixty-day notice allows the alleged violator to come into compliance and the agency to step in if enforcement is appropriate.[152]

Plaintiffs have a three-prong burden of proof under citizen suit provisions:[153] the plaintiffs need to have suffered an actual or threatened injury because of the defendant's actions, the injury must be "fairly traceable" to the defendant's actions, and the injury must be redressable if plaintiffs prevail in the lawsuit.[154] Citizen suits are not appropriate if an agency is already diligently prosecuting the alleged violator.[155] What constitutes diligent prosecution, however, is not entirely clear.[156] Most courts have held that, to bar a citizen suit, the agency action against the alleged violator must be enforced.[157] Persons bringing citizen suits bear the burden of showing non-

149. *See* Trevor Oliver, Note, *Fighting Corporate Pigs: Citizen Action and Feedlot Regulation in Minnesota*, 83 MINN. L. REV. 1893 (1999) (advocating citizen actions to enforce environmental laws against feedlots).

150. Friends of the Earth v. Carey, 535 F.2d 165, 170 (2d Cir. 1976), *vacated by* 552 F.2d 25 (1977). Citizen suit provisions reflect "'a deliberate choice by Congress to widen citizen access to the courts.'" *Id.* at 172 (quoting Natural Res. Def. Council, Inc. v. Train, 510 F.2d 692, 700 (D.C. Cir. 1974)). Citizen suits are intended to supplement rather than replace state enforcement actions. Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., 484 U.S. 49, 60-61 (1987).

151. 33 U.S.C. § 1365(b) (2000).

152. Friends of the Earth, Inc. v. Laidlaw Envtl. Servs., Inc., 528 U.S. 167, 175 (2000).

153. Lujan v. Defenders of Wildlife, 504 U.S. 555, 560-61 (1992).

154. *Id.* Plaintiffs relying on aesthetic or recreational interests alone may not show sufficient basis for standing. *See* Neuse River Found. v. Smithfield Foods, Inc., 574 S.E.2d 48, 55 (N.C. Ct. App. 2002) (dismissing a citizen suit for lack of standing).

155. 33 U.S.C. § 1365(b)(1)(B).

156. *Laidlaw Envtl. Servs.*, 528 U.S. at 177-79 (considering the defense of diligent prosecution by a state agency); McAbee v. City of Fort Payne, 318 F.3d 1248, 1249-50 (11th Cir. 2003) (allowing a citizen suit due to the noncomparability of state and federal public-participation provisions).

157. ENVIRONMENTAL LITIGATION 91 (Janet S. Kole & Stephanie Nye eds., 2d ed. 1999).

diligence by the agency.[158] Administrative actions to bring about compliance do not preclude a citizen suit.[159]

Since few CAFOs have secured permits under federal law, citizens have limited opportunities to address pollution from animal facilities through citizen suits. In the absence of permits, the citizen group needs to show that the facility is a CAFO that is violating the regulations by not securing a permit.[160] Yet successful litigation against CAFOs shows that citizens are ready to tackle situations where CAFOs are not meeting regulatory requirements. Courts are finding that the failure of a CAFO to obtain a NPDES permit, or to follow the dictates of a permit, support a citizen suit.[161]

In a landmark case from New York, the Second Circuit held that pollutants from the field application of manure could be a discharge under the Clean Water Act.[162] The Second Circuit observed that manure channeled from a field into a swale coupled with a pipe at a CAFO constituted discharges from a point source.[163] If the discharges were agricultural stormwater discharges, they would not violate the Clean Water Act.[164] However, discharges that "were not the result of rain, but rather simply occurred on days when it rained" did not necessarily constitute stormwater discharges.[165] The jury was able to determine that the runoff was primarily caused by the over-

158. *Id.*

159. PMC, Inc. v. Sherwin-Williams Co., 151 F.3d 610, 619 (7th Cir. 1998) (finding that the state had taken administrative actions but such were not "actions" within the legal sense of the statute).

160. *See* Water Keeper Alliance, Inc. v. Smithfield Foods, Inc., No. 4:01-CV-27-H(3), 2001 U.S. Dist. LEXIS 21314, at *3 (E.D. N.C. Sept. 20, 2001) (alleging a failure to secure a CAFO permit).

