Poultry Litter and Water Quality in the Ozark Mountains: Allegory for and Prelude to the National Debate Over How Best to Address Water Pollution in the United States

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POULTRY LITTER AND WATER QUALITY IN THE OZARK MOUNTAINS: ALLEGORY FOR AND PRELUDE TO THE NATIONAL DEBATE OVER HOW BEST TO ADDRESS WATER POLLUTION THROUGHOUT THE UNITED STATES

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I. INTRODUCTION

> "This time, like all times, is a very good one, if we but know what to do with it."
>
> – Ralph Waldo Emerson

The Illinois River originates in Washington County, Arkansas, flows northward through the Ozark National Forest, and turns westward where it flows into Adair County in Northeastern Oklahoma.[1] Once in Oklahoma, the river flows westward until it empties into Lake Tenkiller, "the emerald jewel in Oklahoma's crown of lakes."[2] The serenity of the river as it flows through the Ozark mountains belies the fact that it is the primary focal point of a contentious legal action between Oklahoma and Arkansas, *State of Oklahoma v. Tyson Foods, Inc.* (hereinafter *State of Oklahoma*).[3] Despite its obvious regional implications, *State of Oklahoma* has much to say

1. For an image of the Illinois River and its tributaries that flow from Northwest Arkansas into Northeastern Oklahoma, see STATE OF OKLA., OKLA. WATER RES. BD., WATER QUALITY MONITORING REPORT: ILLINOIS RIVER BASIN, pg.II, *available at* http://www.owrb.state.ok.us/studies/reports/reports_pdf/ArkOKCompactRpt03.pdf.

2. Complaint at 10, State of Oklahoma v. Tyson Foods, Inc., No. 05CV0329 JOE-SAJ (filed June 13, 2005), ¶ 26, *available at* http://www.oag.state.ok.us/ oagweb.nsf/9a798028e1753ff786256c16005d5855/2448aafc29ac39668625701f0067edbe/$FILE/Complaint.pdf.

3. *Id.*

about the history and future of the national debate over how to address water pollution in the United States.

Interestingly, *State of Oklahoma* is the third legal action between the two states that focuses on the quality of water that flows from Northwest Arkansas into Northeast Oklahoma. The first action, *Arkansas v. Oklahoma*,[4] involved competing interpretations of the Clean Water Act (CWA)[5] and focused exclusively upon "point source" discharges of pollution from a municipal sewage treatment plant located in Northwest Arkansas. The subsequent legal action, *The City of Tulsa v. Tyson Foods, Inc.*[6] (hereinafter *City of Tulsa*) involved, *inter alia*, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).[7] *City of Tulsa* focused primarily upon the alleged impact that "nonpoint source" pollution in the form of nutrient runoff from poultry litter spread on lands in Northwest Arkansas and Northeast Oklahoma had on two Oklahoma lakes from which the City of Tulsa, Oklahoma, drew its water supply.[8] *City of Tulsa* was significant litigation that initially resulted in some important legal rulings, but it was vacated after the parties reached a court-approved settlement agreement.[9] On June 13, 2005, *State of Oklahoma* was filed in the United States District Court for the Northern District of Oklahoma.[10]

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4. 503 U.S. 91 (1992). *Arkansas v. Oklahoma* is the case title as the matter appeared before the United States Supreme Court, but was given different case titles on its long journey to the Supreme Court. Different case titles include: *In the Matter of National Pollutant Discharge Elimination System Permit for the City of Fayetteville, Arkansas*, NPDES Appeal No. 88-1, 2 E.A.D. 704, 1998 WL 249383, (E.P.A. Dec. 22, 1998); the State of Oklahoma. v. E.P.A., 908 F.2d 595 (10th Cir. 1990); and the State of Oklahoma. v. E.P.A., 962 F.2d 996 (10th Cir. 1992). As used in this article, the case title *Arkansas v. Oklahoma* is used to refer to each of these different case titles.

5. *See generally* 33 U.S.C. §§ 1251-1387 (2000).

6. 258 F. Supp. 2d 1263 (N.D. Okla. 2003), *vacated pursuant to settlement* on July 16, 2003 (no opinion issued by court).

7. *See generally* 42 U.S.C. §§ 9601-9675 (2000).

8. Poultry litter is the combination of poultry manure and bedding material, commonly rice hulls or wood shavings, placed inside poultry growing facilities. A typical poultry growing facility houses thousands of birds at a time and confines the birds from the time they are delivered to the facility until they are picked up. *City of Tulsa*, 258 F. Supp. 2d at 1273.

9. *Id.*

10. Complaint, State of Oklahoma v. Tyson Foods, Inc., No. 05CV0329 JOE-SAJ (Filed June 13, 2005), *available at* http://www.oag.state.ok.us/oagweb.nsf/9a798028e1753ff786256c16005d5855/2448aafc29ac39668625701f0067edbe/$FILE/Complaint.pdf.

In *State of Oklahoma*, the Oklahoma Attorney General and the Oklahoma Secretary of the Environment allege that fourteen poultry companies doing business in an area known as the Illinois River Watershed (IRW)[11] are legally responsible under state and federal laws, including CERCLA, for injuries caused to the IRW by the "hundreds of thousands of tons of poultry waste" disposed of in the IRW by the growers with whom the defendants contracted.[12] *State of Oklahoma* focuses on the alleged impact that "nonpoint source"[13] pollution in the form of nutrient runoff from poultry litter has on the quality of the Illinois River and three of its major tributaries, all of which flow from Northwest Arkansas into Northeast Oklahoma.[14]

At first glance, *State of Oklahoma* is merely a significant regional interstate dispute that is only relevant to the litigants and stakeholders that it directly affects. This view is partially correct and largely incomplete. A more thorough examination of *State of Oklahoma* and the complex factual, historical, legal, policy, and scientific

11. The Illinois River Watershed is a large land area that surrounds the Illinois River and four of its major tributaries, all of which flow from Northwest Arkansas into Northeast Oklahoma. *See also* Complaint at 10-11, State of Oklahoma v. Tyson Foods, Inc., No 05CV0329 JOE-SAJ (filed June 13, 2005), *available at* http://www.oag.state.ok.us/oagweb.nsf/9a798028e1753ff786256c16005d5855/2448aafc29ac39668625701f0067edbe/$FILE/Complaint.pdf. (describing IRW as part of factual allegations). The plaintiffs allege that the IRW is a 1,069,530 acre land mass that encompasses portions of Northwest Arkansas and Northeast Oklahoma and includes the Illinois River, its major tributaries, and the "biota, lands, waters, and sediments therein." *Id.*

12. The poultry companies that are defendants in the action are Tyson Foods, Inc.; Tyson Poultry, Inc.; Tyson Chicken, Inc.; Cobb-Vantress, Inc.; Aviagen, Inc.; Cal-Maine Foods, Inc.; Cal-Maine Farms, Inc.; Cargill, Inc.; Cargill Turkey Production, LLC; George's, Inc.; George's Farms, Inc.; Peterson Farms, Inc.; Simmons Foods, Inc.; and Willow Brook Foods, Inc.,(hereinafter collectively referred to as poultry defendants). *Id.*

13. For reasons brought out throughout this article, the term "nonpoint source" does not appear in the plaintiffs' complaint in *State of Oklahoma*, as it is a term that derives from the CWA rather than the CERCLA. However, use of the term "nonpoint source" is accurate and foreshadows the interrelationship between the factual and legal issues involved in *State of Oklahoma* and the CWA.

14. The plaintiffs' complaint asserts that the poultry litter contains hazardous substances, "including but not limited to phosphorus and phosphorus compounds, nitrogen and nitrogen compounds, zinc and zinc compounds, copper and copper compounds and arsenic and arsenic compounds . . . ." Complaint at 22, State of Oklahoma v. Tyson Foods, Inc., No. 05CV0329 JOE-SAJ (filed June 13, 2005), *available at* http://www.oag.state.ok.us/oagweb.nsf/9a798028e1753ff786256c16005d5855/2448aafc29ac39668625701f0067edbe/$FILE/Complaint.pdf. Phosphorus is the nutrient of primary focus in *State of Oklahoma*. In addition to applying the litter to their own land, the growers often sell or give it away so that others can apply it to theirs. *Id.*

context in which it arises reveals that *State of Oklahoma* is also a case of national significance that signals a need to consider new approaches over how to address concerns over the quality of the nation's waters.

State of Oklahoma is notable for several other reasons, not the least of which is that a central component of the plaintiffs' legal claims is the defendant poultry companies are liable for damages to the IRW under the CERCLA, commonly known as the "Superfund" law.[15] In 1980, the CERCLA was enacted in response to concerns over the environmental and human health dangers presented by hazardous waste sites located throughout the United States.[16]

To many, it seems improbable that the CERCLA could apply to something as "nonhazardous" as poultry litter and other types of animal waste. Others, however, view the CERCLA as an appropriate means, if not one of the only potentially effective means, for ad-

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15. The plaintiffs' action is also based on other state and federal claims, including state law nuisance, federal common law nuisance, trespass, and unjust enrichment. These claims are not a focus of this article. A recent development similar to *State of Oklahoma* and *City of Tulsa* occurred in 2004 when the city of Waco, Texas, sued fourteen dairy operations under the CERCLA, "contending that the dairies' waste management practices contributed to taste and odor problems in the city's water supply." *See*, Jim D. Bradbury, *CERCLA Being Used to Regulate Large Agricultural Operations Through Litigation*, 6 ENVTL. ENFORCEMENT & CRIMES COMM. NEWSL. 4 (ABA) Aug. 2005. Other actions similar to *State of Oklahoma* have arisen in slightly different factual and legal contexts. *See*, *e.g.*, Sierra Club v. Seaboard Farms, Inc., 387 F.3d 1167 (10th Cir. 2004) (partial summary of case available at http://www.nationalaglawcenter.org/assets/cases/sierra-seaboard.html) (last visited Sept. 20, 2006); Sierra Club, Inc. v. Tyson Foods, Inc., 299 F. Supp. 2d 693 (W.D. Ky. 2003) (partial summary of case available at http://www.nationalaglawcenter.org/assets/cases/sierra-tyson.html) (last visited Feb. 6, 2007); and Community Ass'n for Restoration of the Env't v. Henry Bosma Dairy, 305 F.3d 943 (9th Cir. 2002) (summary of case available at http://www.nationalaglawcenter.org/assets/archivecases/bosma.html) (last visited Feb. 6, 2007).

16. The enactment of the CERCLA was prompted largely by high-profile disasters such as the so-called "Love Canal" disaster, which received national attention when in 1978 New York State officials recommended that children and pregnant women be evacuated from a neighborhood in Niagra Falls, New York, due to contamination caused by a dump site located beneath the neighborhood that contained nearly 22,000 tons of toxic waste. *See*, *e.g.*, Thomas A. Gilchrist, Note, *Insurance Coverage for Pollution Liability in the United States and the United Kingdom: Covering Troubled Waters*, 23 CASE W. RES. J. INT'L L. 109, 111 n.12 (1991)[hereinafter GILCHRIST] (describing high-profile disasters, including the "Love Canal" disaster, that helped lead to passage of the CERCLA). Other disasters included an instance where thousands of tons of dioxins were spread on roads in Times Beach, Missouri, and one in Stringfellow, California, where nearly 34 million gallons of hazardous wastes created major groundwater contamination problems. *See id.*

dressing concerns over the impact that the runoff of nutrients from animal waste can have on water quality. Regardless of one's view, one may consider how it came to be that the CERCLA, a law commonly associated with the cleanup of toxic waste dumps, would be used in *State of Oklahoma* as a central means for addressing the impact that something as seemingly naturally occurring and non-toxic as animal waste could have on water quality and the approximately one million acres of agricultural and non-agricultural land that surrounds the water. One may also consider why the CWA is the dog that never barks in the text of the plaintiffs' complaint in *State of Oklahoma*, in light of the facts that the genesis of the complaint is concern over water quality and that the CWA is the primary tool for addressing water quality in the United States.

An answer to these considerations can be traced as far back as the enactment of the CWA in 1972 and its post-World War II predecessor, the Federal Water Pollution Control Act of 1948 (FWPCA).[17] The FWPCA was Congress' first major attempt to comprehensively address water pollution in the United States.[18] In short, the act sought to address water quality concerns through state-initiated regulation of water pollution coupled with minimal federal oversight.[19] Due to the ineffectiveness of the FWPCA, Congress overhauled the act in 1972 when it enacted the CWA. The overall objective of the CWA was "to restore and maintain the chemical,

17. Federal Water Pollution Control Act, Pub. L. No. 80-845, 62 Stat. 1155 (1948). Technically, the legislation commonly referred to as the Clean Water Act is the Federal Water Pollution Control Act. The Clean Water Act actually amended the Federal Water Pollution Control Act, but the amendments are commonly referred to as the Clean Water Act.

18. Claudia Copeland, *Clean Water Act: A Summary of the Law*, CONG. RES. SERV., Jan. 24, 2002, at 2, *available at* http://us.info.state.gov/usa/infousa/laws/majorlaw/cwa.pdf.

19. Although Congress ultimately deemed ineffective the FWPCA, the act hardly compared to its predecessor, the Rivers and Harbors Appropriations Act of 1899, ch. 425, § 13, 30 Stat. 1121 (codified as amended at 33 U.S.C. §§ 401-418 (2000) [hereinafter Rivers Act]. The Rivers Act made it unlawful to "throw, discharge, or deposit, . . . any refuse matter of any kind or description whatever *other than that flowing from streets or sewers and passing therefrom in a liquid state*, into any navigable water of the United States, or any tributary of any navigable water from which the same shall float or be washed into any such navigable water . . . ." Rivers and Harbors Act of 1899 ch. 425 § 13, 30 Stat. 1121, 1152 (codified as amended at 33 U.S.C. § 407(2000)) (emphasis added). As if the gaping hole created by the "streets and sewers" exemption was not quite wide enough, it was widened further by the assessment of a maximum $2,500 per day fine for a violation of the River Act (no small sum at that time), half of which was to be paid by the person who actually reported the violation. 33 U.S.C.A. § 411 (2001)(as amended).

physical, and biological integrity of the nation's waters."[20] Since 1972, the CWA has been the primary policy and legal tool for addressing water pollution.[21]

The CWA recognizes two types of water pollution, "point sources" and "nonpoint sources," and addresses each quite differently.[22] The CWA prohibits the discharge of pollutants from a point source unless that point source has received an EPA-approved permit known as a National Pollution Discharge Elimination System permit.[23] The permit places limits on the amount of pollutants that can be discharged from a point source and imposes reporting and

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20. 33 U.S.C. § 1251(a)(1994).

21. The FWPCA and the CWA are the major federal attempts to address water pollution. Other attempts were made at the state and local levels. *See generally*, William L. Andreen, *The Evolution of Water Pollution Control in the United States–State, Local, and Federal Efforts, 1789-1972*: *Part I*, 22 STAN. ENVTL. L.J. 145 (2003) (providing a history of local and state water pollution control efforts). In addition, a number of amendments, some quite significant, were enacted between 1948 and 1972, and after 1972. *See*, U.S. FISH & WILDLIFE SERV., DIGEST OF FEDERAL LAWS OF INTEREST TO THE U.S. FISH AND WILDLIFE SERVICE, FEDERAL WATER POLLUTION CONTROL (CLEAN WATER ACT), http://www.fws.gov/laws/laws_digest/FWATRPO.HTML (last visited Feb. 27, 2007) (chronicling amendments to FWPCA along with brief narrative of noteworthy amendments).

22. Under the CWA, a "point source" is "any discernable, confined and discrete conveyance, including . . . any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel . . ., from which pollutants may be discharged." 33 U.S.C. § 1362(14) (1994). Although the CWA does not expressly define "nonpoint source pollution," the term is commonly defined as "pollution that enters the environment from broad areas such as stormwater runoff from farm fields, forests, construction sites, and urban areas, rather than from concentrated discharge points." CHUCK CULVER, GLOSSARY OF AGRICULTURAL PRODUCTION, PROGRAMS, AND POLICY (4th ed.) [hereinafter CULVER] (defining "nonpoint source pollution"), *available at* The National Agricultural Law Center, http://www.nationalaglawcenter.org (last visited Feb. 27, 2007)(follow link for "glossary"). *See also*, WILLIAM H. RODGERS, JR., ENVTL. LAW 303 (2d ed. 1994) ("For simplicity, the universe of the causes of water pollution should be considered as fully covered by the categories of point and nonpoint sources."). Nonpoint source pollution occurs "when rainfall, snowmelt, or irrigation runs over land or through the ground, picks up pollutants, and deposits them into rivers, lakes, and coastal waters or introduces them into ground water." U.S. EPA, NONPOINT SOURCE POLLUTION: THE NATION'S LARGEST WATER QUALITY PROBLEM, http://www.epa.gov/OWOW/NPS/facts/point1.htm (last visited Feb. 27, 2007) [hereinafter NATION'S LARGEST PROBLEM] (describing water quality problems associated with nonpoint source pollution).

23. *See also*, U.S. EPA, Office of Wastewater Mgmt., *National Pollution Discharge Elimination System*, http://cfpub.epa.gov/npdes/ (last visited Feb. 27, 2007) [hereinafter *NPDES*] (providing detailed information regarding National Pollution Discharge Elimination System), *and* CULVER, *supra* note 24 (defining "National Pollution Discharge Elimination System").

monitoring requirements on that point source.[24] The CWA addresses nonpoint source pollution by requiring states to identify, under certain conditions, nonpoint pollution sources and to develop a plan to manage those sources.[25] Once a plan is developed, the CWA authorizes federal grant and cost-share funds to be made available to states to help implement the management plan. Many observers characterize the CWA nonpoint source programs, through which the funds are available, as voluntary and without meaningful enforcement mechanisms.[26] As one scholar explained, "[i]n short, no federal . . . [policy] exists to stimulate effective nonpoint source water pollution controls."[27]

A testament to the CWA's efficacy is that the quality of the nation's waters has vastly improved since 1972.[28] Most of this progress can be attributed to the degree to which "point source" discharges of pollution, such as discharges from municipal sewage treatment plants, have been addressed in the past three decades.[29] However, "[a]s point source pollution has been brought under regulation, uncontrolled discharges in the form of runoff from 'nonpoint sources' have become not only greater in absolute terms, but also proportionally a larger share of remaining water pollution problems."[30] In fact, it has been estimated by the Environmental Protection Agency (EPA) that nonpoint source pollution is "the main reason that approximately [forty] percent of . . . surveyed rivers, lakes, and estuaries are not clean enough to meet basic uses such as fishing or swimming."[31] Thus, it is clear that nonpoint source pollution must

24. NPDES, *supra* note 25.

25. *See generally* 33 U.S.C. §§ 1251-1387 (2000).

26. The statement that the CWA nonpoint source pollution programs are voluntary is not misleading but is somewhat overgeneralized in that certain components of the CWA nonpoint source pollution provisions are mandatory. The nonpoint source pollution provisions are discussed in more detail in Part II. See *infra* Part II.

27. Robert W. Adler, *Integrated Approaches to Water Pollution: Lessons From the Clean Air Act*, 23 HARV. ENVTL. L. REV. 203, 289-90 (1999).

28. U.S. EPA, A BENEFITS ASSESSMENT OF WATER POLLUTION CONTROL PROGRAMS SINCE 1972: PART 1, THE BENEFITS OF POINT SOURCE CONTROLS FOR CONVENTIONAL POLLUTANTS IN RIVERS AND STREAMS, Jan. 2000 *available at* http://www.epa.gov/waterscience/economics/assessment.pdf.

29. *Id.*

30. CLAUDIA COPELAND, CONG. RES. SERV., ANIMAL WASTE AND WATER QUALITY: EPA REGULATION OF CONCENTRATED ANIMAL FEEDING OPERATIONS 5, (Jan. 3, 2007), *available at* http://www.nationalaglawcenter.org/assets/crs/RL31851.pdf [hereinafter COPELAND] (discussing the CWA and its history).

31. NATION'S LARGEST PROBLEM, *supra* note 24.

be effectively addressed if significant water quality improvements are to occur during the coming decades.