161. *Id.* at *5-7 (finding that failure to secure a permit supported a citizen suit); Idaho Rural Council v. Bosma, 143 F. Supp. 2d 1169, 1181 (D. Idaho 2001) (denying defendants' motion for summary judgment in a citizen suit); Cmty. Ass'n for Restoration of the Env't v. Sid Koopman Dairy, 54 F. Supp. 2d 976, 981 (E.D. Wash. 1999) (finding defendants' dairies were CAFOs subject to point-source requirements); Cmty. Ass'n for Restoration of the Env't v. Henry Bosma Dairy, 65 F. Supp. 2d 1129, 1155-56 (E.D. Wash. 1999), *aff'd*, 305 F.3d 943 (9th Cir. 2002) (finding violations of the Clean Water Act by dairies); *see also* Susan Griffithe, Note, *Isolating the Problem by Finding the Connection: The Proper Approach to Regulating Groundwater Under the Clean Water Act:* Idaho Rural Council v. Bosma, 27 S. Ill. U. L.J. 437, 449-56 (2003) (agreeing with the court's decision that groundwater hydrologically connected to surface waters are waters of the United States).

162. Concerned Area Residents for the Env't v. Southview Farm, 34 F.3d 114 (2d Cir. 1994).

163. *Id.* at 118.

164. *Id.* at 120.

165. *Id.* at 121.

saturation of the fields so that the runoff was not within the definition of "stormwater."[166]

After a federal district court in Washington found that CAFOs needed to obtain NPDES permits and had violated federal law with their discharges,[167] defendants in a subsequent lawsuit were held liable for civil penalties of more than $171,000 for sixteen violations of the Clean Water Act.[168] Additionally, the defendants were ordered to pay the plaintiff $428,304 for costs and attorney fees.[169]

Environmental groups have also demonstrated their willingness to enforce CAFO regulations through citizen suits in Indiana[170] and North Carolina.[171] While individual CAFOs may have unique situations warranting a special defense, CAFOs without a required permit or violating an existing permit may be subject to civil penalties. Under the revised federal regulations, thousands of CAFOs need to secure permits.[172] As these CAFOs secure NPDES permits, more opportunities for citizen suits will exist.[173] The new regulations also clarify which AFOs meet the definition of a CAFO and impose an obligation to secure a permit.[174] This will assist citizen groups in actions involving failure to secure a permit.

## IV. HOW THE REGULATIONS MAY AFFECT ENFORCEMENT

The EPA acknowledges that inadequate compliance and enforcement by the states contribute to continued discharges and manure runoff.[175] However,

166. *Id.* The conclusion that the land application of manure can be regulated under point-source pollution regulations was followed in *Reynolds v. Rick's Mushroom Service, Inc.*, 246 F. Supp. 2d 449, 458 (E.D. Pa. 2003). The court decided that wastewater discharges from a facility processing waste generated by the mushroom industry could be found to originate from a point source. *Id.*

167. Cmty. Ass'n for Restoration of the Env't v. Henry Bosma Dairy, 65 F. Supp. 2d 1129, 1156 (E.D. Wash. 1999), *aff'd*, 305 F.3d 943 (9th Cir. 2002). The court defined the dairies to include "the milk production area, cow pens, feeding area, truck wash area, calf pens, and fields therein on which manure is stored and any ditches therein." *Id.* at 1133.

168. Cmty. Ass'n for Restoration of the Env't v. Henry Bosma Dairy, No. CY-98-3011-EFS, 2001 U.S. Dist. LEXIS 3579, at *63-64 (E.D. Wash. Feb. 27, 2001) *aff'd*, 305 F.3d 943 (9th Cir. 2002).

169. *Id.* at *62-63.

170. Save the Valley, Inc. v. United States EPA, 99 F. Supp. 2d 981 (S.D. Ind. 2000).

171. Water Keeper Alliance, Inc. v. Smithfield Foods, Inc., No. 4:01-CV-27-H(3), 2001 U.S. Dist. LEXIS 21314 (E.D. N.C. Sept. 20, 2001).

172. Press Release, EPA, *supra* note 110.

173. CAFOs with permits can be sued for violation of a term of the permit.

174. 40 C.F.R. § 122.21(a)(1) (2003). With the new regulatory obligation to secure a permit, groups may find it easier to sue for failure to obtain a permit.

175. Federal CAFO Regulations, *supra* note 3, at 7179.

the EPA also recognizes the key leadership roles played by state agencies and the need to work with interest groups in order to effectively implement and enforce the regulations.[176] The revised regulations may augment enforcement efforts but they also hinder existing enforcement and omit two key enforcement techniques delineated in the proposed regulations.

### *A. Augmenting Enforcement Efforts*

The revised federal regulations should enhance administrative and enforcement efforts to control pollutants from CAFOs. These benefits will accrue from three aspects of the regulations: retention of the three-tiered classification system, clarification of provisions, and expanded and new provisions, such as coverage of poultry litter.[177]

Retaining the three-tiered system of classification for CAFOs[178] will be less disruptive of state programs than shifting to an alternative classification system.[179] The EPA noted that many states had years of practical experience administering their three-tiered systems and that continuity would provide for a better progression of functional regulatory efforts.[180] While the new federal regulations will require most states to revise their own regulations,[181] the changes should not be disruptive of existing programs and activities.