There are several types of nonpoint source pollution, including runoff of oil and grease from parking lots, runoff of synthetic chemicals applied to golf courses, and runoff of fertilizers applied to yards in residential areas.[32] In addition, agricultural production activities such as animal grazing, plowing, tilling, irrigating, fertilizing, applying of pesticides, and planting and harvesting of crops generate nonpoint source pollution.[33]

Agriculture is widely believed to be a significant source of nonpoint source pollution. In fact, the EPA reports that of all types of nonpoint source pollution, agriculture is "the leading source of water quality impacts to surveyed rivers and lakes . . . [and] the third largest source of impairments to surveyed estuaries."[34] The EPA further reports that "agriculture is the leading contributor of water quality impairments, degrading [sixty] percent of the impaired river miles and half the impaired lake acreage surveyed by states, territories, and tribes."[35] A major source of agricultural nonpoint source pollution, and a principle focus of this article, is nutrient runoff from animal wastes that are produced and disposed of in the course of modern animal agricultural production, including nutrient runoff from poultry litter in the IRW.

The runoff of nutrients from animal waste is directly connected to the structure of the modern animal agricultural production system, which has undergone dramatic changes in recent decades.[36] In short, the number of farming operations has significantly decreased, while the number of animals produced in the operations has dramatically increased. The overall number of animals commercially produced has not decreased despite the structural changes.[37] An important consequence of these structural changes is that extraor-

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32. *Id.*

33. *Id.*

34. U.S. EPA, *Managing Nonpoint Source Pollution From Agriculture*, http://www.epa.gov/owow/nps/facts/point6.htm (last visited Feb. 27, 2007) [hereinafter *Managing Nonpoint Source Pollution*].

35. NATION'S LARGEST PROBLEM, *supra* note 24.

36. U.S. EPA & USDA, UNIFIED STRATEGY FOR ANIMAL FEEDING OPERATIONS 7 (1999), *available at* http://www.epa.gov/npdes/pubs/finafost.pdf [hereinafter UNIFIED STRATEGY] (setting forth plan of action for addressing water quality concerns associated with modern animal agriculture). UNIFIED STRATEGY is an excellent resource for statistics and other information regarding the impact that modern animal agricultural production can have on water quality and other aspects of the environment.

37. *Id.*

dinary amounts of animal waste are produced and disposed of in geographically limited areas throughout the United States.

All of the animal waste must be disposed of in some manner, presumably in one that is economically feasible. A few disposal methods are used, but the most common is to take advantage of the wastes' nutrient content by applying the wastes to land as a fertilizer for crop and pasture growth.[38] The land application of animal waste can be problematic because nutrients from the waste, especially phosphorus and nitrogen, can embed in soils and run off into nearby lakes, rivers, and estuaries. Once the nutrients enter a waterbody, they can promote the growth of aquatic plants in the same way they promote the growth of terrestrial plants, and in so doing can create, or help create, water quality problems such as "eutrophication."[39]

In light of the foregoing discussion, three principle questions arise. First, does the CWA address nonpoint source pollution in a manner that is effective enough to compel water quality improvements to occur over the next three decades that are substantially similar to the improvements that occurred over the past three decades? This is not a trivial consideration, given that a key to substantial water quality improvements in this and subsequent decades is to significantly reduce the amount of nonpoint source pollution that reaches the nation's waters.

Second, should the CWA remain the primary means for addressing nonpoint source pollution from agriculture, including nutrient runoff from poultry litter and other types of animal waste? The importance of this question is magnified by the fact that nonpoint source pollution cannot be effectively addressed unless nonpoint source pollution from agriculture—specifically including animal agriculture—is significantly addressed.[40]

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38. *Id.*

39. "Eutrophication," discussed in more detail in Part II, *see infra* Part II, is defined for introductory purposes as "the process by which a body of water becomes either naturally or by pollution rich in dissolved nutrients (as phosphates) and often shallow with a seasonal deficiency in dissolved oxygen." MERRIAM-WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY 429 (1988).

40. The United States Department of Agriculture (USDA), through the Natural Resources Conservation Service and the Farm Service Agency, provides several types of agricultural conservation programs that often address, directly or indirectly, nonpoint source pollution from agriculture. These programs, except for the Conservation Security Program, discussed in Part IV, are not a focus of this article but are nonetheless relevant to the overall debate regarding agricultural nonpoint source pollution. *See* http://www.nrcs.usda.gov/programs/ (listing and describing various types of conservation programs) (last visited Feb. 27, 2007). *See also*

Third, if the CWA is perceived by some individuals as an ineffective means for addressing their concerns over the impact that agricultural nonpoint source pollution can have on water quality, including nutrient runoff from poultry litter, by what means may those persons attempt to address their concerns?

Scholars, policymakers, and commentators have offered a number of proposals regarding the first two of these three questions.[41] While the merits of these proposals are neither explored nor

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Terence J. Centner, *Clarifying NPDES Requirements for Concentrated Animal Feeding Operations,* 14 PENN. ST. ENVT'L L. REV. 361 (2006) (discussing possible application of CWA NPDES permit requirements to a concentrated animal feeding operation's land application of manure, litter, or process wastewater).

41. The question of whether the CWA adequately addresses nonpoint source pollution has arisen on a number of occasions. *See, e.g.*, Matthew Duchesne, Comment, *Discharging the Clean Water Act's NPDES Requirements: Why The "Unitary Waters" Theory Does Not Hold Water*, 23 VA. ENVTL. L.J. 461 (2005); Shawn J. Johnson, Note, *It All Comes Out In the Wash:* Sierra Club v. Meiburg*: Nonpoint Source Pollution Continues Unabated as the Eleventh Circuit Refuses to Permit Implementation of Total Maximum Daily Loads Through Citizen Suits*, 57 ARK. L. REV. 349 (2004); Sonya Dewan, Note, *Emissions Trading: A Cost-Effective Approach to Reducing Nonpoint Source Pollution*, 15 FORDHAM ENVTL. L. REV. 233 (2004); Michael C. Blumm & William Warnock, *Roads Not Taken: EPA vs. Clean Water*, 33 ENVTL. L. 79 (2003); Jocelyn B. Garovoy, Note, *A Breathtaking Assertion of Power*, 30 ECOLOGY L.Q. 543, 543-44 (2003) ("Until EPA is authorized to implement TMDLs [for nonpoint source pollution], environmental advocates must employ other legal, political, and economic strategies to address nonpoint source pollution – the major and still largely unregulated source of pollution tainting the nation's waters."); Robert W. Adler, *Controlling Nonpoint Source Water Pollution: Is Help on the Way (From the Courts or EPA)?*, 31 ENVTL. L. REP. 10,270 (2001); Erika N. Hartlip, Comment, *Federal and Pacific Northwest State Water Laws Pertaining to Dairies*, 37 IDAHO L. REV. 681, 692 (2001) ("However, leaving the regulation of nonpoint sources to the states has not been effective since nonpoint source pollution accounts for the majority of water pollution today. It is estimated that nonpoint source pollution impairs forty percent of rivers, lakes, and estuaries in the United States.") (citations omitted); Kristi Johnson, Note, *The Mythical Giant: Clean Water Section 401 and Nonpoint Source Pollution*, 29 ENVTL. L. 417 (1999); and Sierra Club v. Meiburg, 296 F.3d 1021, 1033 (11th Cir. 2002).

Likewise, the more specific question of whether the CWA adequately addresses nonpoint source pollution from agriculture has been addressed on numerous occasions. *See, e.g.*, Michael C. Blumm & William Warnock, Roads Not Taken: EPA v. Clean Water, 33 ENVT. L. 79, 81 (2003); Douglas R. Williams, *When Voluntary, Incentive-Based Controls Fail: Structuring a Regulatory Response To Agricultural Nonpoint Source Pollution*, 9 WASH. U. J.L. & POL'Y 21 (2002); Peter M. Lacy, Comment, *Addressing Water Pollution from Livestock Grazing After* ONDA v. Dombeck*: Legal Strategies Under the Clean Water Act*, 30 ENVTL. L. 617 (2000); William R. Reid, Comment, *Pfisteria and Maryland's Water Quality Improvement Act of 1998*, 7 U. BALT. J. ENVTL. L. 18, 22-23 (1998); David Zaring, Note, *Agriculture, Nonpoint Source Pollution, and Regulatory Control: The Clean Water Act's Bleak Present and Future*, 20 HARV. ENVTL. L. REV. 515 (1996); Chelsea H. Congdon et al., *Economic Incentives and Nonpoint Source Pollution: A Case Study of California's Grasslands Region*, 2 HASTINGS W.-N.W. J. ENVTL.

discounted in this article, two of their common threads should be noted. First, many of the proposals are founded upon a monolithic view of nonpoint source pollution in that they call for all types of nonpoint source pollution to be addressed through a singular legal or policy framework, rather than addressing some categories of nonpoint source pollution differently than others. Second, many of these proposals suggest that the CWA or its implementing regulations should be amended or interpreted in some new manner, rather than looking to non-CWA means to address nonpoint source pollution.

As for the third principle question, *State of Oklahoma* portends that litigation, particularly CERCLA-based litigation, may become less of an aberration arising in a single region such as the IRW and more of a commonplace response throughout the United States unless individuals' concerns over the impact of nutrient runoff on water quality are somehow alleviated or the individuals' ability to seek legal redress is somehow abrogated.[42]

This article explores the national issue of how to address nonpoint source pollution and, therefore, water quality in light of the microcosm created by *State of Oklahoma* and its surrounding circumstances. It also proposes that the Conservation Security Program serve as the regulatory "framework" for addressing nonpoint source pollution from agriculture, specifically including nutrient runoff from poultry litter and other types of animal waste in the IRW and other watersheds throughout the United States.[43] CSP provides a science and technology-based method to comprehensively address agricultural nonpoint source pollution separate from other types of nonpoint source pollution and through an approach that is outside the traditional bounds of the CWA. Thus, implementing the CSP in

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L. & POL'Y 185 (1995) (discussing nonpoint source pollution generally and agricultural nonpoint source pollution generally in light of data available in 1995, much of which was substantiated in the following decade); George A. Gould, *Agriculture, Nonpoint Source Pollution, and Federal Law*, 23 U.C. DAVIS L. REV. 461 (1990); and Robert D. Fentress, Comment, *Nonpoint Source Pollution, Groundwater, and the 1987 Water Quality Act: Section 208 Revisited?*, 19 ENVTL. L. 807 (1989).

42. A possibility is that CERCLA could be amended to exclude animal waste from its scope of coverage. If this were to occur, the ability of some individuals to use CERCLA to seek legal redress regarding nutrient runoff from animal waste presumably would be eliminated.

43. The Conservation Security Program is a voluntary market-oriented federal program designed to simultaneously promote agricultural production and environmental protection by providing financial and technical assistance to producers who undertake and maintain certain conservation practices. *See*, CULVER, *supra* note 24 (defining "Conservation Security Program").

the manner proposed in this article would shatter the traditional paradigm of treating nonpoint source pollution monolithically and primarily through the CWA. It could also help alleviate or eliminate the motivation to address concerns over agricultural nonpoint source pollution through litigation, particularly CERCLA-based litigation.

Part II discusses the structure of the modern animal agricultural production system and briefly traces the structural changes that have occurred in that system in past decades, particularly in the decades since passage of the CWA. It also briefly discusses how the current structure of the animal production system is directly linked to concerns over nutrient runoff from animal waste produced in the course of modern poultry, dairy, hog, and cattle production and, therefore, to *State of Oklahoma* and the complex web of factual, historical, legal, policy, and scientific circumstances by which it is surrounded. Lastly, Part I examines how the CWA addresses point source and nonpoint source pollution and provides an overview of CERCLA in light of its application to *City of Tulsa* and *State of Oklahoma*.

Part II reviews the trilogy of legal disputes—*Arkansas v. Oklahoma*, *City of Tulsa*, and *State of Oklahoma*–that have arisen between Oklahoma and Arkansas over the past three decades. This review helps describe how *State of Oklahoma* and its surrounding circumstances can be viewed as both an allegory for and a prelude to the national debate over nonpoint source pollution in the United States. The review also illustrates how litigation may be a more frequently used tool to address perceived concerns over the impact that agricultural nonpoint source pollution can have on water quality, unless an acceptable alternative policy approach is developed.

Part III describes the Conservation Security Program and explores how the CSP could be modified to comprehensively address concerns over nutrient runoff from animal waste in both the IRW and throughout the United States. It also describes current domestic and international policy pressures that strongly suggest that the policy environment is ripe for a historically significant review of whether market-oriented programs such as the CSP should become a more prominent component of overall U.S. agricultural and environmental policies.

II. BACKGROUND

A. Structure of Animal Agriculture Production System

To grapple with concerns over the environmental impact of nutrient runoff from animal waste, one must understand the structure of the animal agriculture production system and how that structure has changed in recent decades.[44] The importance of this understanding is magnified by the reality that the current structure is unlikely to fundamentally devolve in the foreseeable future, if ever.[45]

The structure of the animal agriculture sector has undergone significant changes in recent decades, markedly so in the past two.[46] These changes have occurred at all levels, including the input sup-

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44. The annual value of animal agriculture products exceeds $100 billion, over fifty percent of the total value of agricultural products produced in the United States each year, and is dominated by hog, cattle, dairy, and poultry. USDA, Econ. Res. Serv., *Briefing Room*: *Animal Production and Marketing Issues*, http://www.ers.usda.gov/briefing/AnimalProducts/ (last visited Sept. 18 2006). The United States has the largest fed-cattle industry in the world, is the largest producer of beef and meat poultry products, and is the third largest producer of pork products. MARC RIBODAU ET AL., USDA, ECON. RES. SERV., MANURE MANAGEMENT FOR WATER QUALITY: COSTS TO ANIMAL FEEDING OPERATIONS OF APPLYING MANURE NUTRIENTS TO LAND, at iii,(June 2003), at iii, *available at* http://www.ers.usda.gov/publications/aer824.pdf [hereinafter MANURE MANAGEMENT].

45. To reverse the structural trends that have occurred in animal agriculture, one would have the daunting task of reversing the economic and technological trends that have occurred within animal agriculture, which have also occurred throughout the entire agricultural sector and virtually every nonagricultural segment of the national economy over the past five decades. Recent legal trends also suggest that these changes, specifically regarding animal agriculture, are not likely to change. *See* Harrison M. Pitttman, *Market Concentration, Horizontal Consolidation,* and *Vertical Integration in the Hog and Cattle Industries: Taking Stock of the Road Ahead* (Aug. 2005), *available at* http://www.nationalaglawcenter.org/assets/articles/pittman_marketconcentration.pdf, *and* Harrison M. Pittman, *The Constitutionality of Corporate Farming Laws in the Eighth Circuit* (2004), available at http://www.nationalaglawcenter.org/assets/articles/pittman_corporatefarming.pdf (for a discussion of these economic and legal trends).

46. This trend is not unique to animal agriculture, as the entire agricultural sector has undergone similar changes during this same time period. *See, e.g.,* Neil E. Harl, *The Structural Transformation of Agriculture* (Mar. 2003), *available at* http://www.econ.iastate.edu/faculty/harl/StructuralTransformationofAg.pdf; JAMES M. MACDONALD ET AL., USDA, ECON. RES. SERV., CONSOLIDATION IN U.S. MEATPACKING, (Feb. 2000), *available at* http://www.ers.usda.gov/publications/aer785.pdf; *and* Douglas J. O'Brien, *Developments in Horizontal Consolidation and Vertical Integration* (Jan. 2005), *available at* http://www.nationalaglawcenter.org/assets/articles/obrien_antitrust.pdf.

plier, processor, and producer levels. At the production level, the number of animal agriculture operations has decreased while their size has increased. The number of animals produced nationwide has not declined despite the dramatic decrease in the number of operations because the operations raise significantly larger numbers of animals. Consequently, a large number of animals are produced in size-restricted operations, which creates situations where large amounts of animal waste are produced in geographically limited areas.[47]

B. Hogs

There were roughly 750,000 hog farms in the United States when the CWA was enacted. In 1994, there were approximately 200,000 hog farms.[48] Over the next five years, the number of hog farms declined by another fifty percent to approximately 98,000

47. A great deal of literature is available regarding the structural changes in the agriculture sector generally and in the animal agriculture industry specifically. Consequently, this article does not discuss these changes extensively, but rather provides an overview for background and contextual purposes. The Census of Agriculture for 1992, 1997, and 2002 conducted by the USDA's National Agricultural Statistics Service provides the best official source of data regarding many of these changes. *See* USDA, National Agricultural Statistics Service: 2002 Census of Agriculture, http://www.nass.usda.gov/Census_of_Agriculture/index.asp. (last visited Feb. 28, 2007); *see also,* USDA, Econ. Res. Serv., *Publications: Livestock, Dairy, Poultry, and Aquaculture,* http://www.ers.usda.gov/Catalog/CatalogByTopicID.asp?PDT=2&SON=TRUE&PTD=&SBY=TITLE&ARC=_&TID=103200 (last visited Feb. 27, 2007) (providing resource base for information regarding animal agriculture), *and* USDA, Econ. Res. Serv., *Briefing Room: Farm Structure*, http://www.ers.usda.gov/briefing/farmstructure/ (last visited Feb. 27, 2007) (providing information on structure of agriculture sector generally and animal agriculture sector specifically) (last visited Mar. 21, 2006). Another excellent resource for literature in this area is the agricultural law bibliography compiled by Professor Drew Kershen and published by The National Agricultural Law Center at http://www.nationalaglawcenter.org/bibliography/ (spanning from circa 1950 through present and updated quarterly).

48. *See generally*, WILLIAM D. MCBRIDE & NIGEL KEY, USDA, ECON. RES. SERV., ECONOMIC AND STRUCTURAL RELATIONSHIPS IN U.S. HOG PRODUCTION (2003), *available at* http://www.ers.usda.gov/publications/aer818.pdf [hereinafter STRUCTURAL RELATIONSHIPS]; Douglas J. O'Brien, Note, *The Packers and Stockyards Act of 1921 Applied to the Hog Industry of 1995,* 20 J. CORP. L. 651, 651-54 (1995); R.N. VAN ARSDALL & K.E. NELSON, USDA, ECON. RES. SERV., ECONOMIES OF SIZE IN HOG PRODUCTION, TECHNICAL BULLETIN NO. 1712 (1985) (predicting that "hog production will eventually be industrialized, breaking away from the traditional crop-livestock farm setting, as have fed beef and poultry . . . ."); and USDA, GRAIN INSPECTION, PACKERS AND STOCKYARDS ADMIN., ASSESSMENT OF CATTLE AND HOG INDUSTRIES: CALENDAR YEAR 2001 ix (2002) [hereinafter GIPSA ASSESSMENT].

farms.[49] In 2001, there were approximately 80,000 hog farms in the United States.[50]

In 1994, farms with 2,000 or more hogs comprised about 37% of total hog farms in the United States, but by 2001 the percentage increased to seventy five percent.[51] In 1996, approximately thirty three percent of hog farms had 5,000 or more hogs, and this number exceeded fifty percent in 2001.[52] In 2002, roughly fifty of the U.S. hog inventory was owned by farming operations with over 50,000 head.[53] Despite these structural changes, the hog inventory in the United States has remained "relatively stable" at approximately 60 million head.[54] Seventy percent of the total hog inventory is concentrated in the Midwest region of the United States.[55]

C. Cattle

The three basic stages of cattle production are breeding, feeding, and slaughtering. Each stage is typically handled by specialized operations. A cow-calf operation produces calves and either feeds the animals until they are ready to be placed into feedlots or sells the animals to stockers who raise the animals until they are ready to be placed into feedlots. Cattle are fattened in feedlots until they are ready for slaughter and are then sold to a packer.