The revised regulations eliminate the storm event exception, clarify the meaning of the agricultural storm water discharge exclusion, and more definitively enumerate the requirements for CAFOs. The deletion of the storm event exception is especially significant.[182] Confusion about the meaning of this provision had created a loophole whereby some CAFOs believed they were not required to secure an NPDES or corresponding state permit.[183] The

176. *Id.* at 7182.

177. 40 C.F.R. § 122.23(a).

178. CAFOs are classified as large, medium, and small CAFOs. *See supra* notes 36-43 and accompanying text.

179. Federal CAFO Regulations, *supra* note 3, at 7190. A new classification system would have required building "a new understanding of the regulations in the CAFO industry." *Id.* Moreover, an alternative suggested classification system would not "have improved the clarity, effectiveness or enforceability of the regulations." *Id.*

180. *Id.*

181. States authorized to administer NPDES programs will need to revise regulations to add provisions to cover the new heifer, veal calf, and dry-litter poultry operations covered by the revised federal regulations, and to determine appropriate practices at the local level to achieve best management practices for effluent limitations. *See id.* at 7212 (discussing the need of states to establish best management practices as part of their nutrient management plans).

182. *See supra* notes 115-17 and accompanying text.

183. *See* GAO 2003, *supra* note 2, at 6 (estimating that up to 60 percent of the largest AFOs have avoided securing permits); Rebecca P. Lewandoski, Note, *Spreading the Liability Net: Overcoming Agricultural Exemption with EPA's Proposed Co-Permitting Regulation Under the Clean Water Act*, 27 VT. L. REV. 149, 154 (2002)

revised rules eliminate this ambiguity by setting forth a duty to apply for a permit.[184] Future legal challenges based on the failure to secure a permit will consequently require less proof to establish a cause of action.[185]

A second change more clearly explicates the agricultural storm water discharge exclusion.[186] The new rules illuminate the meaning of this exclusion and its limitations by elaborating on land application discharges and by setting forth management practices that must be employed to qualify for the storm water discharge exclusion.[187] Operators should now realize that the exclusion was not intended to exempt all discharges that may arise from the application of manure or other materials on fields.[188] Under these new regulations, egregious situations involving the wrongful application of manure to fields now plainly violate the Clean Water Act. The revised regulations also bring dry-litter poultry operations within the coverage of CAFO regulations.[189] Believing that the land application of poultry litter contributes to the impairment of water quality, the EPA included dry-litter poultry operations that exceed thresholds of animal numbers within the definition of CAFOs.[190]

The more comprehensive coverage of manure, litter, process wastewater, and overflow also helps to clarify the scope of coverage of the CAFO provisions.[191] Overflows based on chronic or catastrophic rainfall events are defined so that CAFOs may have permitted discharges in limited situations.[192] A new zero discharge standard is imposed for new swine, poultry, and veal calf CAFOs with the requirement that new waste storage facilities be

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(suggesting that the regulatory exemption resulted from efforts of the powerful agricultural lobby); *see also* Water Keeper Alliance, Inc. v. Smithfield Foods, Inc., No. 4:01-CV-27-H(3), 2001 U.S. Dist. LEXIS 21314, at *8 (E.D. N.C. Sept. 20, 2001) (arguing the storm water exception exempted runoff from their sprayfields).

184. 40 C.F.R. § 122.21(a)(1) (2003).

185. Some defendant CAFOs had argued that the Clean Water Act did not create a cause of action based on failure to secure a permit. *See Water Keeper Alliance, Inc.*, 2001 U.S. Dist. LEXIS 21314, at *3, *6 (citing the proposed regulation's obligation to secure a permit as evidence of the meaning of the statute). With a duty to secure a permit, defendants no longer have such an argument.

186. *See supra* notes 66-76 and accompanying text.

187. 40 C.F.R. § 122.23(e).

188. *Id.*

189. Federal CAFO Regulations, *supra* note 3, at 7191-92.

190. *Id.* It was noted that the regulation of poultry operations might provide equity across all animal sectors, as beef, swine, and dairy operations using dry technologies are regulated. *Id.* at 7192.

191. *See supra* notes 44-52 and accompanying text.

192. 40 C.F.R. §§ 412.12(b), 412.13(b), 415.15(b), 412.25(b), 412.26(b), 412.31(a)(2)(i) (2003). Provisions for bypasses and upsets are provided. *Id.* § 412.46(a)(3). These provisions adopt the definitions of bypass and upset from 40 C.F.R. § 122.41(m)-(n). *Id.*

designed, constructed, and operated to contain liquids from a 100-year, 24-hour rainfall event.[193]

Expanded provisions differentiate production and land application areas to facilitate requirements for land not part of a CAFO's production area.[194] Other provisions expand the coverage of effluent limitation guidelines.[195] Including more AFOs in the CAFO permitting process should help reduce water impairment.[196]

### *B. Obstacles to Effective Enforcement*

Although the revised regulations were intended to assist with compliance and enforcement efforts, they may unwittingly encourage operators to forego compliance. Because a large number of AFOs are required to secure NPDES permits as CAFOs under the revised regulations,[197] states may become so overburdened that enforcement efforts receive less attention.