The number of cattle producers has declined but not as precipitously as the number of hog farmers. The cattle industry continues to be comprised of a large number of producers who operate small-scale operations.[56] However, the number of feedlots has substantially decreased while the number of animals fed in them has increased. From 1987 through 1997, the number of feedlots de-

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49. STRUCTURAL RELATIONSHIPS, *supra* note 50, at 5.
50. *Id.*
51. *Id.*
52. *See id.*
53. *See id.* at iii.
54. *See id.* at 5. A distinction is made between the number of hogs in the hog inventory and the number of hogs produced each year.
55. USDA, Econ. Res. Serv., *Briefing Room: Hogs*, http://www.ers.usda.gov/Briefing/Hogs/ (last visited Feb. 27, 2007). For a map depicting hog production in the United States in 2002, *see* USDA, 2002 CENSUS OF AGRICULTURE, HOGS AND PIGS INVENTORY: 2002, *available at* http://www.nass.usda.gov/research/atlas02/Livestock/Hogs%20and%20Pigs/Hogs%20and%20Pigs%20-%20Inventory.gif.
56. U.S. GEN. ACCT. OFF., PACKERS AND STOCKYARDS ADMIN.: OVERSIGHT OF LIVESTOCK MARKET COMPETITIVENESS NEEDS TO BE ENHANCED, 17 (Oct. 1991), *available at* http://archive.gao.gov/t2pbat7/145048.pdf.

creased from approximately 190,000 to 110,000.[57] In 2001, the one-time feeding capacity for the ten largest feedlots was 3.1 million head, a fifty three percent increase over the capacity levels of 1988.[58] In 1988, the annual capacity of the ten largest feedlots was sixteen percent of total steer and heifer slaughter, and in 2001 the percentage had increased to twenty four percent.[59] In 2000, approximately 120 feedlots accounted for nearly forty percent of feedlot cattle marketed in the United States, with approximately 97,000 feedlots accounting for the remaining sixty percent of feedlot cattle marketed in the United States.[60]

D. Dairy

The number of dairy operations has decreased significantly in recent decades.[61] In 1970, there were approximately 650,000 dairy farming operations in the United States.[62] Two years later, the number had dropped to approximately 540,000. In 1977, the number of dairy farming operations dropped below 400,000, and three years later the number stood at approximately 335,000 operations.[63] In

57. U.S. GEN. ACCT. OFF., PACKERS AND STOCKYARDS PROGRAMS: ACTIONS NEEDED TO IMPROVE INVESTIGATIONS OF COMPETITIVE PRACTICES, 32 (Sept. 2000), *available at* http://www.gao.gov/new.items/rc00242.pdf [hereinafter ACTIONS NEEDED].

58. GIPSA ASSESSMENT, *supra* note 50, at vii.

59. *Id.* USDA, 2002 CENSUS OF AGRICULTURE, CATTLE AND CALVES-INVENTORY: 2002, *available at* http://www.nass.usda.gov/research/atlas02/Livestock/Cattle/Cattle%20and%20Calves/Cattle%20and%20Calves%20-%20Inventory.gif. (a map depicting the national cattle and calve inventory in 2002).

60. ACTIONS NEEDED, *supra* note 59, at 33.

61. *See generally*, USDA, Econ. Res. Serv., *Briefing Room: Dairy*, http://www.ers.usda.gov/briefing/dairy/ (last visited Feb. 27, 2007). *See also*, U.S., Econ. Res. Serv., *Dairy: Background*, http://www.ers.usda.gov/briefing/dairy/Background.htm (last visited Feb. 27, 2007) [hereinafter DAIRY BACKGROUND] ("Major trends in milk production in the United States include 1) a fairly steady slow increase in production as increases in milk production per cow outweighed declines in the number of cows, and 2) a consistent decline in the number of dairy operations matched by a continual rise in the number of cows per operation.").

62. USDA, Econ. Res. Serv., *Dairy Yearbook, Industry Structure: Operations with Milk Cows, by State and Region*, http://usda.mannlib.cornell.edu/MannUSDA/viewDocument Info.do?/documentID=1207, *and* USDA, Economic, Statistics, and Market Information System, *Operations with Milk Cows, by State and Region,* http://usda.mannlib.cornell.edu/data-sets/livestock/89032/opnums.xls (last visited Mar. 27, 2007)[hereinafter DAIRY YEARBOOK]. The statistics presented in the DAIRY YEARBOOK represent the number of farming operations with one or more milk cows, excluding cows used to nurse calves, on hand at any time during the year.

63. *Id.*

1985, the number of operations was estimated at 269,000.[64] By 1990, the number of operations dropped below 200,000.[65] Approximately 140,000 operations existed in 1995 and declined to roughly 105,000 by 2000.[66] In 2003, there were approximately 86,000 dairy operations in the United States.[67] As of 2004, there were an estimated 81,000 dairy operations in the United States.[68]

Since 1970, milk production has increased by nearly fifty percent.[69] The number of dairy cows has also decreased during this time from about 12 million to 9 million head, although "the average herd size has increased fivefold from about 20 cows to 100 cows."[70]

E. Poultry

"In 1915, a poultry enterprise was found on most farms and in the yards of many homes of rural and small town families."[71] In fact, it has been estimated that in 1910 nearly ninety percent of U.S. farms raised chickens.[72] At the end of World War II, the percentage of farms with chickens stood at roughly eighty five percent.[73] By 1950, the percentage dropped to approximately seventy eight percent and by the end of the decade about fifty eight percent of farms had chickens.[74] In 1964, roughly thirty eight percent of farms had chickens. The percentage declined to under twenty percent by 1969.[75] The percentage of farms with chickens continued to drop through 1992, when less than six percent of farms had chickens.[76] Thus, since the 1950s the U.S. poultry industry "transformed from a backyard industry, which fed the immediate family and local mar-

64. *Id.*
65. *Id.*
66. *Id.*
67. *Id.*
68. DAIRY YEARBOOK, *supra* note 64; *see also* USDA, 2002 CENSUS OF AGRICULTURE, MILK COWS-INVENTORY: 2002, *available at* http://www.nass.usda.gov/research/atlas02/Livestock/Cattle/Milk%20Cows/Milk%20Cows%20-%20Inventory.gif. (providing a map of U.S. dairy cattle inventory in 2002).
69. DAIRY BACKGROUND, *supra* note 63.
70. *Id.*
71. JANET PERRY ET AL, USDA, ECON. RES. SERV., BROILER FARMS' ORG., MGMT., & PERFORMANCE, 3 (Mar. 1999), *available at* http://www.ers.usda.gov/publications/aib748.pdf [hereinafter PERRY].
72. *Id.*
73. *Id.*
74. *Id.*
75. *Id.*
76. *Id.*

kets, to specialized hatchery and broiler operations which produce more than 900 million birds for meat and 72 billion eggs yearly, mostly under contract."[77]

The United States is currently the world's largest producer of poultry meat and the second largest producer of eggs.[78] The U.S. poultry industry currently produces in excess of 7 billion chickens per year, with most broiler production concentrated in five states: Georgia, Arkansas, Alabama, Mississippi, and North Carolina.[79] Arkansas ranks second nationally in broiler production behind Georgia, annually producing 1.2 billion and 1.3 billion broilers, respectively.[80] The majority of Arkansas poultry production occurs in Northwest Arkansas, which is encompassed by the IRW.

F. Animal Waste and Its Impacts on Water Quality

A consequence of the structural changes in the hog, cattle, dairy, and poultry industries is that large amounts of waste are produced in geographically restricted areas. It has been estimated that animal agriculture operations produce over 350 million tons of ma-

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77. PERRY, *supra* note 73.

78. USDA, Econ. Res. Serv., *Briefing Room, Poultry and Eggs: Background*, http://www.ers.usda.gov/briefing/poultry/background.htm (last visited Feb. 27, 2007).

79. USDA, 2002 CENSUS OF AGRICULTURE, LAYERS 20 WEEKS OLD AND OLDER-INVENTORY: 2002 , *available at* http://www.nass.usda.gov/research/atlas02/ Livestock/Poultry/Layers%2020%20Weeks%20Old%20and%20Older%20-%20Inventory.gif (production areas for layers twenty weeks old and older); USDA, 2002 CENSUS OF AGRICULTURE, PULLETS FOR LAYERS FLOCK REPLACEMENT-INVENTORY: 2002, *available at* http://www.nass.usda.gov/research/atlas02/Livestock/Poultry/ Pullets%20for%20Laying%20Flock%20Replacement%20-%20Inventory.gif (production areas for pullets for laying flock replacement); USDA, 2002 Census of Agriculture, NUMBER OF BROILERS AND OTHER MEAT-TYPE CHICKENS SOLD: 2002, *available at* http://www.nass.usda.gov/research/atlas02/Livestock/Poultry/Number%20of%20Broilers%20and%20Other%20Meat-Type%20Chickens%20Sold.gif (production areas for number of broilers and other meat-types chickens sold). *See also* PERRY, *supra* note 73, at 6 (providing maps that depict and compare concentration of broiler sales in 1969 and 1992).

80. *See* USDA, Econ. Res. Serv., *Newsroom, Background Statistics on U.S. Broiler Industry*, http://www.ers.usda.gov/News/broilerCoverage.htm (last visited Feb. 27, 2007) (reporting statistics on broiler industry through 2004). Northwest Arkansas, much of which contains the IRW, is the most productive poultry production region in Arkansas. *See* FARM BUREAU, *Arkansas Poultry Production*, http://www.arfb.com/commodity/ark_ag/poultry.asp (last visited Mar. 27, 2007) (providing a map that depicts where and to what extent poultry production occurs in Arkansas.)

nure each year.[81] In addition, it has been reported that "all confined hog, cattle, and poultry operations generate three times as much raw waste as is generated by humans in the United States."[82]

All waste produced in animal agriculture, like all human waste, must be disposed of. Because animal waste contains nutrients, namely phosphorus and nitrogen, beneficial to crop and pasture growth, the most common disposal method is to apply the waste to land as a fertilizer.[83] This disposal method causes problems because phosphorus and nitrogen, as well as any other nutrients contained in the waste, can run off into nearby lakes and rivers.[84]

The runoff of nutrients, especially phosphorus, can cause or help cause various quality problems when they enter water systems. One such problem is the acceleration of a process known as "eutrophication." "Eutrophication" is "a condition in an aquatic ecosystem where high nutrient concentrations stimulate blooms of algae."[85] The algae blooms are destructive because they increase turbidity in the waterway and block sunlight, which causes underwater grasses to die. The blooms are also destructive because they absorb oxygen from the water when the blooms die and decompose. These events can in turn create a variety of problems, including the death of aquatic species living in the waterbody and loss of the waterbody's recreational use. In *State of Oklahoma* it is alleged that the runoff of phosphorus and other nutrients from poultry litter results in eutrophication of the Illinois River and its major tributaries that flow from Northwest Arkansas into Northeast Oklahoma.

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81. MANURE MANAGEMENT, *supra* note 46, at iii.

82. Terence J. Centner, *Governmental Oversight of Animal Feeding Operations* (April 2003), *available at* http://www.nationalaglawcenter.org/assets/articles/ centner_afos.pdf (citing OFFICE OF WASTEWATER MGMT, U.S. EPA, STATE COMPENDIUM: PROGRAMS AND REGULATORY ACTIVITIES RELATED TO ANIMAL FEEDING OPERATIONS (2001)).

83. *See generally* U.S., EPA, *Phosphorus*, *http://www.epa.gov/agriculture/ag101/ impactphosphorus.html* (explaining phosphorus, the phosphorus cycle, and its potential impact on water quality) (last visited Feb. 27, 2007), *and* U.S. EPA, *Nitrogen*, http://www.epa.gov/agriculture/ag101/impactnitrogen.html (explaining nitrogen, the nitrogen cycle, and its potential impact on water quality) (last visited Feb. 27, 2007).

84. *See generally* UNIFIED STRATEGY, *supra* note 38; Patrica E. Norris & Andrew F. Seidl, *Federal Water Quality Policy and Animal Confinement Operations* (*circa* 2001), *available at* http://www.farmfoundation.org/2002_farm_bill/norris.pdf; U.S. GEN. ACCT. OFF., ANIMAL AGRICULTURE: INFORMATION ON WASTE MANAGEMENT AND WATER QUALITY ISSUES (1995), *available at* http://www.gao.gov/archive/1995/rc95200b.pdf; and COPELAND, *supra* note 32.

85. U.S. EPA, Mid-Atlantic Integrated Assessment: *Eutrophication*, http://www.epa.gov/maia/html/eutroph.html (last visited Feb. 27, 2007).

G. Clean Water Act

Since 1972, the CWA has been the principal law for addressing pollution of the nation's streams, lakes, and estuaries. The CWA dismantled the ineffective state and local government-initiated regulation of water pollution that existed under the FWPCA of 1948 and replaced it with a comprehensive and more robust policy regime founded upon an active partnership between the federal government and the states. The CWA is administered by the EPA, which at times works in conjunction with the United States Army Corps of Engineers and state governmental units, but states are typically responsible for implementing and enforcing the act. The CWA does, however, authorize the federal government to intervene if a state does not comply with the Act.[86] The CWA is implemented primarily by the EPA.[87]

The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[88] The CWA also established as national goals the elimination of all discharges of pollutants by 1985 and "wherever attainable, 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.[89]

The CWA makes it unlawful for any person to "discharge any pollutant" into navigable waters in a manner that does not comply with the CWA or its implementing regulations.[90] The term "discharge of pollutants" is defined in relevant part as "any addition of any pollutant to navigable waters from any point source."[91] "Navigable waters" are "waters of the United States, including the territorial seas."[92] "Pollutant" is defined as "dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or

86. The CWA also allows "citizen suits" to be brought under certain circumstances.

87. THE NATIONAL AGRICULTURAL LAW CENTER, *Clean Water Act*, http://www.nationalaglawcenter.org/readingrooms/cleanwater/ (last visited Feb. 27, 2007).

88. 33 U.S.C. § 1251(a) (2006).

89. *Id.*

90. *Id.* § 1311(a).

91. *Id.* § 1362(12)(A). The terms "discharge any pollutant" and "discharge of any pollutant" are interchangeable under the CWA.

92. *Id.* at § 1362(7). For a review of case law interpreting the term "navigable waters," *see* Marjorie A. Shields, Annotation, *What Are "Navigable Waters" Subject to the Federal Water Pollution Control Act*, 160 A.L.R. FED. 585 (2000).

discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water."[93]

The CWA recognizes two categories of pollution, "point sources" and "nonpoint sources." A "point source" is "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."[94] Agricultural stormwater discharges and return flows from irrigated agriculture are excluded from the CWA definition of point source. Nonpoint source pollution is not defined in the CWA, but is commonly considered to be "pollution that enters the environment from broad areas such as stormwater runoff from farm fields, forests, construction sites, and urban areas, rather than from concentrated discharge points."[95]

H. Point source pollution

The CWA establishes two types of point source pollution control standards, technology-based "effluent limitations" and water quality standards. "Effluent limitations" are "any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters . . . ."[96] Thus, effluent limitation standards set numerical limitations on the amount of pollutants that can be discharged from a point source, such as a pipe that discharges wastewater from a municipal sewage treatment plant.

Water quality standards establish the desired condition of a particular waterway and are typically created by states.[97] States' water

93. *Id.* § 1362(6) (defining "pollutant").

94. *Id.* § 1362(14) (defining "point source"). For a review of case law interpreting the term "point source," *see* Ronald I. Mirvis, Annotation, *What Constitutes "Point Source" Pollution Subject to Control by Provisions of the Federal Water Pollution Control Act*, 52 A.L.R. FED. 885 (1981).

95. CULVER, *supra* note 24 (defining "nonpoint source pollution"). One court defined nonpoint source pollution as "nothing more than a water pollution problem *not* involving a discharge from a point source." National Wildlife Federation v. Gorsuch, 693 F.2d 156, 166 n.28 (D.C. Cir. 1982) (noting an EPA litigation position regarding nonpoint source pollution).

96. 33 U.S.C. § 1362(11)(2000) (defining "effluent limitations"). *See also id.* § 1311 (setting forth CWA effluent limitations provisions).

97. *See id.* § 1313 (Water Quality Standards and Implementation Plans). The CWA regulations, *found at* 40 C.F.R. pt. 131 (2006), provide a more detailed set of

quality standards may be more strict than federal effluent limitation standards. The United States Supreme Court once explained that water quality standards "are . . . a supplementary basis for effluent limitations, . . . so that numerous point sources, despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels."[98]

The CWA requires states to develop water quality standards in accordance with a specific process set forth in the act.[99] Under this process, every navigable water involved in the development of water quality standards must be given a "designated use" by each state, such as fish propagation, navigation, recreational purposes, or water supply. Each state must "specify the water quality criteria for each body of water, which sets the amounts of various pollutants that may be present without impairing the body's designated use . . . ."[100] In addition, each state must also "adopt an antidegradation review policy which allows the state to assess whether the water is deteriorating below the level necessary to sustain its designated use."[101]

The CWA establishes the National Pollution Discharge Elimination System (NPDES) as the principal mechanism for enforcing effluent limitations standards and water quality standards as they relate to point source discharges. The NPDES makes it unlawful to discharge pollutants from a point source into navigable waters unless the point source has obtained the NPDES permit.[102] In essence, compliance with the permit is synonymous with compliance with the CWA. The permit may be obtained either through the state in which the point source is located or from the EPA.[103] A

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guidelines that states must follow. The establishment of water quality standards is usually undertaken by the states, but the EPA may intervene and establish the standards if the state fails to do so. *See id.*

98. Environmental Prot. Agency v. Cal. State Water Res. Control Bd., 426 U.S. 200, 205 (1976).

99. 33 U.S.C. § 1313. *See also* Defenders of Wildlife v. Envtl. Prot. Agency, 415 F.3d 1121, 1124 (10th Cir. 2005)(explaining process for establishing water quality standards).

100. *Defenders of Wildlife*, 415 F.3d at 1124.

101. *Id.* (citing 33 U.S.C. § 1313(c)(2)(A)(2000); 40 C.F.R. §§ 130.3 (2000), 130.10(d)(4), 131.6, 131.10, 131.11; American Wildlands v. Browner, 260 F.3d 1192, 1194 (10th Cir. 2001); and City of Albuquerque v. Browner, 97 F.3d 415, 419 n.4 (10th Cir. 1996)).

102. *See* 33 U.S.C. § 1342. *See also* 61C AM. JUR. 2D *Pollution Control* § 779 (2005) (discussing CWA, NPDES permits, and relevant case law).

103. 33 U.S.C. §1342

state-issued permit must comply with federal effluent standards and be approved by the EPA.[104]

A state's water quality standards must be incorporated into any NPDES permits that are issued in order for those standards to be obtained.[105] A state's water quality standards, therefore, *can be* met as they relate to discharges of pollution from point sources. The meeting of a state's water quality standards is far more difficult if a considerable amount of the pollution that enters particular navigable waters derives from nonpoint source pollution, such as runoff from parking lots, golf courses, or nutrient runoff from animal waste that has been applied to land as a fertilizer. This problem is exacerbated in situations involving interstate waters such as the waters in the IRW that flow from Northwest Arkansas into Northeast Oklahoma.

In addition, the CWA requires states to identify "those waters within its boundaries for which the effluent limitations . . . [required under the CWA] are not stringent enough to implement any water quality standard applicable to such waters."[106] The state must priority-rank these waters, "taking into account the severity of the pollution and the uses to be made of such waters."[107] In accordance with this priority ranking, each state must establish the "total maximum daily load" (TMDL) for those waters that allows for "seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality."[108] A TMDL defines the specified amount of a pollutant that can be discharged into a water body without violating water quality standards.[109] If a state fails to establish TMDLs, the

104. *Id.*
105. *Id.*
106. 33 U.S.C. § 1313(d).
107. *Id.*
108. *Id.* This must be done in accordance with a "§ 1314(a)(2) determination," an explanation of which is outside the scope of this article. This list must be submitted to the EPA for approval or disapproval. *See also* U.S., EPA, *Overview of Total Maximum Daily Load–TMDL–Program and Regulations*, http://www.epa.gov/owow/tmdl/overviewfs.html (last visited Feb. 27. 2007) (describing history, purpose, and current status of TMDLs and related issues).
109. CLAUDIA COPELAND, CONG. RES. SERV., WATER QUALITY: IMPLEMENTING THE CLEAN WATER ACT, (2006), *available at* http://www.nationalaglawcenter.org/assets/crs/IB89102.pdf [hereinafter IMPLEMENTING THE CLEAN WATER ACT] For a more detailed description of TMDLs under the CWA, *see* James Boyd, *The New Face of the Clean Water Act: A Critical Review of the EPA's New TMDL Rules*, 11 DUKE ENVTL. L. & POL'Y F. 39 (2000).

EPA is required to create a priority list for that state and establish TMDLs for that state.[110]

I. Nonpoint source pollution[111]

The CWA provisions for nonpoint source pollution are not as rigid as its provisions for point source pollution, because nonpoint source pollution is more diffuse, less identifiable, and more difficult to cost-effectively regulate than point source pollution.[112] CWA nonpoint source provisions require states to identify waters that "cannot be reasonably expected to attain or maintain applicable water quality standards" without additional action to address nonpoint

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110. James Boyd, *supra* note 112. For several years following 1972, the TMDL provisions were not implemented by either states or the EPA. *Id.* This created a great deal of debate over implementation of the TMDL provisions. *See generally* Anne Hazlett & Barclay Rogers, *District Court Rules Non-Point Sources Are Included in Listing of Impaired Waterways, Calculation of Total Maximum Daily Loads*, AGRIC. L. UPDATE, Oct. 2000, at 4; Anne Hazlett & Barclay Rogers, *New Water Quality Regulations Raise Questions About EPA Influence Over Agricultural Practices*, AGRIC. L. UPDATE, Nov. 2000, at 4; and Anne Hazlett & Barclay Rogers, *TMDLs: Are They Dead Letters?*, AGRIC. L. UPDATE, Aug. 2001, at 4. The degree to which the TMDL provisions are implemented with respect to both point source and nonpoint source pollution remains a predominant CWA issue. For a discussion of TMDLs, the continuing debate over implementation of TMDL provisions, and their relationship to concerns over nonpoint source pollution, *see* IMPLEMENTING THE CLEAN WATER ACT, *supra* note 112, at 7; Douglas R. Williams, *When Voluntary, Incentive-Based Controls Fail: Structuring a Regulatory Response to Agricultural Nonpoint Source Pollution*, 9 Wash. U. J.L. & POL'Y 21, 67-91 (2002); and CLAUDIA COPELAND, CONG. RES. SERV., CLEAN WATER ACT ISSUES IN THE 109TH CONGRESS (2006), *available at* http://www.nationalaglawcenter.org/assets/crs/IB10142.pdf.

111. *See* U.S. EPA, *Pollution Runoff Nonpoint Source Pollution Control Program*, http://www.epa.gov/owow/nps/ (last visited Feb. 27, 2007) (providing numerous links to resources that address nonpoint source pollution); U.S. EPA, *What Is Nonpoint Source Pollution? Questions and Answers*, http://www.epa.gov/owow/nps/qa.html (last visited Feb. 27, 2007) (identifying and answering common questions regarding nonpoint source pollution); and U.S. EPA, *Nonpoint Source Pointers (Factsheets)*, http://www.epa.gov/owow/nps/facts/ (last visited Feb. 27, 2007) (providing basic information regarding nonpoint source pollution).

112. The political considerations involved in regulating nonpoint source pollution from agriculture cannot be discounted. That agriculture has traditionally been exempted from many laws, including environmental laws, is due in no small part to these political considerations. This reality is something that policy makers must grapple with in considering policy solutions designed to address nonpoint source pollution from agriculture. The CSP is a popular program supported by a variety of farm, environmental, conservation, and trade groups and could therefore help overcome the political challenges of addressing nonpoint source pollution from agriculture.

sources of pollution.[113] The states must then identify the sources of nonpoint source pollution for those waters.[114] Finally, the states must propose and implement "best management practices" (BMPs) necessary to control those nonpoint sources.[115] The federal government then provides grant and cost-share funds to assist states in carrying out the BMPs.[116] The CWA, however, does not impose sanctions upon a state that does not implement the BMPs other than the loss of eligibility for grant funds authorized in the CWA.[117] As one scholar has explained:

> Where water quality problems stem largely or entirely from nonpoint sources . . . EPA is essentially powerless. It may deny grant funding from the state's nonpoint source control program, but no crossover sanctions allow other federal funds to be withdrawn or withheld. Most importantly, except with respect to activities on federal lands, EPA has no authority to design, implement or enforce programs to curb nonpoint source pollution. In short, no federal . . . [policy] exists to stimulate effective state nonpoint source water pollution controls.[118]

If an individual perceives the CWA nonpoint source provisions to be inadequate to effectively address nonpoint source pollution, including nutrient runoff from animal waste, to what policy or legal mechanism can or should that individual turn to address its concerns?

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113. 33 U.S.C. § 1329 (2000). CWA literature sometimes refers to this § 1329 as the Water Quality Act of 1987. *See also* Kenneth M. Murchison, *Learning From More Than Five-and-a-Half Decades of Federal Water Pollution Control Legislation: Twenty Lessons for the Future*, 32 B.C. ENVTL. AFF. L. REV. 527 (2005) (reviewing history of CWA and its amendments).

114. 33 U.S.C. § 1329.

115. *See id.*

116. *See id.*

117. *Id.*

118. Robert W. Adler, *Integrated Approaches to Water Pollution: Lessons From the Clean Air Act*, 23 HARV. ENVTL. L. REV. 203, 289-90 (1999). *See also* Michael C. Blumm & William Warnock, supra note 43, at 97 n.116 (stating that "[n]onpoint source controls may . . . be enforceable under state law. However, most state nonpoint source control programs are hortatory, vague, and unenforceable, and virtually no state authorizes citizen suits against nonpoint source polluters."), *and* Defenders of Wildlife v. Envtl. Prot. Agency, 415 F.3d 1121, 1124 (10th Cir. 2005) (citing 33 U.S.C. § 1313 (2000)) ("Unlike point source discharges, the EPA lacks authority to control non-point source discharges through a permitting process; instead, Congress requires states to develop water quality standards for intrastate waters."). *See also* Douglas G. Williams, *supra* note 43, at 67-91 (discussing history of nonpoint source programs under the CWA).

J. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)[119]

In 1980, Congress enacted CERCLA, commonly referred to as the "Superfund" law, "to provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites."[120] It has been noted that CERCLA is a broad, remedial statute designed to respond to "the serious environmental and health risks posed by industrial pollution."[121] The United States Su-

119. The rendition of CERCLA provided in this article is tailored to understanding the factual and legal claims at issue in *City of Tulsa* and *State of Oklahoma*, as well as the Act's application to similar legal actions that may arise in the future. The reader is cautioned that CERCLA and its implementing regulations are complex, nebulous, and "notorious for . . . [their] lack of clarity and poor draftmanship." *Lansford-Coaldale Joint Water Authority v. Tonolli Corp.*, 4 F.3d 1209, 1221 (3d Cir. 1993). *See also Fallowfield Development Corp. v. Strunk*, No. 89-8644, 1990 WL 52745 (Apr. 23, 1990) (unreported decision) (citing *Artesian Water Co. v. Government of New Castle County*, 851 F.2d 643, 648 (3d Cir. 1988) ("Few would maintain that CERCLA is a model of legislative draftsmanship: CERCLA is not a paradigm of clarity or precision. It has been criticized frequently for inartful drafting and numerous ambiguities attributable to its precipitous language.")). The EPA provides an overview of CERCLA, at http://www.epa.gov/superfund/action/law/cercla.htm (last visited Sept. 27, 2006)[hereinafter SUPERFUND]. A more extensive discussion of CERCLA is provided by John S. Applegate & Jan G. Laitos, *Applegate and Laitos' Environmental Law: RCRA, CERCLA, and the Management of Hazardous Waste (Turning Point Series)* (2006) [hereinafter APPLEGATE]. Recommended resources also include Richard O. Faulk and Cynthia J. Bishop, *There and Back Again: The Progression and Regression of Contribution Claims Under CERCLA*, 18 TUL. ENV. L.J. 323 (2005); Alexandra B. Klass, *From Reservoirs to Remediation: The Impact of CERCLA on Common Law Strict Liability Environmental Claims*, 39 WAKE FOREST L. REV. 903 (2004); William B. Johnson, *What Constitutes "Facility" Within the Meaning of § 101(9) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)*, 147 A.L.R. FED. 469; Seena Foster, *Supreme Court's Views as to the Validity, Construction, and Application of the Comprehensive Environmental Response, Compensation, and Liability Act*, 157 A.L.R. FED. 291; *Exxon Corp. v. Hunt*, 475 U.S. 355 (1986); *Uniroyal Chemical Co., Inc. v. Deltech Corp.*, 160 F.3d 238 (5th Cir. 1998).

120. Pub. L. No. 96-510, 94 Stat. 2767 (1980). To gain a full understanding of CERCLA, one should understand the Act's relationship to the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901-6991 (2000), and, to a lesser extent, the Safe Water Drinking Act (SWDA), Pub. L. No. 93-523, 88 Stat. 1660 (1974) (codified as amended at 42 U.S.C. §§ 300f-300j10 (2000)). While this relationship is not discussed in this article, it is discussed briefly in GILCHRIST, *supra* note 18, at 111, and more extensively in APPLEGATE, *supra* note 122.

121. *United States v. Bestfoods*, 524 U.S. 51 (1998) (citing *Exxon Corp.*, 475 U.S. at 355); *see*, *OHM Remediation Services v. Evans Cooperage Co., Inc.*, 116 F.3d 1574, 1578 (5th Cir. 1997) (recognizing CERCLA's broad remedial purpose); and *Schiavone v. Pierce*, 79 F.3d 248, 255 (2d Cir. 1996) (same).

preme Court has stated that the central purposes of the Act are to effectuate "prompt cleanup of hazardous waste sites and . . . [to impose] all cleanup costs on the responsible party."[122]

CERCLA seeks to achieve these objectives through a two-part legislative scheme. First, it creates a trust fund, or Superfund, from which the federal government is authorized to pay governmental response costs incurred as a result of responding to a waste site.[123] The Superfund is also used to pay any claim for necessary response costs incurred by any other persons who have incurred response costs.[124] Second, the Act permits private parties to commence cost recovery actions in order to recover the costs incurred as a result of responding to an environmental threat created by the responsible party or parties.[125] *State of Oklahoma* is a cost recovery action brought under the second part of CERCLA's two-part scheme, as was *City of Tulsa*.[126]

To establish a *prima facie* case for a cost recovery action, a private party plaintiff must prove four elements.[127] First, the plaintiff must first prove that the waste site at issue is a "facility." Second, the plaintiff must show that the defendant is a "covered person." Third, the plaintiff must prove a "release" or threatened release of a "hazardous substance" has occurred. Fourth, the plaintiff must

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122. *Meghrig v. KFC Western*, 516 U.S. 479, 483 (1996); *see also Pennsylvania v. Union Gas Co.*, 491 U.S. 1,7 (1989) (reversed *on other grounds).* ("CERCLA both provides a mechanism for cleaning up hazardous-waste sites . . . and imposes the costs of the cleanup on those responsible for the contamination . . . ."), *Seminole Tribe of Florida v. Florida*, 517 U.S. 44 (1996).

123. CERCLA initially imposed an excise tax on chemical and petroleum industries, the funds of which were deposited into a government-managed trust fund. Superfund, *supra* note 122. The excise tax funded approximately 90% of the fund and general tax revenues provided the remaining funding. *Id.* The excise tax expired in 1995. *Id.* The fund is currently financed through general tax revenues. *Id.*

124. 42 U.S.C. §§ 9604, 9605, 9611, 9612 (2000). *See also Uniroyal Chemical Co., Inc.*, 160 F.3d at 242-44 (5th Cir. 1998) (describing basic structure and mechanics of CERCLA).

125. 42 U.S.C. § 907(a) (2000). *See also Amoco Oil Co. v. Borden, Inc.*, 889 F.2d 664, 667 (5th Cir. 1989) (overviewing CERCLA).

126. *City of Tulsa v. Tyson Foods, Inc.*, 258 F.Supp.2d 1263, 1270 (N.D. Okla. 2003), *vacated pursuant to settlement* (July 16, 2003).

127. The elements for a *prima facie* case for a cost recovery action are not expressly provided in CERCLA. Rather, these elements are synthesized from the Act's list of "covered persons," commonly referred to as potentially responsible parties, or PRPs. Consequently, courts occasionally articulate these standards somewhat differently, though substantively these articulations are consistent. *See, e.g.*, *Morrison Enterprises v. McShares*, 302 F.3d 1127, 1135-36 (10th Cir. 2002).

prove the release or threatened release caused the plaintiff to incur costs.

A defendant can defeat a cost recovery action in two ways. First, it can demonstrate that a plaintiff's cost recovery action fails to satisfy any one of the four *prima facie* elements. Second, a defendant can prove "by a preponderance of the evidence that the release or threaten[ed] . . . release of a hazardous substance and the damages resulting therefrom were caused solely by . . . an act of God, . . . an act of war . . ., [or] an act or omission of a third party other than an employee or agent of the defendant."[128] The plaintiff is entitled to summary judgment so long as it establishes each of the four *prima facie* elements and the defendant does not successfully avail itself of any of the defenses.[129]

Under CERCLA, a "facility" is defined as:

> (A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or
>
> (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.[130]

A "covered person," or "potentially responsible party" (PRP), includes the following:

> (1) the owner or operator of a vessel or a facility;
>
> (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of;
>
> (3) any person who by contract, agreement, or otherwise arranged for disposal or treatment . . . of hazardous substances owned or possessed by such person . . . at any facility. . . .; and
>
> (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities . . . .[131]

A "release" is "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or

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128. 42 U.S.C. § 9607(b) (2000).

129. *See Amoco Oil*, 889 F.2d at 668; s*ee also OHM Remediation*, 116 F.3d at 1578.

130. 42 U.S.C. § 9601(9) (2000) (defining "facility"); *see generally*, William B. Johnson, *What Constitutes "Facility" Within Meaning of § 101(9) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. § 9601(9)(2000))*, 147 A.L.R. FED. 469.

131. 42 U.S.C. § 9607(a) (2000).

disposing into the environment" but does not include "the normal application of fertilizer."[132] The CERCLA definition of "hazardous substance" is multi-faceted and envelopes provisions in other federal statutes. A "hazardous substance" includes:

> (A) any substance designated pursuant to section . . . 1321(b)(2)(A) [of the Clean Water Act],
>
> (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 . . . [of CERCLA],
>
> (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act . . .,
>
> (D) any toxic pollutant listed under section . . . [1317(a)] of the Clean Water Act] . . . .[133]

By extension of CERCLA, a substance is considered a hazardous substance if it is listed in the table of CERCLA hazardous substances, which is found in the CERCLA regulations.[134]

Courts have consistently held that a cost recovery action imposes strict liability. Liability also is typically joint and several among PRPs, though costs can be apportioned among PRPs under rare circumstances.[135] Costs are rarely apportioned among PRPs because it is virtually impossible for courts to quantify the environmental harm caused by individual PRPs "where wastes of varying

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132. *Id.* at § 9601(22). *See also City of Tulsa*, 258 F.Supp.2d at 1287 (quoting S. Rep. No. 96-848, at 46 (1980) ("Certain feedstocks used to produce fertilizer (nitric acid, sulfuric acid, phosphoric acid, anhydrous ammonia) are hazardous substances as defined by the bill, and certain fertilizer products may be listed as hazardous substances as well . . . . Under this exclusion, however, the 'normal field application' of fertilizer is not a 'release' as defined in the bill . . . . The term 'normal field application' means the act of putting fertilizer on crops or cropland, and does not mean any dumping, spilling, or emitting, whether accidental or intentional, in any other place or of significantly greater concentrations or amounts than are beneficial to crops"). For a review of cases interpreting the term "release or threatened release," see William B. Johnson, *Establishing "Release or Threatened Release" of Hazardous Substance From Facility for Purposes of Liability Pursuant to § 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C.A. § 9607(a))*, 120 A.L.R. FED. 1.

133. 42 U.S.C. § 9601(14) (2000) (defining "hazardous substance"). *See also* 40 C.F.R. § 302.4 (setting forth CERCLA Table of Hazardous Substances); *see generally*, William B. Johnson, *Determination Whether Substance is "Hazardous Substance" Within Meaning of § 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C.A. § 9601(14)(2000))*, 118 A.L.R. FED. 293.

134. *See,* 40 C.F.R. § 302.4 (2005).

135. 42 U.S.C. § 9607(a)(4) (2000). *See also,* United States v. Colorado & Eastern Railroad Co., 50 F.3d 1530, 1535 (10th Cir. 1995) (noting that it is "well settled" that § 9607 "imposes joint and several liability on PRPs regardless of fault.").

and unknown degrees of toxicity and migratory potential have mixed."[136] Thus, courts have held that "damages should be apportioned only if the defendant can demonstrate that the harm is divisible."[137]

To avoid the harsh result of placing the entire cost of liability for cost recovery on one PRP, CERCLA recognizes a right of contribution.[138] A contribution action allows any person to seek contribution from any other person "who is liable or potentially liable" under a CERCLA cost recovery action. "In resolving contribution claims, the court may allocate response costs among liable parties using such equitable factors as the court determines are appropriate."[139] The party who seeks to have costs apportioned bears the burden of proof.[140]

A contribution claim and a cost recovery claim must comply with the "National Oil and Hazardous Substances Pollution Contingency Plan," commonly referred to as the "national contingency plan" (NCP).[141] An action is considered to be consistent with the NCP "if the action, when evaluated as a whole, is in substantial compliance with the applicable requirements . . . and results in a CERCLA-quality cleanup."[142] A party is in substantial compliance with applicable NCP requirements if:

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136. *Colorado Railroad*, 50 F.3d at 1535. This conundrum is parallel to the problem of addressing nonpoint source pollution under the CWA since nonpoint source pollution is diffuse in nature and by definition derives from literally hundreds, if not thousands, of locations in any given area at any given time and, therefore, can be "virtually impossible" to identify and quantify environmental harm caused by individual nonpoint source pollution sources.

137. O'Neil v. Picillo, 883 F.2d 176, 178 (1st Cir. 1989). "[T]he burden rests on a defendant who has only contributed a fraction of the waste to show that the harm from his actions is divisible from the harm caused by the waste of other defendants." *Morrison*, 302 F.3d at 1133.

138. 42 U.S.C. § 9613(f) (2000). *See*, *Colorado Railroad*, 50 F.3d at 1535 ("A principal objective of the new contribution section was to 'clarif[y] and confirm[] the right of a person held jointly and severally liable under CERCLA to seek contribution from other potentially liable parties, when the person believes that it has assumed a share of the cleanup or cost that may be greater than its equitable share under the circumstances.'") (quoting S. Rep. No. 99-11 at 44 (1985), *reprinted in,* 2 Legislative History of Superfund Amendments and Reauthorization Act of 1986, at 636, Sp. Print 101-120 (1990)).

139. 42 U.S.C. § 9613(f).

140. *See City of Tulsa*, 258 F.Supp.2d at 1277 (citing *Colorado Railroad*, 50 F.3d at 1536).

141. The NCP is authorized by 42 U.S.C. § 9605, though the regulations set out the majority of NCP requirements.

142. 40 C.F.R. § 300.700(c)(3)(i) (2005).

> the private party substantially fulfils requirements for (1) worker health and safety; (2) documentation of cost recovery; (3) permit requirements; (4) identification of applicable or relevant and appropriate requirements . . .; (5) remedial site evaluation; (6) remedial investigation/feasibility study and selection of remedy . . ., and (7) providing "an opportunity for public comment concerning the selection of the response action" which might include preparing a formal community relations plan, ensuring opportunities for public involvement, and disseminating information to the community.[143]

Courts have held that the degree to which a private party must comply with the NCP hinges upon whether the action is a "removal" action or a "remedial" action.[144] It is generally easier for a private party to comply with the NCP in a removal action than a remedial action. A removal action is an action that is intended to address an immediate release or threatened release of a hazardous substance.[145] A removal action is generally less expensive and less time consuming than a remedial action.[146] A remedial action "seeks to effect a permanent remedy to the release of hazardous substances when there is no immediate threat to the public health."[147] As noted, a remedial action is typically quite expensive and time consuming. Thus, whether a contribution claim can be sustained may depend upon whether a private party's action is characterized as a removal or remedial action.

PART II. TRILOGY OF DISPUTES BETWEEN OKLAHOMA AND ARKANSAS

Beginning in the early 1980's through the present, Arkansas and Oklahoma officials, citizens, and industry members have been involved in three contentious legal battles over the quality of water that flows from Northwest Arkansas into Northeast Oklahoma. The first action, *Arkansas v. Oklahoma*,[148] involved competing interpreta-

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143. *City of Tulsa*, 258 F.Supp.2d at 1285-86 (quoting Public Service Co. of Colorado v. Gates Rubber Co., 175 F.3d 1177, 1182 (10th Cir. 1999)). *See also id.* at 1285 (stating that the NCP serves as "the EPA's guide for a 'CERCLA-quality cleanup . . . .'") (quoting County Line Inv. v. Tinney, 933 F.2d 1508, 1514 (10th Cir. 1991)).

144. *Id.* at 1286 (citing *Public Service*, 175 F.3d at 1182).

145. 42 U.S.C. § 9601(23) (defining "removal action.)." *See also City of Tulsa*, 258 F.Supp.2d at 1286 (citing *Public Service*, 175 F.3d at 1182).

146. *City of Tulsa*, 258 F.Supp.2d at 1286.

147. *Id.* (quoting *Public Service*, 175 F.3d at 1182). *See also* 42 U.S.C. § 9601(24) (defining "remedial action").