#### 1. Increased Permitting Activities

The revised federal regulations are expected to cover an additional 2,800 AFOs.[198] However, the 8,200 unpermitted CAFOs pose the greatest regulating challenge.[199] These operations were required to obtain or seek NPDES permits by April 14, 2003.[200] The 2,800 new CAFOs need to seek coverage under an NPDES permit by February 13, 2006.[201] Moreover, some of the 4,500 permitted CAFOs[202] must develop new nutrient management plans to conform to the revised regulations by December 31, 2006.[203] State agencies charged with issuing permits to CAFOs will be busy.

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193. Federal CAFO Regulations, *supra* note 3, at 7219.

194. *See supra* notes 53-65 and accompanying text.

195. 40 C.F.R. pts. 122, 412.

196. *Id.* The revised regulations cover potential discharges from 2,800 additional operations. *See supra* note 100 and accompanying text.

197. Press Release, EPA, *supra* note 110.

198. *See supra* note 100.

199. The revised regulations are projected to regulate 15,500 CAFOs. Federal CAFO Regulations, *supra* note 3, at 7244. Approximately 4,500 CAFOs have permits. Press Release, EPA, *supra* note 110. Since 2,800 of the 15,500 operations will be regulated for the first time, this means that 8,200 operations are unpermitted CAFOs. They were required to have or seek to obtain coverage by April 14, 2003. Federal CAFO Regulations, *supra* note 3, at 7267.

200. 40 C.F.R. § 122.23(g)(1).

201. *Id.* § 122.23(g)(2).

202. Those that are large CAFOs need to revise their nutrient management plans to meet the new effluent limitation guidelines. *Id.* pt. 412.

203. *Id.* § 122.42(e)(1).

For states with notable numbers of veal, heifer, and poultry AFOs, the impact may be more pronounced. Whereas under the previous CAFO rules, no veal or heifer production facility was classified as a CAFO, an estimated 491 facilities raising such animals will need to secure NPDES permits under the final rule.[204] With the new regulation of dry-litter poultry operations, the revised regulations will also require 755 unpermitted poultry operations to secure permits.[205]

Increased permitting activities will demand the services of professionals and consultants to assist producers with NPDES permit applications and to develop nutrient management plans.[206] In its analysis of the shortcomings of CAFO regulations, the U.S. General Accounting Office recommended that the EPA take steps to "ensure that authorized states are properly permitting and inspecting CAFOs and taking appropriate enforcement actions against those in noncompliance."[207] The increased permitting activities will challenge state regulators, especially in light of current economic conditions making it unlikely that regulating agencies can hire additional staff.[208]

### 2. Enforcement Issues

The EPA calculated that the revised regulations will cost $9 million per year to implement, with states incurring $8.7 million of these costs.[209] Given limited state tax revenues,[210] it is doubtful that many states will be able to fully administer the new regulations. While many states have made impressive strides in upgrading their regulations during the past few years,[211] few have been able to apply their permitting programs to all CAFOs. Moreover, with a backlog of operations needing permits, agencies may devote less time to monitoring and enforcement activities,[212] meaning that fewer CAFOs will be monitored or subjected to sanctions.

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204. Federal CAFO Regulations, *supra* note 3, at 7243.

205. *Id.*

206. The EPA noted that nutrient management plans were complex documents, and that many CAFOs would choose to acquire the services of consultants to prepare these plans. *Id.* at 7213. The EPA declined to require that nutrient management plans be prepared by certified experts. *Id.*

207. GAO 2003, *supra* note 2, at 15.

208. The GAO reported in January 2003 that both the EPA and state regulators were waiting for final CAFO regulations before determining how they would plan to re-deploy resources for their implementation. *Id.* at 13.

209. Federal CAFO Regulations, *supra* note 3, at 7242-43.

210. *See* Lopez, *supra* note 108 (noting Minnesota's budget shortfall).

211. Centner, *View of the Evidence*, *supra* note 1, at 127 n.91 (listing recent regulatory changes in major animal producing states).

212. Telephone Interview with John Menke, California Central Valley Regional Water Quality Control Board, Sacramento, Cal. (May 12, 2003).