148. 503 U.S. 91 (1992), See *infra* n. 5.

tions regarding application of the Clean Water Act (CWA) to non-agricultural point source discharges from a municipal sewage treatment facility located in Arkansas. That dispute lasted for years and ended in a landmark United States Supreme Court decision that held that the Environmental Protection Agency (EPA) was authorized under the CWA to require a National Pollution Discharge Elimination System (NPDES) permit issued to a point source in an upstream state to account for the water quality standards established by the downstream state. The other two actions, *City of Tulsa*[149] and *State of Oklahoma*,[150] did not involve the CWA but rather involved the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and its application to nonpoint source pollution in the form of nutrient runoff from poultry litter spread on lands in Northwest Arkansas and Northeast Oklahoma.[151]

Each of the cases is examined below in order to provide an objective narration of the history of disputes between the two states and to provide a context that allows for a better understanding of the circumstances involved in *State of Oklahoma*. The latter consideration is important because *State of Oklahoma* is in its infancy, and, therefore, no substantive decisions have been issued to date. Thus, the discussion of *City of Tulsa* provides a window through which many of the substantive legal claims in *State of Oklahoma* can be viewed as well as their potential implications. The examination of these cases also helps illustrate how *State of Oklahoma* is both an allegory for and a prelude to the national debate over how best to address nonpoint source pollution throughout the United States.[152]

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149. 258 F.Supp.2d 1263 (N.D. Okla. 2003), *vacated pursuant to settlement* on July 16, 2003 (no opinion issued by court).

150. *State of Oklahoma v. Tyson Foods, Inc.*, No. 05CV0329 JOE-SAJ (filed June 13, 2005), ¶ 26, *available at* http://www.oag.state.ok.us/oagweb.nsf/9a798028e1753ff786256c16005d5855/2448aafc29ac39668625701f0067edbe/$FILE/Complaint.pdf (last visited Sept. 20, 2006) [hereinafter Pl. Cmplt.].

151. By way of reminder, the IRW large land area that surrounds the Illinois River and three of its major tributaries, all of which flow from Northwest Arkansas into Northeast Oklahoma.

152. The evolution of disputes between Oklahoma and Arkansas parallel the evolution of how water quality has been addressed in the United States since enactment of the CWA in 1972. That is to say the first case, *Arkansas v. Oklahoma*, focused on point source discharges of pollution, while the subsequent actions, *City of Tulsa* and *State of Oklahoma*, focused on nonpoint source pollution.

1. *Arkansas v. Oklahoma*

In the early 1980s, the city of Fayetteville, Arkansas, operated a sewage treatment plant that treated wastewater from industrial, commercial, and residential sources.[153] The treated wastewater was discharged into the White River, which flowed into Beaver Lake, the drinking water supply for much of Northwest Arkansas.[154] The plant presented several problems in that it had become technologically outdated, caused fishkills, and had occasionally violated Arkansas water quality laws.[155]

To remedy these problems, Fayetteville proposed to construct a new plant designed to more effectively treat wastewater.[156] The city also proposed to discharge treated wastewater into both the White River and an unnamed creek.[157] The unnamed creek was a significant body of water in that it ultimately connected to the Illinois River approximately twenty miles upstream from where it exited Northwest Arkansas and entered Northeast Oklahoma.[158] Fayetteville applied for an NPDES permit because the new discharges would constitute point source discharges under the CWA. The EPA subsequently issued an NPDES to Fayetteville that authorized the plant to discharge up to one-half of its treated wastewater into the unnamed stream.[159]

Concerns arose over whether the discharges into the unnamed creek would result in an increase in the amount of nutrients, especially phosphorus, that entered the Illinois River. Consequently, the State of Oklahoma and a nonprofit group known as Save the Illinois River (hereinafter collectively referred to as Oklahoma) challenged the EPA's issuance of the NPDES permit.[160] Oklahoma contended that discharges into the creek violated water quality standards established under Oklahoma law, which at the time provided that "'no degradation [of water quality] shall be allowed' in the upper Illinois River, including the portion of the river immediately downstream from the state line."[161]

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153. Arkansas v. Oklahoma, *petition for cert.,* No. 90-1266, 1991 WL 11009306, at 6-7 (U.S. Feb. 3, 1991).
154. *See id.* at 6-7.
155. *See id.*
156. *See id.*
157. *Arkansas v. Oklahoma*, 503 U.S. 91, 95 (1992).
158. *Id.* at 96.
159. *See id.*
160. *Id.*
161. *Id.* (citation omitted).

The matter initially appeared before an EPA Administrative Law Judge (ALJ). The ALJ stated that Oklahoma's "downstream" water quality standards would only be implicated if Fayetteville's "upstream" discharge into the unnamed creek had "'something more than a *de minimis* impact'" on Oklahoma's waters.[162] The ALJ then found that Fayetteville's discharge "would not have an 'undue impact' on Oklahoma's waters" and affirmed the EPA's issuance of the NPDES permit to Fayetteville.[163] Oklahoma appealed the ALJ's decision to the EPA Chief Judicial Officer (CJO).

The CJO issued two rulings. First, it held that the CWA "'requires an NPDES permit to impose any effluent limitations necessary to comply with applicable state water quality standards.'"[164] Second, the CJO held that the ALJ's "undue impact" standard did not provide a downstream state the protection it deserves under CWA regulations.[165] Relative to this second holding, the CJO set forth the following standard:

> [A] mere theoretical impairment of Oklahoma's water quality standards–*i.e.*, an infinitesimal impairment predicted through modeling but not expected to be actually detectable or measurable– should not by itself block the issuance of the permit. In this case, the permit should be upheld if the record shows by a preponderance of the evidence that the authorized discharges would not cause an actual *detectable* violation of Oklahoma's water quality standards.[166]

The CJO remanded the matter to the ALJ for further consideration to determine whether this situation fit this standard.

The ALJ reviewed the matter in light of the standard articulated by the CJO and determined that Fayetteville had met the standard. The ALJ concluded that the contested discharge would not create a "detectable violation" of any aspect of Oklahoma's water quality standards.[167] The matter reappeared before the CJO, where the initial decision to issue the permit to Fayetteville was affirmed.[168]

Both sides appealed aspects of the administrative rulings to the United States Court of Appeals for the Tenth Circuit. Oklahoma's central argument was that the EPA erroneously determined that Fayetteville's discharge would not produce a detectable violation of

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162. *See id.* at 96.
163. *See Arkansas v. Oklahoma* 503 U.S. at 95.
164. *Id.* (quoting 33 U.S.C. § 1311(b)(1)(c)).
165. *See id.* at 96, 97.
166. *Id.* at 97 (citation omitted).
167. *Id.* at 97.
168. *Arkansas v. Oklahoma*, 503 U.S. 91, 97 (1992).

Oklahoma water quality standards.[169] Arkansas challenged the CJO's decision on the ground that the EPA lacked authority under the CWA "to require an [upstream] Arkansas point source to comply with [the downstream] Oklahoma water quality standards."[170]

The Tenth Circuit rejected both arguments and reversed the EPA's decision to issue a NPDES permit to Fayetteville "on a theory that neither party had advanced."[171] It held that "'where a proposed source would discharge effluents that would contribute to conditions currently constituting a violation of applicable water quality standards, such [a] proposed source may not be permitted.'"[172] The court then determined that "the Illinois River in Oklahoma was 'already degraded,' that the Fayetteville effluent would reach the Illinois River in Oklahoma, and that that effluent could 'be expected to contribute to the ongoing deterioration of the . . . [Illinois River]' in Oklahoma even though it would not detectably affect the river's water quality."[173] Arkansas appealed the Tenth Circuit's decision to the United States Supreme Court. In light of the "importance and novelty" of the Tenth Circuit's decision, the Court granted certiorari.[174]

The Court first considered whether the CWA either required or authorized the EPA to apply the water quality standards of a downstream state when issuing a NPDES permit in an upstream state. The Court mentioned but left alone the question of whether the CWA *required* the EPA to apply the downstream standards. It stated that it was "neither necessary or prudent" to resolve this question because the EPA's assumption that it bore responsibility under the CWA to ensure that Fayetteville's discharge would not violate Oklahoma's water quality standards was "permissible and reasonable" with respect to the question of whether the CWA *authorized* such action.[175] The Court added, "[e]ven if the Clean Water Act itself does not require the Fayetteville discharge to comply with Okla-

169. *See id.* at 97. The Oklahoma Scenic Rivers Commission and the Oklahoma Pollution Control Coordination Board were also listed as appellants. *Id.*

170. *Id.* at 97, 96, 98n.4 (1990). The Arkansas Department of Pollution Control Ecology, the City of Fayetteville, and the Beaver Water District also joined the appeal, though the parties are collectively referred to as "Arkansas." *Id.*

171. *Id.* at 98.

172. *Id.* (quoting *The State of Oklahoma v. Environmental Protection Agency*, 908 F.2d 595, 620 (CAIO, 1990)).

173. *Arkansas v. Oklahoma*, 503 U.S. 91, 98 (quoting *State of OK v. EPA*, 908 F.2d 595, 621-29).

174. *See id.*

175. *See id.* at 104.

homa's water quality standards, the statute clearly does not limit the EPA's authority to mandate such compliance."[176]

The Court examined the regulations relied on by the EPA in issuing the NPDES permit to Fayetteville and concluded that "[t]he regulations relied upon by the EPA were a perfectly reasonable exercise of the Agency's statutory discretion."[177] It added the following: [t]he application of state water quality standards in the interstate context is wholly consistent with the Act's broad purpose 'to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.' Moreover, . . . [the CWA] expressly identifies the achievement of state water quality standards as one of the Act's central objectives. The Agency's regulations conditioning NPDES permits are a well-tailored means of achieving this goal."[178]

Arkansas v. Oklahoma addressed point source discharges of pollution from a municipal sewage treatment plant and did not involve nonpoint source pollution. Over time, however, many believed that water quality problems continued as a result of nonpoint source pollution from various sources, particularly nutrient runoff from poultry litter applied to lands throughout Northwest Arkansas and Northeast Oklahoma. These concerns ultimately culminated in further litigation, *City of Tulsa* and *State of Oklahoma*. Interestingly, the shift from a focus on point source pollution in *Arkansas v. Oklahoma* to nonpoint point source pollution in *City of Tulsa* and *State of Oklahoma* mirrors the evolution of how water pollution has been addressed under the CWA since its enactment—a predominant focus on point source pollution followed by a heightened scrutiny of nonpoint source pollution.

2. *City of Tulsa*

In *City of Tulsa*, the City of Tulsa, Oklahoma, and the Tulsa Metropolitan Utility Authority (hereinafter collectively referred to as plaintiffs) brought an action against Tyson Foods, Inc., Cobb-Vantress, Inc., Peterson Farms, Inc., Simmons Foods, Inc., George's, Inc., Cargill, Inc. (hereinafter poultry defendants) and the City of Decatur, Arkansas, alleging that the poultry defendants' and Decatur's acts and omissions polluted Lakes Eucha and Spavinaw.[179]

176. *Id.*
177. *Id.* at 105.
178. *Arkansas v. Oklahoma*, 503 U.S. 105-6 (quoting 33 U.S.C. § 1251(a)).
179. *City of Tulsa v. Tyson Foods, Inc.*, 258 F.Supp.2d 1263, 1270 (N.D. Okla. 2003), *vacated pursuant to settlement* (July 16, 2003). The discussion of *City of Tulsa* pro-

Lakes Eucha and Spavinaw are reservoirs that provide drinking water to much of the Tulsa area and were constructed by the building of dams on Spavinaw Creek. The water that flows into Spavinaw Creek is received from the 415-square-mile land area that encompasses portions of Northwest Arkansas and Northeast Oklahoma.[180]

The plaintiffs alleged that all of the poultry defendants "have contributed phosphorus to Lakes Eucha and Spavinaw by virtue of the land application of poultry litter by contract growers located throughout the Watershed with whom the poultry defendants have contracted for the raising of poultry."[181] They alleged that Peterson and the City of Decatur contributed phosphorus to the lakes by discharging wastes from Peterson's poultry processing facility through Decatur's wastewater treatment plant.[182] The plaintiffs further alleged that land application of poultry litter by the poultry defendants' growers and Peterson's and Decatur's point source discharge of wastewater "resulted in 'eutrophication' of the lakes, *i.e.*, high levels of algal production in the lakes, which affect water quality."[183] The plaintiffs asserted that the eutrophication of the lakes "has caused taste and odor problems," and that if the defendants' activities continued unabated, it would lead to problems severe enough to have a direct impact on human health.[184]

The plaintiffs brought CERCLA cost recovery and contribution claims against the poultry defendants.[185] They also sought compensatory and punitive damages for intentional nuisance and trespass claims in accordance with Oklahoma statutory and common law. In addition, the plaintiffs sought compensatory and punitive damages from Peterson and Decatur for intentional nuisance and trespass under Arkansas common law. Finally, the plaintiffs brought a claim for unjust enrichment against poultry defendants under Oklahoma law and against Peterson and Decatur under Arkansas law.[186] The

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vided in this article is based on the record as it is presented in the court's opinion. Thus, an argument, if any, raised by any litigant not discussed by the court in *City of Tulsa* is not discussed in this article.

180. *See id.* at 1270-71. In *City of Tulsa*, the 415-square-mile watershed was referred to as the "Eucha/Spavinaw Watershed." *Id.*

181. *Id.* at 1271.

182. *See id.*

183. *Id.* at 1270.

184. *City of Tulsa*, 258 F.Supp.2d at 1270, 1271.

185. *See supra* text accompanying notes 120-25, 131-36(describing the CERCLA cost recovery and contribution actions).

186. *See City of Tulsa*, 258 F.Supp.2d at 1270.

discussion below examines the CERCLA claims and does not discuss the plaintiffs' state law claims.

The poultry defendants attacked the plaintiffs' CERCLA claims on several grounds. First, they asserted the plaintiffs' cost recovery claim was prohibited since the plaintiffs were technically PRPs as a result of their discharges of wastewater into Lakes Eucha and Spavinaw.[187] This claim was based on the fact that the plaintiffs operated sewer lagoons that discharged human wastewater into Lake Eucha from 1972 through 1983 and also on several occasions from 1983 through 1991, thereby "contributing to the external loading of phosphorus in the lakes by siphoning or decanting sewage from the lagoons into the lake."[188] Second, they argued the definition of "facility" was not so broad so as to include the entire 415-square-mile watershed.[189] Next, the poultry defendants contended they were not covered persons, or PRPs, under CERCLA because they were not "arrangers" in that they did not "arrange for" the disposal or treatment of hazardous substances at a facility as alleged by the plaintiffs.[190]

Fourth, the poultry defendants argued that the plaintiffs' CERCLA claims should be dismissed on summary judgment because the plaintiffs could not show a release of a hazardous substance.[191] Here, the defendants asserted that phosphate, which is the primary component in poultry litter, was not a hazardous substance under CERCLA. In addition, the poultry defendants argued that the plaintiffs' contribution claim was barred since the plaintiffs failed to comply with the National Contingency Plan (NCP).[192] Finally, the

187. *See id.* at 1277; *See supra* text accompanying notes 117, 121-26 (defining PRPs and explaining significance of PRP status in context of the CERCLA cost recovery action).

188. *City of Tulsa*, 258 F.Supp.2d at 1277. Presumably, the plaintiffs in *State of Oklahoma* will not be subject to this same legal argument if neither the Oklahoma Attorney General nor the Oklahoma Secretary of the Environment operate sewer lagoons or other similar facilities that discharge wastewater into any waters in the IRW that flow from Northwest Arkansas into Northeast Oklahoma.

189. *See id.* at 1279; *see also supra* text accompanying note 116 (defining "facility" under the CERCLA).

190. *See City of Tulsa*, 258 F. Supp. 2d. at 1280. *See also supra* text accompanying note 117 (setting forth "arrange for" terminology as it appears in the definition of "facility" under the CERCLA).

191. *See City of Tulsa*, 258 F. Supp. 2d. at 1283; see also, *supra* text accompanying note 119 (defining "hazardous substance" under CERCLA).

192. *See City of Tulsa*, 258 F. Supp. 2d. at 1285; *see also, supra* text accompanying notes 127-33 (defining and explaining "national contingency plan" under the CERCLA and its implementing regulations).

poultry defendants sought summary judgment on the grounds that the plaintiffs could not establish that a release of a hazardous substance had occurred in that the land application of poultry litter fell within CERCLA's normal application of fertilizer exception.[193]

The efficacy of the plaintiffs' lawsuit would be significantly undermined or perhaps even negated if the court ruled in favor of the poultry defendants regarding any one of their counter-arguments to the plaintiffs' CERCLA claims.[194] This is somewhat of a non-statement, given that a defendant in any litigation routinely attacks a plaintiff's legal claims with the specific aim of undermining those claims. It is an important statement in the context of *City of Tulsa*, however, because if the plaintiffs' CERCLA claims were defeated or undermined, then the plaintiffs' ability to address their concerns over nutrient runoff would, therefore, be severely jeopardized since they would then have to rely upon the success of their non-CERCLA claims or a mechanism outside of litigation such as the CWA non-point source pollution provisions in order to address their concerns. Under either scenario, the legitimacy of the plaintiffs' position, and, therefore, their ability to address their concerns over nutrient runoff from poultry litter, would be severely undermined.[195] Likewise, any plaintiffs who sought to address similar concerns through litigation in other parts of the United States would face similar or identical circumstances.

Conversely, if the court ruled in the plaintiffs' favor on each of their arguments and against the poultry defendants on each of their arguments, then the issue of nutrient runoff from poultry litter would have been addressed only with respect to the defendants involved.[196] Instances where similar problems arise throughout the United States would be at most only indirectly affected by this outcome.

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193. *See City of Tulsa*, 258 F. Supp. 2d. at 1287; *see also, supra* text accompanying note 118 (discussing "normal application of fertilizer" exception as it appears in the CERCLA definition of "release.").

194. *See supra* text accompanying notes 110-15 (discussing means by which a defendant can defeat a CERCLA cost recovery claim). This scenario is equally applicable to *State of Oklahoma*.

195. Likewise, if CERCLA or its regulations were amended to, for example, exclude animal waste from its coverage, presumably either no CERCLA claims could be brought against any defendant in the United States or the bringing of those claims would be severely complicated.

196. This is an overgeneralized statement because had such a scenario arisen, one can be reasonably certain that the matter could have been appealed to Tenth Circuit and possibly the Supreme Court, or both.

The court first considered the propriety of the plaintiffs' cost recovery action. The poultry defendants asserted that the action was prohibited because the plaintiffs were PRPs by virtue of the undisputed fact that they had discharged human wastewater into Lake Eucha from 1972 through 1991. The plaintiffs conceded that they were PRPs but that the wastewater discharges were *de minimus*.[197]

The court explained that in *Morrison Ent. v. McShares, Inc.*,[198] the United States Court of Appeals for the Tenth Circuit held that a plaintiff could bring a contribution action but could not bring a cost recovery action because that plaintiff was a PRP under CERCLA. In *City of Tulsa*, the court adopted the *Morrison* ruling to hold that the plaintiffs' cost recovery claim was barred and that their contribution action was allowable.[199]

The court next considered whether the definition of "facility" could encompass the entire 415-square-mile watershed.[200] The plaintiffs' initial complaint alleged that Lakes Eucha and Spavinaw constituted the facility but subsequently asserted that the 415-square-mile watershed was also a part of the facility.[201] According to the plaintiffs, the watershed was a facility "because the hazardous substance at issue, phosphorus, is deposited or can be found virtually throughout the Watershed where poultry litter has been land applied . . . ."[202] The poultry defendants countered that the watershed was not a facility because it "encompasses more than 415 square miles of land and plaintiffs cannot show the presence of phosphates or phosphorus throughout the entire watershed."[203] The poultry defendants also countered the plaintiffs' assertion on the grounds that the land upon which their growers raised poultry constituted

197. *See City of Tulsa*, 258 F.Supp.2d. at 1276-79.

198. *Morrison Enterprises v. McShares, Inc.*, 302 F.3d 1127 (10th Cir. 2002).

199. *City of Tulsa*, 258 F.Supp.2d at 1278-79.

200. Technically, the plaintiffs argued that the facility is the "'entire Watershed and the water supply system, including all land where the poultry defendants apply their manure and litter, the lakes and creeks which receive the runoff from those pastures and the effluent from Decatur's and Peterson's processing plants, and the final water supply reservoirs which hold water for treatment by the City of Tulsa water treatment plant.'"). *See id.* at 1279 n.9.