The EPA's documentation for the revised regulations included estimates of their costs.[213] Each regulatory agency of states with general permit coverage was projected to need 720 hours to develop NPDES program modifications and implementation activities for general and individual permits.[214] Agencies in states that are developing general permit coverage might expend 1,880 hours to complete the task at a cost of approximately $38,000.[215] Where an individual permit involving a public hearing is required, a regulatory agency may expend nearly 200 hours of time per applicant, at a cost of nearly $6,000.[216]

The EPA estimates that the revised regulations will impose $352 million annually on CAFOs.[217] While many of these costs will be incurred by the additional 2,800 operations required to secure permits, some will be incurred by existing CAFOs in complying with the revised regulations.[218] The costs incurred by individual operations will vary depending on what each must do to comply with the new regulations and to avoid unpermitted discharges. The magnitude of these costs could subject some operators to great financial difficulties.[219] The EPA estimated that 285 existing large CAFOs would be vulnerable to closure.[220] With such financial difficulties, some operations might forego securing permits in order to remain in business.

The revised regulations increase the number of regulated CAFOs without any corresponding increase in state administrative resources. As a result, states may not have sufficient staffing to handle permit applications or to engage in meaningful compliance and enforcement activities.[221] This will make it less likely that an individual CAFO will be monitored or found to be

213. SCI. APPLICATIONS INT'L CORP., EPA INFORMATION COLLECTION REQUEST NO. 1989:02, SUPPORTING STATEMENT FOR THE INFORMATION COLLECTION REQUEST FOR THE FINAL NPDES AND ELG REGULATORY REVISIONS FOR CONCENTRATED ANIMAL FEEDING OPERATIONS (Dec. 2002), *available at* http://www.epa.gov/npdes/pubs/cafo_support_for_icr.pdf.

214. *Id.* at 29-32. There are twenty-two states in this category. *Id.* at 31.

215. *Id.* at 31, 34. Twenty-one states are in this category. *Id.* at 31.

216. *Id.* at 34.

217. Federal CAFO Regulations, *supra* note 3, at 7249.

218. For example, large CAFOs need new nutrient management plans and have visual inspection and reporting requirements that were not part of the former regulations. *Id.* at 7255; 40 C.F.R. § 412.37 (2003).

219. Federal CAFO Regulations, *supra* note 3, at 7246.

220. *Id.* While most of these operations raise swine, nine percent of the producers raising heifers will experience financial stress. *Id.*

221. Unless states already had more staff than needed, an increase in permit applications suggests that more staffing is needed or that existing staff will need to spend less time on each permit application or other activities.

out of compliance with CAFO regulations.[222] It also becomes less likely that a regulatory agency will prosecute a CAFO and exact a financial penalty.[223]

The expected cost of noncompliance includes the probability of being detected together with the prospect of incurring a consequential penalty.[224] Where regulators are unable to monitor and enforce regulations, this cost may be low. Because the new regulations cover more CAFOs, each individual CAFO has a diminished likelihood of being monitored and is less likely to incur a penalty for a violation. Therefore, the revised regulations cause the expected cost of noncompliance to decrease.

Whether an individual CAFO chooses to forego applying for a permit depends on the operator's appraisal of the anticipated compliance costs versus the expected cost of noncompliance. Because the revised regulations reduce the expected costs of noncompliance, CAFOs have less incentive to seek permits and comply with the new regulations.

### *C. Omission of Enforcement Techniques*

The proposed regulations contained two important techniques to assist in securing compliance with the CAFO permit requirements that were not included in the final regulations: certification[225] and co-permitting.[226] The use of certified specialists to develop nutrient management plans is an important monitoring technique. Co-permitting provisions might garner assistance from integrators in monitoring production practices by producers. The omission of certification and co-permitting requirements detracts from the enforcement of the water quality control measures of the federal CAFO provisions.

#### 1. Certification of Nutrient Management Plans

Nutrient management plans are a key component for developing strategies and practices to prevent pollutants from entering waters.[227] Because a planning document is the primary tool for determining appropriate manure management practices at the CAFO, the proposed regulations suggested that

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222. If staff have to spend more time to review applications, they may have less time for monitoring.

223. *See* Aya Ogishi et al., *Animal Waste Policy: Reforms to Improve Environmental Quality*, CHOICES: MAG. OF FOOD, FARM & RESOURCE ISSUES, Fall 2002, at 17-18 (arguing for a holistic view of regulation with incentives to increase regulatory effectiveness).

224. Cory & Germani, *supra* note 21, at 508-09 (analyzing the characteristics of enforcement).

225. EPA Proposed Rule, *supra* note 17, at 3140.

226. *Id.* at 3023.