201. *See id. See also id.* n.9 (stating that technically the plaintiffs argued that the facility is the "'entire Watershed and the water supply system, including all land where the poultry defendants apply their manure and litter, the lakes and creeks which receive the runoff from those pastures and the effluent from Decatur's and Peterson's processing plants, and the final water supply reservoirs which hold water for treatment by the City of Tulsa water treatment plant.'").

202. *Id.* at 1279.

203. *Id.*

less than half the total land area of the watershed.[204] They further asserted that the plaintiffs' modification for what was the facility revealed that the plaintiffs' CERCLA claim was deficient in that it could not show "a causal nexus between the poultry growers' land application of poultry litter and the alleged contamination of the water supply."[205]

The court expressly rejected the poultry defendants' arguments for three reasons.[206] First, it held that the definition of "facility" was "broad enough to include both the initial site where a hazardous substance is disposed of and additional sites to which the substances have migrated following the initial disposal."[207] The court cited with approval *Nutrasweet Co. v. X-L Eng'g Co.*,[208] a case that involved a plaintiff who sued an entity that dumped hazardous substances on its property which subsequently traveled "by way of surface and ground water onto [the] plaintiff's property."[209] In *Nutrasweet*, the court determined that the hazardous substances were present on both parties' properties, and therefore, both properties fell within the definition of facility.[210] The court also noted that in *United States v. Twp. of Brighton*,[211] the United States Court of Appeals for the Sixth Circuit held that "'the bounds of a facility should be defined at least in part by the bounds of the contamination . . . . However, an area that cannot be reasonably or naturally divided into multiple parts or functional units should be defined as a single 'facility,' even if it contains parts that are non-contaminated.'"[212]

Second, the court held that there is not "a causation element as a predicate to liability when a defendant falls into one of the classes of liable parties."[213] In so holding, it relied on *Tosco Corp. v. Koch Ind., Inc.*,[214] a Tenth Circuit decision which held for one to establish liability under a contribution action, "'it is sufficient for the plaintiff to establish a connection between a particular defendant and the

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205. *See id.*

206. *See infra* notes 198, 204, 207 and accompanying text.

207. *City of Tulsa*, 258 F.Supp.2d at 1279. (citing *NutraSweet Co. v. X-L Eng'g Co.*, 933 F.Supp.1409, 1418 (N.D. Ill. 1996)).

208. 933 F.Supp. 1409, 1418 (N.D. Ill. 1996).

209. *City of Tulsa*, 258 F.Supp.2d at 1279.

210. *See id.*

211. 153 F.3d 307 (6th Cir. 1998).

212. *City of Tulsa*, 258 F.Supp.2d at 1279-80 (quoting *Brighton*, 153 F.3d at 313).

213. *Id.* at 1280 (citing *Tosco Corp. v. Koch Ind., Inc.*, 216 F.3d 886, 891 (10th Cir. 2000)).

214. 216 F.3d 886 (10th Cir. 2000).

incurred response costs *vis á vis* the defendant's identification as a responsible person . . . .'"[215] Third, the court concluded that there existed no requirement that a facility "be co-extensive with the responsible person's property."[216]

Despite these three substantive holdings, the court stopped short of granting the plaintiffs' motion for summary judgment. It stated that "[a]lthough the definition of 'facility' is expansive enough to include the Watershed within its scope, the factual record before the Court . . . is insufficient."[217] The court noted that the documents to which the plaintiffs cited were not properly authenticated, and that the responses to interrogatories that they cited to "at best admit[ted] only to the generation of, and not the land application of, poultry litter in the Watershed."[218]

The court next turned to the plaintiffs' motion for summary judgment argument that the poultry defendants were "'arrangers' for their growers' 'disposal' of phosphorus in the poultry litter into the watershed" and therefore responsible for cleanup costs incurred by the plaintiffs.[219] The poultry defendants' central argument against the "arranger" liability theory was that they neither owned the poultry litter nor controlled the growers' land application of the poultry litter.[220] To support their arguments, both parties looked to the contractual relationship that existed between the poultry defendants and their respective growers.[221]

The plaintiffs contended that the poultry defendants were subject to "arranger" liability because, under the terms of the contracts, they "retain[ed] ownership of the birds, provid[ed] feed and medication for them, and pick[ed] up and processed the birds when they [were ready for slaughter]."[222] The plaintiffs also asserted that under the contracts, the poultry defendants exercised a regular supervisory role over the various growers, established certain standards designed to guide the growers as to the application of poultry waste generated by the birds they own, and permitted the growers to apply

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215. *City of Tulsa*, 258 F.Supp.2d at 1280 (quoting *Tosco*, 216 F.3d at 891).
216. *See id.* (citing *La-Pac. Corp. v. Beazer Materials & Services, Inc.*, 811 F.Supp. 1421, 1431 (E.D. Ca. 1993); *Nutrasweet*, 933 F.Supp. at 1420; and *United States v. Hardage*, 761 F.Supp. 1501 (W.D. Okla. 1990)).
217. *Id.*
218. *Id.*
219. *See id. See also supra* text accompanying note 117 (setting forth "arrange for" terminology as it appears in the CERCLA definition of "facility").
220. *See City of Tulsa*, 258 F.Supp.2d at 1281.
221. *Id.* at 1280-81.
222. *See id.*

litter on their own land in the watershed or sell it to others who would then apply it to lands in the watershed.[223]

The poultry responded to the plaintiff's "arranger" liability that the contract terms provided that the waste generated by the birds while under the growers' care belongs to the growers.[224] The poultry defendants asserted that in light of these terms, they "lack[ed] the authority to prohibit the growers" from applying the litter to lands in the watershed.[225]

In its consideration of the parties' arguments, the court noted that the term "arrange for" was not defined under the CERCLA, and that the Tenth Circuit had not interpreted the term.[226] It also noted that several courts had interpreted the term, including the United States Court of Appeals for the Eleventh Circuit in *S. Fla. Water Mgmt Dist. v. Montalvo*.,[227] a case by which it was persuaded.[228]

In *Montalvo*, several aerial pesticide sprayers who were found to be jointly and severally liable for costs of cleaning up their airstrip and storage facility sought contribution from landowners whose land they had sprayed.[229] The sprayers contended that the landowners "owned the pesticides which were mixed and loaded onto the planes and should have known spills and rinsing out of the tanks were necessary incidents of the application process."[230] The Eleventh Circuit held that the sprayers' construction of the term "arranged for" was far too broad and that it could not infer the landowners knew that the spraying of their land with pesticides necessarily involved "the spilling of pesticides and draining of contaminated [] water."[231] "Without this knowledge," the court continued, "the Landowners cannot be said to have acquiesced to the Sprayers' disposal of the wastes."[232]

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223. *See id.*
224. *See id.*
225. *City of Tulsa*, 258 F.Supp.2d at 1281.
226. *See id.*
227. 84 F.3d 402 (11th Cir. 1996).
228. *City of Tulsa*, 258 F.Supp.2d at 1281-83. The court also examined *Amcas Ind. Corp. v. Detrex Corp*., 2 F.3d 746 (7th Cir. 1993), *United States v. Aceto Agric. Chemicals Corp*., 872 F.2d 1373 (8th Cir. 1989), and *United States v. Hercules, Inc*., 247 F.3d 706 (8th Cir. 2001).
229. *See id.* at 1282.
230. *Id.*
231. *Id.*
232. *Id.* (quoting *Montalvo*, 84 F.3d at 409.) *See also id.* (quoting *Montalvo*, 84 F.3d at 407, stating that "'[w]hile factors such as a party's knowledge (or lack thereof) of the disposal, ownership of the hazardous substances, and intent are relevant to

In *City of Tulsa*, the court stated that in light of the *Montalvo* factors, it could not determine as a matter of law that the poultry defendants "'arranged for' the disposal of poultry litter."[233] The court added that there were fact issues regarding the poultry defendants' relationship with their growers, such as "ownership, authority to control, and participation in the alleged disposal of poultry waste through land application of poultry litter."[234] The court therefore denied the plaintiffs' motion for summary judgment regarding the poultry defendants' "arranger" liability.[235]

Next, the court considered the critical issue of whether phosphorus or phosphates were a "hazardous substance" under CERCLA.[236] Here, the poultry defendants' argued on a motion for summary judgment that the plaintiffs' CERCLA claim was unfounded because the plaintiffs could not establish that there had been a release of a "hazardous substance."[237] They contended that although phosphorus is a hazardous substance under CERCLA, phosphate, the "pertinent substance" in poultry litter, is not a hazardous substance, and more specifically, the poultry defendants asserted that the table of CERCLA hazardous substances did not list "Phosphorus and Compounds" or "phosphates" but rather only listed phosphorus.[238] The plaintiffs countered that "phosphorus is a

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determining whether there has been an 'arrangement' for disposal, they are not necessarily determinative of liability in every case.'")

233. *City of Tulsa*, 258 F.Supp.2d at 1283.

234. *Id.*

235. *Id.* This holding highlights the complexity of using CERCLA-based litigation to address nutrient runoff from animal waste. As noted earlier, *City of Tulsa* was vacated by agreement of the parties. Thus, one could only speculate as to how this issue would have been resolved had it been fully litigated and as to how the issue may be resolved in *State of Oklahoma*.

236. *See supra* text accompanying note 128-30 (defining and discussing "hazardous substance" under CERCLA).

237. *Id.* The hazardous substance issue illustrates a challenge in addressing nutrient runoff from animal waste through CERCLA-based litigation. Suppose that the court ruled in favor of the plaintiffs' other arguments and also held that poultry litter contained a "hazardous substance." These rulings would attach liability under CERCLA to the poultry defendants in accordance with the plaintiffs' allegations and, presumably, would also mean that scores of private landowners, none of whom were a party to the litigation, had a "hazardous substance" on their properties. Such a circumstance could have deleterious unintended consequences, including the potential decline in property values in a region that is the pinnacle of economic, commercial, and residential growth in Arkansas.

238. *See City of Tulsa*, 258 F.Supp.2d at 1283. The poultry defendants also asserted that there were separate Chemical Abstract Registry Numbers for phosphorus and phosphates, an argument not discussed in this article.

constituent of phosphate and, therefore, phosphate contains a hazardous substance under CERCLA."[239]

The court noted that in *B.F. Goodrich Co. v. Murtha*,[240] the United States Court of Appeals for the Second Circuit considered whether municipal waste or household solid waste constituted a "hazardous substance" under CERCLA.[241] In *Murtha*, the Second Circuit noted that for a substance to be considered hazardous under CERCLA, it only needs to fall within the definition of only one of the four federal statutes cross-referenced in CERCLA or be listed under the table of CERCLA hazardous substances.[242] The Second Circuit also explained that "'the concentration of hazardous substances in municipal solid waste–regardless of how low a percentage–is not relevant in deciding whether CERCLA liability is incurred.'"[243] The *Murtha* court added that "'[m]unicipal waste need not be listed by name–instead of its constituent components–to fall within the Act. . . . When a mixture or waste solution contains hazardous substances, that mixture itself is hazardous for purposes of determining CERCLA liability . . . .'"[244]

In *City of Tulsa*, the court also noted that in *United States v. Alcan Aluminum Corp.*,[245] the United States Court of Appeals for the Third Circuit considered whether a substance that only contained trace levels of compounds listed as hazardous substances under CERCLA was actually not a hazardous substance since it "posed 'no real threat to the environment.'"[246] The defendant in that case asserted that the amount of hazardous substances in the substance at issue "was less than that in dirt and the . . . refusal to read any quantitative requirement of the listed constituents into 'hazardous substance' would make 'virtually everything in the universe' a hazardous substance."[247]

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239. *Id.* The parties agreed that given its "highly combustible, poisonous" qualities, phosphorus did not occur free in nature. They also agreed that phosphate is a compound that is contained in all living cells, is safe, and is a necessary ingredient to life processes. *See id.*

240. 958 F.2d 1192 (2d Cir. 1992).

241. *City of Tulsa*, 258 F.Supp.2d at 1284.

242. *See supra* text accompanying notes 128-30 (discussing the table of CERCLA hazardous substances).

243. *Id.* (quoting *Murtha*, 958 F.2d at 1200).

244. *Id.* (citing *Murtha*, 958 F.2d at 2101).

245. 964 F.2d 252 (3d Cir. 1992).

246. *City of Tulsa*, 258 F.Supp.2d at 1284 (quoting *Alcan*, 964 F.2d at 261-64).

247. *Id.* (quoting *Alcan*, 964 F.2d at 259-60).

The Third Circuit rejected this argument concluding that under CERCLA, "it is the *release alone* that must justify the response costs, not the particular waste generated by the one given defendant. . . ."[248] The court added, "the fact that a single generator's waste would not in itself justify a response is irrelevant in the multi-generator context, as this would permit a generator to escape liability where the amount of harm it engendered . . . was minimal, though it was significant when added to other generator's [sic] waste."[249]

Based on the rationale and holdings presented in *Murtha* and *Alcan*, the court in *City of Tulsa* held that "the EPA intended to include phosphorous compounds, such as phosphates, in listing phosphorus in . . . [the table of CERCLA hazardous substances]."[250] In so holding, it noted its view, and one consistently shared by other courts, that CERCLA is a broad remedial statute that Congress intended for courts to liberally construe.[251]

The court next considered whether the plaintiffs had properly complied with the national contingency plan, or NCP.[252] The plaintiffs argued that their action was a removal action that was in "substantial compliance" with the NCP. The poultry defendants countered that the plaintiffs' action was a remedial one that did not comply with critical requirements of the NCP.[253] The court elaborated on the parties' arguments but concluded that it needed additional evidence to be presented to the court at a later trial in order to decide this issue.[254]

The court then turned to the issue of whether the land application of poultry litter constitutes the "normal application of fertilizer" and, therefore, whether the land application of poultry litter constituted a "release" of hazardous substance under CERCLA.[255] The plaintiffs claimed that the poultry defendants' application of litter was far beyond the "normal" application of fertilizer while recognizing that there may be circumstances where animal waste could

248. *Id.* at 1285 (quoting *Alcan*, 964 F.2d at 264).
249. *Id.* (quoting *Alcan*, 964 F.2d at 264).
250. *Id.*
251. *City of Tulsa*, 258 F. Supp. 2d at 1284.
252. *See supra* text accompanying notes 127-33 (explaining national contingency plan).
253. *See id.* at 1285-86. *See also supra* text accompanying notes 140-43 (describing NCP compliance requirements).
254. *Id.*
255. *See supra* text accompanying note 128 (defining "release" under the CERCLA).

properly be used as a fertilizer.[256] They also claimed that the "norm" is to apply poultry litter in a manner that does not exceed "a certain level of phosphorus in the soil."[257] The poultry defendants asserted that the "norm" is the growers' actual practice of applying poultry litter to land as a fertilizer.[258]

Complicating the court's consideration of this issue was the fact that the CERCLA does not define the term "normal" nor had any other court interpreted the term. The court noted, however, that in light of CERCLA's remedial nature, courts have interpreted the term "release" broadly and have narrowly construed any exceptions under the CERCLA, including the "normal application of fertilizer" exception.[259] The court concluded that its determination as to what constituted a "normal application of fertilizer" could not be made out of "context" and that the necessary context could only be provided through additional evidence provided by the parties.[260] The court therefore rejected all parties' motions for summary judgment on this issue.[261]

Soon after *City of Tulsa* was issued, the parties reached a court-approved settlement that required that *City of Tulsa* be vacated. Consequently, *City of Tulsa* lacks precedential value. However, it is an important case from both an academic and practical standpoint because it addresses novel issues regarding CERCLA and its utility in litigation that seeks to address concerns regarding the impact that animal waste, including poultry litter, can have on water quality and other aspects of the environment. In addition, *City of Tulsa* remains an important case because it helps provide a picture of how many of the same issues may be argued and decided in *State of Oklahoma*.

3. State of Oklahoma

On June 13, 2005, the Oklahoma Attorney General and the Oklahoma Secretary of the Environment brought an action against fourteen poultry integrators who contract with poultry growers in the Illinois River Watershed (IRW) to raise poultry for the integra-

256. *See id.* at 1287.
257. *Id.* at 1288.
258. *See City of Tulsa*, 258 F.Supp.2d at 1288.
259. *See id.* at 1287 (citing Dedham Water Co. v. Cumberland Farms Dairy, 889 F.2d 1146, 1152 (1st Cir. 1989)).
260. *See id.* at 1288.
261. *Id.*

tors.[262] The plaintiffs allege that the defendants are legally responsible "individually and/or by and through . . . [their] duly authorized agents, servants, or employees and/or contractors" for poultry waste created by the poultry growing operations, the handling and storage of the poultry waste, disposal of the waste, and the resultant injuries to the IRW caused by the storage and disposal of "hundreds of thousands of tons of poultry waste" on lands within the IRW.[263] The plaintiffs seek, *inter alia*," abatement of these practices, expenses for assessing the injury and damage to the IRW . . ., remediation of the injury to the IRW . . ., [and] damages for the lost value and restoration of the natural resources of the IRW caused by these practices, and equitable relief."[264] The plaintiffs seek this relief under a number of federal and state law claims, including CERCLA, most of which were alleged in *City of Tulsa*. The discussion below focuses on the CERCLA claims.

4. Factual Allegations

The plaintiffs assert that the IRW is a 1,069,530 acre area—approximately 576,000 acres of which are located in Oklahoma—that encompasses portions of Northwest Arkansas and Northeast Oklahoma.[265] The plaintiffs further assert that the IRW includes the Illinois River and three of its major tributaries.[266]

The plaintiffs allege that each of the defendants "so dominates and controls the actions and activities" of their respective IRW poultry growers that the relationship "is not one of independent contractor, but rather one of employer and employee or one of principal and agent, and one of owner, operator or arranger of poultry waste

262. The poultry companies that are defendants in the action are Tyson Foods, Inc.; Tyson Poultry, Inc.; Tyson Chicken, Inc.; Aviagen, Inc.; Cal-Maine Foods, Inc.; Cal-Maine Farms, Inc.; Cargill, Inc.; Cargill Turkey Production, LLC; George's, Inc.; George's Farms, Inc.; Peterson Farms, Inc.; Simmons Foods, Inc.; and Willow Brook Foods, Inc. [hereinafter collectively referred to as poultry defendants] Complaint at 1, *State of Oklahoma v. Tyson Foods, Inc.*, No. 05CV0329 JOE-SAJ (filed June 13, 2005), *available at* http://www.oag.state.ok.us/oagweb.nsf/9a798028e1753ff786256c16005d5855/2448aafc29ac39668625701f0067edbe/$FILE/Complaint.pdf.

263. *Id.* at 1-21.

264. *Id.* at 1.

265. *See id.* at 22.