227. These were intended to be site-specific plans for conforming with effluent limitation requirements contained in the NPDES permit. *Id.* at 3032.

it be developed by a certified planner.[228] Although the EPA admitted that nutrient management plans are complex documents and that many organizations recommended that the plans be prepared by experts,[229] the agency elected not to include a certification requirement. The EPA expressed concern that a short-term scarcity of qualified experts would make it difficult to assist CAFOs in the timely preparation of certified nutrient management plans.[230]

While the inclusion of a certification requirement undoubtedly would have taxed experts, land grant universities[231] and states[232] have displayed considerable expertise in successfully executing training and certification programs for manure management. Information on these efforts suggests that a sufficient infrastructure is in place for mandating a certification requirement.[233] In the absence of a certification requirement for nutrient management plans, producers may develop inferior plans that will be less successful in keeping nutrients and pollutants from entering waterbodies. Thus, the decision to avoid potential short-term inconveniences negatively impacts the long-term success of eliminating pollutants from waters.

The absence of a certification requirement will also create more work for state regulators. Certification uses independent experts to ensure mini-

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228. *Id.*

229. Federal CAFO Regulations, *supra* note 3, at 7213 (listing the American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, and several land grant universities as groups recommending the use of trained and certified specialists to prepare nutrient management plans).

230. *Id.* (noting that there might be a large number of CAFOs developing plans at the same time).

231. *See, e.g.*, DAN L. CUNNINGHAM & CASEY W. RITZ, NUTRIENT MANAGEMENT PROGRAMS FOR GEORGIA POULTRY GROWERS (Univ. of Ga. Coll. of Agric. and Envtl. Scis. Bulletin 1226, Mar. 2003) (delineating Georgia's response to nutrient management plans), *available at* http://www.ces.uga.edu/pubcd/B1226.htm; MICH. STATE UNIV. EXTENSION, COMPREHENSIVE NUTRIENT MANAGEMENT PLAN PROVIDERS COURSE (delineating certification for comprehensive nutrient management plans), *available at* http://www.maeap.org/agenda.pdf (last visited May 18, 2004).

232. *See, e.g.*, Press Release, Jessica A. Chittenden, New York Department of Agriculture and Markets, State Helps Farmers Meet Water Quality Objectives (Jan. 6, 2003) (reporting New York's planner certification process for nutrient management), *available at* http://www.agmkt.state.ny.us/AD/release.asp?ReleaseID=1270; Pennsylvania's Nutrient Management Program: Certification (delineating information on the state's certification program), *available at* http://panutrientmgmt.cas.psu.edu/main_certification.htm (last visited May 18, 2004).

233. *See, e.g.*, IOWA STATE UNIV. COOP. EXTENSION, 2003 WORKSHOPS FOR DEVELOPING IDNR MANURE MANAGEMENT PLANS (reporting 29 manure management workshops are scheduled for Iowa producers in 2003), *available at* http://extension.agron.iastate.edu/immag/info/03nwmmpbrochure.pdf (last visited May 18, 2004).

mum standards are met.[234] As noted by the New York State Department of Agriculture and Markets, a "certification process serves as an ongoing quality control component to help assure environmental regulators, producers, and the public that high-quality plans are being developed."[235] The absence of this monitoring technique may present state regulators with inferior and inadequate nutrient management plans. State personnel evaluating NPDES applications will need to assume the monitoring duties that could have been handled by independent specialists under a certification program.[236]

### 2. Co-permitting for Integrators

Changes in swine and poultry production have meant that many producers sign contracts with processors or integrators.[237] The adhesion contracts and low profit margins for many producers in the poultry and hog industries allow integrators to exercise considerable control over their producers.[238] Due to integration, some regions have so many producers that they create a potential for increased environmental degradation.[239] These conditions led the EPA to believe that integrators ought to assume some responsibility for potential pollution problems.[240]

The proposed provisions suggested that the proper disposition of manure be the joint responsibility of owners, producers, and entities exercising substantial operational control over CAFOs.[241] The EPA suggested co-permitting provisions whereby integrators would apply for NPDES permits jointly with owners and operators.[242] To determine whether an integrator

234. The EPA noted in its proposed regulations that certification was needed to ensure that effective nutrient management plans were developed. EPA Proposed Rule, *supra* note 17, at 3133.

235. Press Release, Jessica A. Chittenden, *supra* note 232.

236. States remain free to incorporate a certification process in their CAFO regulations. Some state regulators will see the advantages of requiring nutrient management plans be prepared by certified specialists. *See id.*

237. EPA Proposed Rule, *supra* note 17, at 3023. Integrators may include feed mills, processors, other CAFOs, or other entities that have arrangements whereby they exercise considerable control over an animal producer. *Id.* at 3024. The EPA reported that 98 percent of broiler production was pursuant to production contracts. *Id.* About 30 percent of the country's hog production was pursuant to contracts. *Id.*

238. *Id.*

239. *Id.* The EPA noted that in some places "a strong correlation between areas of excess manure concentrations and areas where there is a large number of processing plants" exists. *Id.*

240. *Id.*

241. *Id.* at 3023-24, 3136-37 (suggesting co-permitting requirements and proposed regulations).

242. *Id.* The proposed regulation anticipated that the co-permitting requirements would affect 94 meat packing plants and 270 poultry processing facilities. *Id.* at 3026.

would be required to sign a permit, the EPA proposed evaluating the level of control the entity exercised over a producer.[243] Any integrator that exercised substantial control over a producer would become a co-permittee.[244]

A co-permitting requirement would not regulate any additional production facilities.[245] Therefore, co-permitting might not be expected to prevent pollutants from entering waterbodies. However, a co-permitting obligation might have two major benefits. First, co-permitting regulations can help guarantee adequate financial resources to respond to environmental problems associated with CAFOs discontinuing business operations.[246] Second, co-permitting leads to increased monitoring of CAFOs bound by production contracts.

Under co-permitting, an integrator would need an NPDES permit. Assuming integrators would chose to comply with the CAFO regulations, they would apply with their producers.[247] Moreover, because an integrator would sign an NPDES permit as a co-permittee, integrators would likely monitor producers to avoid situations that could lead to a violation.[248] Thus, the omission of co-permitting provisions in the final CAFO regulations missed an

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243. *Id.* at 3024.

244. *Id.* The proposed regulation listed factors that might be considered in evaluating whether an entity exercised substantial operational control: the entity "(1) [d]irects the activity of persons working at the CAFO either through a contract or direct supervision of, or on-site participation in, activities at the facility; (2) owns the animals; or (3) specifies how the animals are grown, fed, or medicated." *Id.*

245. *Id.* AFOs that do not meet the definition of a CAFO would not be subject to co-permitting requirements.

246. Concern about CAFOs going out of business has lead many states to implement surety provisions delineating financial responsibility requirements. *See, e.g.*, OKLA STAT. ANN., tit. 2, § 9-209.1 (2000). Individual financial responsibility provisions adopt several avenues of accountability: commercial or private insurance, guarantees, surety bonds, letters of credit, certificates of deposit, and designated savings accounts. *See, e.g.*, 510 ILL. COMP. STAT. 77/17 (2002). By having operators place monies in one or more of these instruments, the state has assurance that funds will be available to remedy problems which may occur if an operation experiences financial difficulty or creates an environmental problem.

A different approach adopted by a few states is to establish a state fund with monies that can be drawn upon to respond to a problem. *See, e.g.*, IOWA CODE §§ 459.501-.508 (2003). This involves payment by each owner or operator of an AFO into a fund. *Id.* § 459.502. The state draws from the fund when a property poses a threat to groundwater or the environment. *Id.* §§ 459.505-.506.

247. With a co-permitting requirement, there would be few producers failing to secure required permits.

248. Integrators would be expected to modify production contracts to more definitively require producers to meet the requirements of the CAFO regulations and to comply with all requirements. As a result, there might be fewer violations of permit conditions due to the oversight of an integrator.

opportunity to garner increased self-monitoring of management practices.[249] The additional self-monitoring practices accompanying co-permitting would have resulted in greater compliance with the NPDES permit requirements.

## V. CONCLUSION

The federal government's revised CAFO regulations make important changes that should lead to improvements in the quality of our nation's waters. The removal of exceptions, the enumeration of further requirements, and the coverage of additional operations comprise significant revisions that should eliminate many practices leading to water impairment.[250] At the same time, the failure to incorporate several proposed provisions may allow operations to continue with activities that degrade water quality. The government declined to require groundwater monitoring, did not make the effluent limitation guidelines mandatory for medium- and small-sized CAFOs, and omitted limits on metals, pathogens, and antibiotics.[251]

Data concerning the implementation and enforcement of the federal CAFO provisions by authorized states suggest that unacceptable impairment of waters by AFOs is not simply a function of the number of operations regulated. Rather, the lack of compliance with existing regulations is part of the problem[252] since facilities are presently allowed to violate permit conditions

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249. After the release of the final CAFO regulations, the General Accounting Office published a report showing deficiencies in state enforcement of CAFO regulations. GAO 2003, *supra* note 2. The EPA's decision not to institute co-permitting requirements missed an opportunity to assist state regulators.

250. *See supra* notes 33-99 and accompanying text.

251. Terence J. Centner, *New Regulations to Minimize Water Impairment from Animals Rely on Management Practices*, 30 ENVTL. INT'L 539, 544 (2004).