266. *See* Complaint at 23, *State of Oklahoma v. Tyson Foods, Inc.*, No. 05CV0329 JOE-SAJ (filed June 13, 2005), *available at* http://www.oag.state.ok.us/ oagweb.nsf/9a798028e1753ff786256c16005d5855/2448aafc29ac39668625701f0067edbe/$FILE/Complaint.pdf.

under CERCLA."[267] The plaintiffs base this allegation upon the contractual relationship that exists between the defendants and their respective growers. The plaintiffs further allege that the defendants are responsible for the safe handling and disposal of poultry waste generated by their respective growers in light of the extent to which each defendant "so dominates and controls the actions and activities" of their respective growers.[268]

The plaintiffs assert that under the typical contractual relationship, the grower agrees to raise birds that are owned by the integrator and are to be picked up by the integrator when the birds reach adulthood.[269] They further assert that the integrator owns and supplies the feed provided to the birds.[270] In addition, they assert that a typical contract specifies the manner in which the birds are to be handled and cared for while being raised by the growers, including the type of buildings in which the birds are to be housed and the medications and vaccines to be provided to the birds.[271]

The plaintiffs argue alternatively that, even if the defendants' and growers' contractual relationship is an independent contractor relationship, the defendants are responsible for their respective growers' waste and its environmental impacts.[272] They reason that the defendants "have known and have had reason to know that in the ordinary course of the poultry growers raising birds in the usual and prescribed manner poultry waste will be handled and disposed of in such a manner to cause injury to the IRW, including the biota, lands, waters and sediments therein . . . ."[273] The plaintiffs further argued that each of the poultry defendants "has long known that poultry waste is an enormous contributor to phosphorus and other pollution in the IRW" and that despite this knowledge they have

267. *Id.* at 43.
268. *Id.* at 47.
269. *Id.* at 36-8.
270. *Id.* at 39.
271. This is a common contractual arrangement in the poultry industry, commonly referred to as a production contract. *See* THE NATIONAL AGRICULTURAL LAW CENTER, *Production Contracts Reading Room*, http://www.nationalaglawcenter.org/readingrooms/productioncontracts/ (last visited Mar. 27, 2007). The plaintiffs also argue that the defendants are "owners, operators or arrangers of poultry waste under CERCLA" for those operations that the defendants actually own. Complaint, State of Oklahoma v. Tyson Foods, Inc., No. 05CV0329 JOE-SAJ (filed June 13, 2005), *available at* INSERT WEBSITE.
272. Complaint, 44, State of Oklahoma v. Tyson Foods, Inc., No. 05CV0329 JOE-SAJ (filed June 13, 2005), *available at* INSERT WEBSITE.
273. *Id.*

allowed poultry waste to be improperly stored and applied on lands in the IRW.[274]

K. Legal Allegations

The plaintiffs allege that through the defendants' activities and business operations, and in accordance with CERCLA, hazardous substances were disposed of into the IRW, resulting in releases or threatened releases of hazardous substances into the IRW.[275] The plaintiffs claim that the hazardous substances disposed of in the IRW include but are not limited to "phosphorus and phosphorus compounds, nitrogen and nitrogen compounds, zinc and zinc compounds, copper and copper compounds and arsenic and arsenic compounds."[276]

The plaintiffs allege that the entire IRW, "including the lands, waters and sediments therein," constitutes a "facility" under CERCLA because it is a "'site or area where a hazardous substance . . . has been deposited, stored, disposed of, or placed, or otherwise come to be located.'"[277] They further allege that the buildings, structures, installations, and equipment used by poultry growers constitute a facility from which releases or threatened releases of hazardous substances into the IRW have resulted.[278]

The plaintiffs allege that each defendant is a covered person, also known as a potentially responsible party(PRP), under the CERCLA because they have "individually and collectively arranged for" disposal of their poultry waste which contains hazardous substances such as phosphorous and phosphorus compounds.[279] They further allege that each defendant is a covered person "in that they, individually and collectively, have been owners and/or operators during the time their poultry waste containing these hazardous substances was generated and disposed of and released into the IRW . . . ."[280]

The plaintiffs claim that the State of Oklahoma has incurred, and will continue to incur, necessary response costs "in a manner consistent with the . . . [NCP], or alternatively, in a manner not in-

274. *Id.* at 55.
275. *Id.* at 71.
276. *Id.*
277. *Id.* at 72 (quoting 42 U.S.C. § 9601(9)(B)(2000)).
278. *Id.*
279. *Id.* at 74.
280. *Id.* at 75.

consistent with the NCP" as a result of responding to the defendants' releases or threatened releases of hazardous substances into the IRW.[281] They therefore claim that the State of Oklahoma is entitled to recover all past and present response costs it has incurred or is incurring in accordance with CERCLA.[282] The plaintiffs also claim that they are entitled to a declaratory judgment that holds the defendants jointly and severally liable for all future response costs incurred by the State of Oklahoma.[283]

State of Oklahoma, along with *Arkansas v. Oklahoma* and *City of Tulsa*, form a microcosm of the national debate over nonpoint point source pollution specifically and, therefore, water quality generally in the United States. The evolution of these three cases—focusing first on point source discharges from a municipal sewage treatment plant and later on nonpoint source pollution in the form of nutrient runoff from poultry litter—parallels the evolution of how water quality has been addressed since the enactment of the CWA in 1972, thereby underscoring how *State of Oklahoma* and its surrounding circumstances form a microcosm of the national debate over how to address water pollution in the United States.

Despite its regional nature, *State of Oklahoma* involves issues of great national significance, particularly in light of the dramatic structural changes that have occurred in the animal agriculture production system in recent decades and the fact that these changes are not likely to reverse. In addition, these changes are directly linked to concerns over nutrient runoff from poultry litter and other animal wastes because of situations in which large amounts of animal waste are produced and disposed of in geographically restricted areas. Despite the dramatic structural changes and the water quality problems associated with those changes, the primary mechanism for addressing the related water quality concerns—the CWA nonpoint source provisions—has remained virtually unchanged since its enactment over three decades ago.

State of Oklahoma signals that the CWA may not be the best primary means for addressing nonpoint source pollution in the form of nutrient runoff from poultry litter and other animal wastes. It also signals that CERCLA-based litigation may become a more common method for addressing these water quality concerns

281. *Id.* at 76.
282. *Id.* at 77.
283. *Id.* These same legal allegations, which incorporated the factual allegations, were also brought by the Oklahoma Secretary of the Environment with respect to CERCLA natural resource damages. *See id.* at 78-89.

throughout the United States unless a viable alternative is created that shatters the litigation-versus-CWA voluntary nonpoint source provisions paradigm that currently exists. In light of the foregoing discussion in Part I and II, Part III discusses such an alternative.

PART III. SOLUTION

Nearly three-and-a-half decades ago, Congress found itself at a crossroads over how to protect and improve the quality of the nation's waters. At that time, Congress could have chosen to follow the course set by the Federal Water Pollution Control Act of 1948 or to craft a new policy framework that was more effective than the 1948 act. Congress wisely chose the latter path when it enacted the Clean Water Act (CWA) in 1972.

Today, Congress stands before a new crossroads over how to protect and improve the quality of the nation's waters. This time, however, the question of how best to protect the quality of the nation's waters is synonymous with the question of how best to address nonpoint source pollution, since nonpoint source pollution has become the largest source of water pollution "not only in absolute terms, but also proportionally a larger share of remaining water pollution problems."[284] Parallel to the decision it faced in 1972, Congress could choose to stay the course set by the CWA nonpoint source pollution provisions, or it could choose a new strategy for addressing nonpoint source pollution.

The path Congress chooses will determine whether the quality of the nation's waters will improve over the next three decades to the same extent that water quality improved over the past three decades. If the path Congress chooses is to succeed, it is clear that it must effectively address agricultural nonpoint source pollution, the leading source of nonpoint source water pollution in the United States. In particular, the approach must effectively target agricultural nonpoint source pollution in the form of nutrient runoff from poultry litter and other animal wastes produced in the course of modern animal agricultural production.

This article proposes that the Conservation Security Program (CSP) be used as the regulatory framework for combating nonpoint source pollution from agriculture, specifically including nutrient runoff from animal waste such as phosphorus runoff from poultry litter. This approach is unique because it advocates that agricultural

284. COPELAND, *supra* note 32, at 5.

nonpoint source pollution be viewed differently from other types of nonpoint source pollution, and that it be addressed primarily outside the bounds of the CWA.

Discussed below are the CSP and some possible modifications that could be made to the program in order to more effectively address nonpoint source pollution in the form of nutrient runoff from poultry litter and other animal wastes in the Illinois River Watershed (IRW) and other watersheds throughout the United States. An overview of the domestic and international pressures that may accelerate the adoption of the CSP as a central component of overall federal agricultural and environmental policies is also provided.[285]

L. Conservation Security Program (CSP)

The CSP is a voluntary, science and technology-driven federal conservation program that provides financial and technical assistance to agricultural producers for conserving and improving "significant resource concerns" such as water, soil, air, energy, and plant and animal life on private and Tribal lands.[286] The primary resources of concern under the program are water quality and soil quality, which are considered "nationally significant resource concerns."

The CSP defines "water quality" as "resource concerns or opportunities, including concerns such as *excessive nutrients*, pesticides, sediment, contaminants, pathogens and turbidity in surface waters, and excessive nutrients and pesticides in ground waters, and any other concerns identified by state water quality agencies."[287] "Soil quality" is defined as "resource concerns and/or opportunities related to depletion of soil organic matter content through soil disturbance or by . . . erosion, and the physical condition of the soil relative to ease of tillage, fitness as a seedbed, the impedance to seedling

285. Understanding these pressures, particularly the international pressures, is important because they help define the policy context and also are a significant factor regarding the issue of how the CSP can be funded in the current federal budget deficit environment.

286. *See* Conservation Security Program, 69 Fed. Reg. 34502, (June 21, 2004) (summarizing interim final rule with request for comments). The interim final rule for the CSP is found at 7 C.F.R. pt. 1469. *See also*, CULVER, *supra* note 24 (setting forth definition of "Conservation Security Program" and other terms relevant to CSP). *See also* USDA, NATURAL RESOURCE CONSERVATION SERVICE, *Conservation Security Program*, http://www.nrcs.usda.gov/programs/csp/ (last visited Mar. 27, 2007).

287. 7 C.F.R. § 1469.3 (defining "water quality") (emphasis added).

emergence or root penetration, salinity, and overall soil productivity."[288]

CSP was authorized by the Farm Security and Rural Investment Act of 2002,[289] commonly referred to as the 2002 Farm Bill, which amended, *inter alia*, the Food Security Act of 1985.[290] The program is administered by the Natural Resources Conservation Service (NRCS), the USDA agency that partners with landowners to conserve soil, water, and other natural resources.[291] CSP is available on a limited basis in all fifty states, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Virgin Islands of the United States, American Samoa, and the Commonwealth of Northern Marianna Islands.[292]

M. Eligibility

The 2002 Farm Bill authorized the NRCS to make the CSP available to any eligible producer who satisfied program requirements.[293] The manner in which the NRCS implements the program, however, is more limited than the full scope allowed under its authorization. The NRCS offers CSP enrollment only to those producers whose agricultural operations are located in NRCS-selected priority watersheds.[294]

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288. *Id.* (defining "soil quality").

289. Farm Security and Rural Investment Act of 2002, Pub. L. No. 107-171, 116 Stat. 134, 225 (codified as amended in scattered sections of 7, 15, 16, and 21 of U.S.C.).

290. Food Security Act of 1985, Pub. L. No. 99-198, 99 Stat. 1103 (codified as amended in scattered sections of 7, 15, 16, and 21 of U.S.C.); The term "farm bill" is a generic term used to describe federal omnibus legislation, usually enacted every four to seven years since 1933, that sets forth the majority of U.S. farm policy for the time period in which the legislation remains in effect. *See* CULVER, *supra* note 24 (defining "farm bill"); *see also* THE NATIONAL AGRICULTURAL LAW CENTER, *United States Farm Bills*, http://www.nationalaglawcenter.org/farmbills/ (last visited Mar. 27, 2007); *See also* Harrison M. Pittman, *Direct Payments and Counter-Cyclical Payments Under the 2002 Farm Bill*, http://www.nationalaglawcenter.org/assets/articles/pittman_programpayments.pdf(last visited Mar. 27, 2007).

291. The NRCS web site can be accessed at http://www.nrcs.usda.gov (last visited Mar. 27, 2007).

292. USDA, NRCS, *CSP Program Description*, http://www.nrcs.usda.gov/programs/farmbill/2002/pdf/CSP_PrDes100605.pdf (last visited Mar. 27, 2007).

293. *See* Farm Security and Rural Investment Act of 2002, Pub. L. No. 107-171, 116 Stat. 225 (codified as amended in scattered sections of 7, 15, 16, and 21 U.S.C.)

294. To date, NRCS has announced three watershed sign-up periods. For maps of the watersheds for each sign-up period, see http://www.nrcs.usda.gov/programs/csp/2004_CSP_WS/watersheds04.html (2004 sign-up);

The producer and the producer's agricultural operation must satisfy certain criteria to be eligible for the CSP.[295] The producer must have control of his or her land for the life of the contract, share in the risk of production, be entitled to a share of the product marketed from the operation, and comply with the highly erodible land and wetland conservation provisions applicable to federal domestic commodity programs.[296] The land upon which the producer's agricultural operation is located must be privately owned or Tribal "cropland, rangeland, pastureland, hayland, private non-industrial forest land if it is an incidental part of the agricultural operation, and other land on which food, fiber, and other agricultural products are produced."[297] A majority of the producer's land must be located in one of the NRCS-selected watersheds.[298]

As part of the application, and therefore eligibility determination process, the producer must complete a "benchmark condition inventory" for land sought to be enrolled in the program.[299] The "benchmark condition inventory" is the "documentation of the resource condition or situation . . . that NRCS uses to measure an applicant's existing level of conservation activities in order to determine program eligibility, to design a conservation stewardship contract, and to measure the change in resource conditions resulting from conservation treatment."[300] Thus, the CSP contains a mechanism for assessing whether and to what extent conservation practices achieve their objectives.

The CSP provides three "tiers"– Tier I, Tier II, and Tier III– through which a producer participates in the CSP.[301] There are separate eligibility requirements for each tier that must be met prior

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http://www.nrcs.usda.gov/programs/csp/2005_CSP_WS/index.html (2005 sign-up); and http://www.nrcs.usda.gov/programs/csp/2006_CSP_WS/index.html (2006 sign-up) (last visited Sept. 26, 2006).

295. *See generally* 7 C.F.R. § 1469.5 (2006) (setting forth CSP eligibility requirements).

296. *Id.* at § 1469.5(c). *See also* CHRISTOPHER R. KELLEY, *Domestic Commodity Programs*, WEST'S FEDERAL ADMINISTRATIVE PRACTICE, Chapters 57 & 60 (1999), *and* THE NATIONAL AGRICULTURAL LAW CENTER, *Farm Commodity Programs*, http://www.nationalaglawcenter.org/readingrooms/commodityprograms/ (last visited Mar. 27, 2007).

297. 7 C.F.R. § 1469.3 (2006) (defining "agricultural land"); 7 C.F.R. § 1469.5 (2006) (setting forth eligibility requirements).

298. *Id.* at § 1469.5(d)(1)(vi).

299. *Id.* at § 1469.5(c)(4).

300. *Id.* at § 1469.3 (defining "benchmark condition inventory").

301. *See generally id.* at §§ 1469.5(e), 1469.21.

to acceptance in the CSP.[302] Under Tier I and Tier II, a producer is eligible only if the benchmark condition inventory demonstrates that he or she has addressed water quality and soil quality concerns to the level required by the NRCS.[303] For Tier I, the producer must demonstrate that these concerns have been addressed on only a portion of his or her agricultural operation. Tier II requires that these concerns be met on the entire agricultural operation.[304]

The eligibility criteria for Tier III are far more onerous than the criteria for Tiers I and II. Under Tier III, the producer must demonstrate that he or she has satisfied all existing resource concerns and considerations as set forth in the local NRCS Field Office Technical Guide (FOTG).[305] The FOTG is the "official local NRCS source of resource information and the interpretations of guidelines, criteria, and standards for planning and applying conservation treatments and conservation management systems."[306] The FOTG sets forth detailed information regarding conservation of resources such as water and soil applicable to the locale for which the FOTG was prepared.[307]

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302. That these requirements must be met prior to acceptance is unique to CSP. Other major USDA conservation programs, such as the Conservation Reserve Program, require producers' performance or nonperformance of certain activities after program enrollment. *See also* NATURAL RESOURCE CONSERVATION SERVICE, *NRCS Conservation Programs*, *at* http://www.nrcs.usda.gov/programs/ (last visited Mar. 27, 2007).

303. 7 C.F.R. §§ 1469.5(e)(1)(i)-(ii), (e)(2)(i)-(iii).

304. *See id.* An "agricultural operation" is "all agricultural land and other lands . . ., whether contiguous or noncontiguous, under the control of the participant and constituting a cohesive management unit, that is operated with equipment, labor, accounting system, and management that is substantially separate from any other. The minimum size of an agricultural operation is a field." *Id.* at § 1469.3 (defining "agricultural operation). A "field" is "a part of an agricultural operation which is separated from the balance of the agricultural operation by permanent boundaries, such as fences, permanent waterways, woodlands, and crop lines in cases where farming practices make it probable that such cropline is not subject to change, or other similar features."). *Id.* A "field" is eligible for Tier I but not Tier II or Tier III. *Id.* at § 1469.5.

305. *See* 7 C.F.R. § 1469.5(e)(iii). *See also* 7 C.F.R. §§ 1469.5(e)(4)(A)-(C), (e)(5) for exceptions to the Tier III requirements which are not discussed in this article.

306. *Id.* § 1469.3 (defining "Field Office Technical Guide"). FOTGs can be obtained online at http://www.nrcs.usda.gov/technical/efotg (last visited Mar. 27, 2007).

307. *See supra* note 299.

N. Financial Incentives

Producers can receive four types of payments under CSP: stewardship component payments, existing practice payments, new practice payments, and enhancement payments.[308] Stewardship component payments, existing practice payments, and enhancement payments are annual payments. The amount of payments available to producers increase as the amount of conservation practices undertaken and maintained by the producers increase.

Stewardship component payments are the base payment portion for CSP and attach to conservation practices that the producer undertakes prior to acceptance in the CSP.[309] The NRCS establishes the amount of stewardship payments in accordance with a three-part process. First, the land sought to be enrolled is divided into land use categories "such as irrigated and non-irrigated cropland, irrigated and non-irrigated pasture, pastured cropland and range land . . . ."[310] Second, the NRCS determines an appropriate payment rate for each category in accordance with a regulatory-prescribed methodology that centers upon an historical average of land rental rates.[311] The stewardship payment rate equals the product of the number of acres enrolled in each land use category, the corresponding NRCS-established payment rate for the applicable acreage, and a tier-specific percentage.[312] The tier-specific percentages for Tier I, II, and III are five, ten, and fifteen percent, respectively.[313]

Existing practice payments compensate producers for maintaining conservation practices that were implemented prior to acceptance in the program.[314] The payment rate is calculated as a percentage of the stewardship component payment, which currently is twenty five percent of the stewardship payment.[315] There are some restrictions to the use of existing practice payments in that they

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308. *See generally* 7 C.F.R. § 1469.23.
309. *See id.* § 1469.23(a).
310. *See id.*
311. *See id.*
312. *See id.*
313. *See* 7 C.F.R. § 1469.23(a).
314. *See id.* § 1469.23(b).
315. USDA, NATURAL RES. CONSERVATION SERV., *Conservation Security Program, Program Description, Farm Bill 2002* (October 2005), *available at* http://www.nrcs.usda.gov/programs/farmbill/2002/pdf/CSP_PrDes100605.pdfn (last visited Mar. 27, 2007). *See also* 70 Fed. Reg. 15277, 15279 (announcing 2006 CSP sign-up announcement and describing amount allowed for CSP payments, including existing practice payments).

cannot be available for maintenance of equipment or for maintenance activities typically undertaken in agricultural operations.[316]

New practice payments are available if a producer's conservation stewardship contract requires the producer "to implement a new structural, vegetative, or management practice."[317] The payment rate is a percentage of the cost to implement the new practice, not to exceed fifty percent of the total cost of implementation.[318] New practice payments are not available for "[c]onstruction or maintenance of animal waste storage or treatment facilities or associated waste transport or transfer devices for animal feeding operations," purchasing or maintaining equipment, or for any land-based structure that is not necessary to implementing a land-based practice in the producer's operation.[319]

In addition to stewardship, existing, and new practice payments, eligible producers may receive enhancement payments if his or her conservation stewardship plan demonstrates that the plan's activities, if implemented, "will increase conservation performance including activities related to energy management . . . ."[320] The CSP enumerates the following types of activities a producer can undertake to which enhancement payments may attach, each of which is potentially applicable to issue of nutrient runoff from animal wastes in the IRW and other watersheds throughout the United States:

- Improvement of a significant resource concern, such as water or soil quality, to a condition that exceeds the requirements for the applicable tier of the producer's program participation and contract requirements;

- Improvement of a "local resource concern based on local priorities" that is in addition to water quality and soil quality;[321]

- Participation in a NRCS-approved on-farm conservation research, demonstration, or pilot project;

- Participation in "watershed or regional resource conservation plans"[322] involving a minimum of seventy five percent of the producers located in the targeted area; or

316. 7 C.F.R. § 1469.23(b).
317. *Id.* § 1469.23(c).
318. *See id.* § 1469.23(e)(5).
319. *See id.* 1469.23(h)(3). Cost share funds may be available for these activities, particularly construction or maintenance of animal waste storage facilities, through other USDA conservation programs. The funds could also be part of a state's CWA best management plan and, therefore, potentially capable of receiving federal dollars authorized through the CWA.
320. *Id.* § 1469.23(d).
321. An example would be addressing water quality and animal habitat.