252. *See* GAO 2003, *supra* note 2, at 7-10. Other opportunities also exist to reduce the contaminants from AFOs from entering waterbodies. In some cases, additional voluntary measures might address problems. U.S. DEP'T OF AGRIC. AND U.S. ENVTL. PROT. AGENCY, UNIFIED NATIONAL STRATEGY FOR ANIMAL FEEDING OPERATIONS § 4.1 (Mar. 9, 1999). Greater use of appropriate buffers to separate production and land application areas from surface waters might reduce discharges of nutrients. *See, e.g.*, VICKI CHASE ET AL., BUFFERS FOR WETLANDS AND SURFACE WATERS: A GUIDEBOOK FOR NEW HAMPSHIRE MUNICIPALITIES 16-17 (1997) (indicating that buffers may reduce the amounts of sediments, nutrients, pathogens, and other pollutants in surface runoff from entering water bodies); Rowan D. Barling & Ian D. Moore, *Role of Buffer Strips in Management of Waterway Pollution: A Review*, 18 ENVTL. MGMT. 543, 547 (1994) (noting significant reductions of nutrients by buffer strips). Because application of manure on sloping land increases opportunities for runoff, restrictions based on the slope of lands may reduce contamination. Ronald A. Fleming & James D. Long, *Animal Waste Management: Measuring the Cost of Restricting Access to Cropland for Manure Nutrient Management*, 94 AGRONOMY J. 57 (2002).

with impunity.[253] In the absence of reasonable efforts by monitoring agencies to detect noncompliance and to bring enforcement actions, some operators may elect not to comply with CAFO regulations. With the revised regulations reducing the expected costs of noncompliance, CAFOs have a diminished incentive to comply with the new federal regulations.[254]

Greater enforcement of these regulations would also address the unfairness of a system in which the vast majority of CAFOs that impair water quality are not punished for their violations. The inequalities created by a regulatory system in which wrongdoers are not held accountable for their infractions penalizes CAFOs that are complying with the law.[255] More extensive enforcement efforts may also be expected to promote the long-run viability of the animal production sector.[256] Rather than regulating additional CAFOs, augmented enforcement efforts may offer superior strategies to combat water quality problems. Through increased resources for noncompliance monitoring and detection efforts, regulatory agencies might meaningfully reduce the amount of pollutants entering waterways.

The General Accounting Office reported in January 2003 that the EPA's limited oversight of state NPDES programs has contributed to inconsistent and inadequate implementation of the federal CAFO regulations.[257] This supports a conclusion that regulators could reduce some discharges of pollutants by being more effective in enforcing existing regulations. Given the anticipated lack of new resources for state regulatory efforts, the General Accounting Office recommended that the EPA should increase its oversight of state programs.[258] While this might involve withdrawing a state's authority to administer its NPDES program, the EPA has never taken such drastic action.[259]

The revised regulations fail to provide greater oversight by the EPA or to include procedures critical in helping states oversee their NPDES programs. Although the proposed rules had delineated provisions for the certification of nutrient management plans and co-permitting of integrators, the final regulations omitted these two enforcement techniques.[260] In the absence of federal assistance for enforcing CAFO regulations, states and citizens will need to fill the void.

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253. *See supra* notes 101-04 and accompanying text.

254. These CAFOs would probably be operations that would incur substantial costs in complying with the permitting regulations and those that would be financially stressed by the revised regulations.

255. These CAFOs spend money to comply with the law to eliminate discharges to waterbodies, while producers who violate the law do not incur compliance costs.

256. Cory & Germani, *supra* note 21, at 513.

257. GAO 2003, *supra* note 2, at 7.

258. *Id.* at 14-15.

259. *Id.* at 11. The GAO reported also that the EPA never has withheld grants from states that did not fully implement an NPDES program. *Id.*

260. *See supra* notes 225-49 and accompanying text.

Three alternative opportunities exist for assisting regulators in minimizing the impairment of waters by CAFOs. First, citizen suits may be employed to address unpermitted discharges from CAFOs.[261] While we might not expect environmental groups to be able to address all unpermitted discharges, citizen suits are a powerful tool because the penalties assessed by the courts may be greater than those assessed by a regulatory agency.[262] Second, states can continue with their certification requirements so that all nutrient management plans are prepared by qualified experts. The use of trained personnel adds a level of quality assurance that should help reduce situations that lead to the impairment of waters. Third, if producers continue to fail to secure required NPDES permits, states might implement co-permitting requirements. Co-permitting can lend assistance in monitoring producers in areas of widespread noncompliance. The implementation of one or more of these enforcement techniques might eliminate some of the water quality problems that are associated with current animal production practices.

261. This applies only to regulated CAFOs that need an NPDES or comparable state permit. Voluntary best management practices and educational programs offer other methods to address discharges and are especially important for nonpermitted AFOs.

262. *See, e.g.*, Jones v. City of Lakeland, 224 F.3d 518, 522-23 (6th Cir. 2000) (reversing a lower court dismissal of a citizen suit finding that nominal penalties and other conduct contradicted diligent prosecution required by federal law).