· Implementation of evaluation and assessment activities relating to practices included in the conservation stewardship plan.[323]

Enhancement payments are determined "based on a given activity's cost or expected net conservation benefits" that exceed the minimum criteria.[324] The payment amount is set at an amount and at a rate necessary to encourage a participant to perform or continue a management practice or measure, resource assessment and evaluation project, that would not otherwise be initiated without government assistance.[325]

The amount the producer may receive for each the four types of payments increases with each successive tier. A producer may annually receive no more than $20,000, $35,000, or $45,000 for enrollment in Tier I, II, and III, respectively.[326] Currently, stewardship component payments are limited at $5,000, $10,500, and $13,500 for Tier I, II, and III, respectively.[327] The NRCS allows for new practice and enhancement payments to increase once the producer applies and maintains additional conservation practices and activities set forth in the conservation stewardship plan.[328]

O. Conservation practices and activities

The NRCS determines the conservation practices and activities with which producers must comply in order to enroll in the CSP. In addition, the NRCS determines the payments and payment rates applicable to those practices and activities.

In its annual sign-up notice, the NRCS provides a list of "structural practices" and "land management practices" eligible for each of the four types of CSP payments.[329] A "structural practice" is "a land-based conservation practice, including vegetative practices, that

322. *See id.* § 1469.3 (defining "watershed or regional resource conservation plan") ("Watershed or regional resource conservation plan means a plan developed for a watershed or other geographical area defined by the stakeholders. The plan addresses identified resource problems, contains alternative solutions that meet stakeholder objectives for each resource, and addresses applicable laws and regulations as defined in the NRCS National Planning Procedures Handbook.").
323. *See* 7 C.F.R. § 1469.23(d).
324. *Id.*
325. *Id.*
326. *See id.* § 1469.23(e).
327. *See id.*
328. *See* 7 C.F.R. § 1469.23(f).
329. *See id.* § 1469.8 (setting forth guidelines for establishment of conservation practices and activities).

involves establishing, constructing, or installing a site-specific measure to conserve, protect from degradation, or improve soil, water, air, or related natural resources in the most cost-effective manner."[330] A "land management practice" is "a conservation practice[] that primarily use[s] site-specific management techniques and methods to conserve, protect from degradation, or improve soil, water, air, or related natural resources in the most cost-effective manner."[331]

The NRCS selects the structural practices, land management practices, and corresponding payments available to producers throughout the United States in light of seven factors. These factors are the financial cost and potential conservation benefits of the practices; the degree to which the practices address significant resource concerns; the number of resource concerns addressed by the practice; the "locally available technology"; "new and emerging conservation technology"; capacity of the practice to address a particular resource concern based on site-specific conditions; and necessity of cost-share assistance for practices and activities to assist producers in achieving "higher management intensity levels or to advance in tiers of eligibility."[332] The NRCS may also identify interim conservation practice standards and corresponding payments "for pilot work to evaluate and assess the performance, efficacy, and effectiveness of the technology or conservation practices" if there are new technologies or practices that demonstrate significant potential for optimizing environmental benefits.[333] In addition to the practices and payments applicable nationwide, the CSP authorizes the NRCS to designate additional practices and payments that are needed to address resource conditions unique to a state or region.[334]

P. Contract requirements

A producer formally enrolls in the CSP by entering into a conservation stewardship contract that incorporates the applicable conservation practices the producer must implement and maintain

330. *Id.* § 1469.3 (defining "structural practice"). Examples of structural practices include terraces, grassed waterways, critical area plantings, and tree planting. *See id.*
331. 7 C.F.R. § 1469.3 (2006) (defining "land management practice"). Examples of land management practices include nutrient management, manure management, resource conserving crop rotations, and wildlife habitat management. *See id.*
332. *Id.* § 1469.8(a).
333. *See id.* § 1469.8(e).
334. *See id.* § 1469.8(f).

through the duration of the contract.[335] A conservation stewardship contract for Tier I lasts for five years and five to ten years for Tiers II and III.[336] The producer must supply written records and other information required to demonstrate compliance with CSP and conservation stewardship contract requirements.[337] NRCS is authorized to inspect the producer's property to ensure that conservation practices are implemented as required and to determine whether the practice is accomplishing its intended objectives.[338] If NRCS discovers that an existing practice meets "quality criteria" but does not technically satisfy NRCS minimum practice standards, that practice must be modified to meet the NRCS minimum practice standards.[339]

Q. Possible CSP modifications

The CSP could be modified in a number of ways to address agricultural nonpoint source pollution, specifically nutrient runoff from poultry litter and other animal waste produced in the course of modern animal agricultural production.[340]

One possibility is to recognize the agronomic use of animal waste on agricultural lands located in the originating watershed as a conservation practice for which CSP payments are available. Under this scenario, NRCS would assess and periodically monitor on a farm-by-farm basis the soil on lands owned or managed by participating producers. The science and technology-based assessment would calculate the agronomic capacity of the soils with respect to

335. *See* 7 C.F.R. §§ 1469.20-.22 (2006). *See also id.* 1469.3 (defining "conservation stewardship contract").
336. *See id.* § 1469.21(e)(2).
337. *See id.* § 1496.21(e)(3)(IV).
338. *See id.* § 1469.22(d).
339. *Id.*
340. This article focuses on possible modifications of CSP rather than application of CSP in its current form. The ways that CSP could be applied in its current regulatory structure to address nonpoint source pollution in the form of nutrient runoff from animal waste in the IRW and throughout the United States seem limitless. The most simple and basic approach would be to rapidly expand the number of watersheds in the United States eligible for CSP enrollment and in so doing include the IRW in the expansion. Another possibility includes the creation of a "watershed or regional resource conservation plans" within the IRW and other watersheds so that enhancement payments, along with other financial incentives, could be used as an incentive for producers to undertake extensive conservation practices regarding animal waste disposal. CSP could also be used to provide producers in the IRW and other parts of the United States to participate in an NRCS-approved on-farm conservation project such as experimenting with technology to convert poultry litter into an energy source.

problem nutrients and, therefore, the amount of animal waste that could be applied to those lands as well as the frequency with which the waste could be applied. The assessment would be part of the producer's benchmark condition inventory for enrollment consideration and incorporated into the producer's conservation stewardship contract. A producer who complied with the "agronomic use" requirements of the conservation stewardship contract would receive the CSP payments and, therefore, have a financial incentive apply animal wastes to land only to the extent that the land has an agronomic capacity for that waste.

By limiting the land application of wastes to the agronomic capacity of that land on a farm-by-farm basis, the amount of nutrients applied to lands in the watershed would be reduced. The reduction in nutrient amounts would by definition translate into a reduction in the amount of nutrients that could embed in soils and runoff into nearby waterways. In addition, by remaining within the agronomic boundaries of each farm, one can assume that a high percentage of nutrients that are actually applied to lands in the watershed would be absorbed by growing crops and plants and, therefore, be less available to embed in soils and runoff into nearby waterways.

This approach, however, does not address the problem of disposing of wastes that cannot be agronomically applied to lands within the originating watershed.[341] One option would be to physically remove the waste from the originating watershed in order to eliminate the possibility that the wastes' nutrients could embed in soils and runoff into waterways in the originating watershed. However, the costs associated with transporting the waste are a major impediment to physically removing the waste out of the originating watershed.[342]

The CSP could help resolve this problem by recognizing the agronomic use of animal waste as fertilizer on agricultural lands *outside* the originating watershed as a conservation practice for which CSP payments are available. Under this scenario, a producer outside the originating watershed would be eligible for CSP payments at a rate

341. The basic options would be to use the waste within the watershed in a manner that does not involve land application or to physically remove the litter from the watershed to another region or watershed.

342. A legal ruling that poultry litter constituted a hazardous substance under CERCLA would, presumably, make it more difficult to remove wastes to areas outside the originating watershed. Individuals, officials, and others in the area to where the waste would be removed would likely be apprehensive about receiving material deemed to be a hazardous substance in a prior legal ruling under CERCLA.

that encouraged the producer's purchase and use of animal waste as a fertilizer on his or her farming operation.

The examples discussed in the preceding paragraphs are but two general possibilities regarding how the CSP framework could be used to address agricultural nonpoint source pollution such as nutrient runoff from poultry litter and other animal wastes in both the IRW and other watersheds. More elaborate speculation about possible uses of the CSP framework is outside the scope of this article. One other possibility, however, is introduced: the "Conservation Security Program Watershed Trust Fund" (CSP Trust Fund).

R. The Conservation Security Program Watershed Trust Fund

The CSP Trust Fund is a concept that links two previously used, but unrelated policy tools: the trust fund that was initially a part of the CERCLA with the CSP framework. In short, the CSP Trust Fund envisions the imposition of a tax on the appropriate agricultural actors that operate in a specific government-recognized watershed, the funds from which would be placed into a trust fund applicable only to that specific watershed. The monies in the trust fund would be devoted to addressing agricultural nonpoint source pollution in the specific watershed through implementation of the CSP regulatory framework. The trust fund could be supplemented by general tax revenues.

The concept of imposing a tax on industrial actors to help pay for the cleanup of polluted waste sites is not new. In fact, the CERCLA Superfund was originally funded by an excise tax imposed on the chemical and petroleum industries.[343] "Over five years, $1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites."[344] Because the excise tax was terminated in 1995, the CERCLA cleanup costs have increasingly been derived from general tax revenues in recent years.

Funding is a major impediment to comprehensively expanding the CSP both geographically and in terms of providing additional funding for additional conservation practices. The importance of this issue is magnified by the sheer size of the current federal budget deficit.[345] Thus, while the CSP is a popular program with agricultural

343. *See supra* note 110.

344. *See supra* note 110.

345. It is a commonly accepted fact that the historic size of the federal deficit will have a dramatic impact on Congressional debate regarding all types of federal pol-

producers, increases in its funding levels and, therefore, its scope will continue to be difficult to obtain and maintain. The CSP Trust Fund provides a means to rapidly expand the CSP in the short-term and to comprehensively target agricultural nonpoint source pollution in the long-term in the IRW and other watersheds throughout the United States. It may also provide a means for addressing agricultural nonpoint source pollution to such an extent that it severely inhibits or perhaps even eliminates the use of litigation, including CERCLA-based litigation such as *State of Oklahoma*, to address concerns regarding the alleged impacts of animal waste on water quality.

In the IRW, the CSP Trust Fund would operate as follows. The CSP would be made available to producers in the IRW, and an excise tax (or other financial contribution) would be collected from the appropriate agricultural actors that operate in the IRW, such as the defendants in *State of Oklahoma*. The funds from the tax would be placed in a trust fund, i.e., the Illinois River Watershed Trust Fund, along with any amount supplied from general tax revenues. The monies in the trust fund would then be used to address through CSP the concerns over the impact that nutrient runoff from poultry litter has on soils and waterways located in the IRW.

The trust fund could be supervised by the Environmental Protection Agency, the Natural Resources Conservation Service, or another appropriate entity. In exchange for contributing to the fund, a moratorium on legal actions brought against the contributors could be instituted so that all sides could coordinate efforts to improve water quality without concerns over the success or failure of ongoing or threatened litigation.

S. Policy environment

Domestic and international policy pressures suggest that a fundamental and historically significant restructuring of the overall direction of federal agricultural policy could occur within the next few years. The primary domestic pressures are the federal budget deficit and the scheduled expiration of most of the provisions in the Farm Security and Rural Investment of 2002,[346] commonly referred to as

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icy and spending measures, including agricultural policy. Thus, the impact of the federal budget deficit is not discussed at length in this article.

346. Farm Security and Rural Investment Act of 2002, Pub. L. No. 107-171, 116 Stat. 134 (codified as amended in scattered sections 7, 15, 16, and 21 U.S.C.) (Supp.IV 2004).

the 2002 Farm Bill. The primary international pressure is the perception that U.S. agricultural policy should become more market-oriented in order to comply with current and future World Trade Organization (WTO) commitments.[347] The pressure exerted by the WTO is likely the most influential pressure because it could trigger significant changes irrespective of whether there existed a federal budget surplus or deficit or whether the 2002 Farm Bill was terminated or extended beyond its prescribed expiration date.[348]

These domestic and international pressures could facilitate a dramatic transition from long-standing federal agricultural subsidization programs to the adoption of more market-oriented policies that tie the provision of financial support by the federal government to producers' performance of environmentally conscience agricultural practices. The CSP is the prime policy vehicle for such a transition. The discussion below focuses on the pressures exerted by the scheduled expiration of the 2002 Farm Bill and the WTO.[349]

T. Background

Since 1933, Congress has provided various forms of price and income support payments, commonly referred to as farm commodity programs or farm subsidies, to U.S. producers of specified agricultural commodities.[350] Currently, price and income supports are

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347. The federal budget deficit currently stands at over $8.8 trillion. *See* U.S. DEP'T OF THE TREASURY, BUREAU OF PUBLIC DEBT, *The Debt to the Penny*, http://www.treasurydirect.gov/NP/BPDLogin?application=np (last visited Mar. 27, 2007) (providing daily update on amount of federal budget deficit). That the deficit will have a significant impact on farm policy debate, indeed all policy debate, for the foreseeable future is well-documented and undisputed. Consequently, the impact that it will have on farm policy debate is not elaborated upon in this article. *See generally* JIM MONKE, CONG. RES. SERV., THE FY2006 BUDGET REQUEST FOR THE U.S. DEPARTMENT OF AGRICULTURE (USDA), (Mar. 2005), *available at* http://www.nationalaglawcenter.org/assets/crs/RS22071.pdf (last visited Mar. 27, 2007); JIM MONKE, CONG. RES. SERV., AGRICULTURE AND RELATED AGENCIES: FY2006 APPROPRIATIONS,(Jan. 2006), *available at* http://www.nationalaglawcenter.org/assets/crs/RL32904.pdf (last visited Mar. 27, 2007).

348. There are other factors that will influence the debate over future farm policy. *See generally*, JIM MONKE, CONG. RES. SERV., FARM COMMODITY PROGRAMS: PROGRAMS AND ISSUES FOR CONGRESS, (Mar. 2007), *available at* http://www.nationalaglawcenter.org/assets/crs/RS21999.pdf (last visited Mar. 27, 2007); *see also* Christopher R. Kelley, *Rethinking the Equities of Federal Farm Programs*, 14 N. ILL. U. L. REV. 659 (1994).

349. *See supra* note 319.

350. *See generally*, GEOFFREY S. BECKER, CONG. RES. SERV., FARM COMMODITY LEGISLATION: CHRONOLOGY, 1933-2002,(May 2002), *available at*

available to producers of nearly two dozen commodities, including cotton, rice, corn, and soybeans. However, they are not available to producers of cattle, hogs, poultry, and other livestock. Despite being roundly criticized for decades, the programs have been the most important component of overall U.S. farm policy, representing "the heart of U.S. farm policy, by virtue of their long history and cost."[351]

While the foundation of modern farm commodity programs was laid in the Agricultural Adjustment Act of 1933, the legislative authority for commodity programs derive from the Agricultural Adjustment Act of 1938, the Commodity Credit Corporation Charter Act of 1948, and the Agricultural Act of 1949.[352] Congress has amended these three laws a number of times, typically every four to seven years, through federal omnibus legislation commonly known as "farm bills."[353] Each farm bill contains multiple titles, covering areas such as finance and credit, forestry, conservation programs, and farm commodity programs.

As noted, the most current farm bill is the 2002 Farm Bill and most of its provisions—including the farm commodity program provisions—are set to expire in 2007. The impending expiration of the 2002 Farm Bill helps accelerate an already intense debate over the role that farm commodity programs should play in U.S. agricultural policy. In turn, the acceleration of this debate will trigger a serious review of the overall direction of U.S. agricultural policy, specifically including the role that market-oriented conservation programs such as the CSP could play in providing WTO-compliant financial support to eligible agricultural producers.[354] Any proposals—whether they be to maintain or modify the status quo with respect to farm programs—will be strictly scrutinized in the light of concerns over the federal deficit and the U.S. WTO commitments.

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http://www.nationalaglawcenter.org/assets/crs/96-900.pdf (last visited Mar. 27, 2007). *See* THE NATIONAL AGRICULTURAL LAW CENTER, *Congressional Research Service Reports: Commodities and Programs*, http://www.nationalaglawcenter.org/crs/index.phtml#commodities (last visited Mar. 27, 2007).

351. GEOFFREY S. BECKER, CONG. RES. SERV., FARM COMMODITY PROGRAMS: A SHORT PRIMER, at 1 (Feb. 2005), *available at* http://www.nationalaglawcenter.org/assets/crs/RS20848.pdf (last visited Mar. 27, 2007).

352. Agricultural Adjustment Act of 1933, Pub. L. No. 73-10, 48 Stat. 31 (1933); Commodity Credit Corporation Charter Act of 1948, Pub. L. No. 80 897, 62 Stat. 1247 (1948); Agricultural Act of 1949, Pub. L. No. 81 439, 63 Stat. 1051 (1949).

353. CULVER, *supra* note 2 (defining "farm bill").

354. *See generally*, JASPER WOMACH, CONG. RES. SERV., PREVIEWING A 2007 FARM BILL, (Jan. 2007), *available at* http://www.nationalaglawcenter.org/assets/crs/RL33037.pdf (last visited Mar. 27, 2007).

U. World Trade Organization

Although its roots are found in the post-World War II era, the WTO was established on January 1, 1995, as a result of the Uruguay Round of Multilateral Trade Negotiations (hereinafter Uruguay Round), which lasted from 1984 to 1994.[355] The WTO is the legal and institutional foundation of the worldwide trading system and provides the contractual obligations that guide the governments of its nearly 150 member nations in implementing trade policy.[356] It is "the only global international organization dealing with the rules of trade between nations."[357] "At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations and ratified in their parliaments."[358] The basic goal of the WTO is to liberalize trade, including agricultural trade, among nations through development of uniform rules agreed to by member nations.

The Uruguay Round was a major development in the area of international trade and was especially important for agriculture because it fundamentally altered the manner in which countries' agricultural policies are treated under international trade rules. The WTO trade rules applicable to agriculture were set out in the Agreement on Agriculture (hereinafter Agreement), which committed member nations to reduce agricultural support and protection with respect to domestic support such as U.S. farm commodity programs.[359] An underlying premise of the Uruguay Round was that domestic support and international trade policies were inextricably linked on the grounds that "policies that supported domestic prices or subsidized production tended to encourage over-production[,] . . . [which] in turn squeezed out imports or led to either export subsidies or low-priced dumping on world markets."[360]

Under the Agreement, member nations agreed to reduce the amount of domestic support considered to be the most trade distorting. Domestic support considered to be at most only minimally

355. The predecessor to the WTO was the General Agreement on Tariffs and Trade (GATT). The GATT provided international trade rules commonly relied upon by various nations from 1948 to 1994.

356. CULVER, *supra* note 24.

357. World Trade Organization, *What is the WTO?*, http://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm (last visited Mar. 27, 2007).

358. *Id.*

359. This article focuses on the Agreement's relationship to domestic support.

360. RANDY SCHNEPF, CONG. RES. SERV., AGRICULTURE IN THE WTO: POLICY COMMITMENTS MADE UNDER THE AGREEMENT ON AGRICULTURE, at 7, (May 2005), *available at* http://www.nationalaglawcenter.org/assets/crs/RL32916.pdf (last visited Mar. 27. 2007).

trade distorting was exempted from the reduction requirements. The types of domestic support payments subject to the Agreement are commonly categorized into three "boxes," amber box, green box, and blue box payments.[361] The amber box and green box categories are the most relevant to the focus of this article.

Amber box payments are payments believed to directly influence production decisions and, therefore, to be the most trade distorting type of domestic support payments. The Agreement requires amber box payments to be reduced in accordance with the nation-specific terms and calculations set forth in the Agreement.[362] Current U.S. farm commodity programs are widely believed to be amber box payments and subject to reductions required by the Agreement. In addition, many believe that some or all current U.S. farm commodity programs violate or may in the future violate domestic support restrictions set forth in the Agreement.[363] Consequently, the capacity of the programs to remain WTO-compliant is suspect.

Blue box payments are domestic support payments that would be considered amber box payments but for the requirement that the producer receiving the payment also limits his or her level of production. Blue box payments are not subject to reduction requirements under the Agreement.

Green box payments are payments that are considered to be non-trade distorting or at most only minimally trade-distorting because they do not influence production decisions. Green box payments are not subject to reduction limits set forth in the Agreement. Thus, WTO member nations can provide virtually an unlimited amount of domestic support considered to be green box payments to their respective producers and not run afoul of WTO rules. Importantly, green box payments can take various forms, including conservation and environment activities such as those provided by the CSP.

The combination of the federal budget deficit, scheduled expiration of the 2002 Farm Bill, and the WTO combine to exert significant pressure on the debate over the future of U.S. agricultural pol-

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361. World Trade Organization, *Agriculture: Fairer Markets for Farmers*, http://www.wto.org.english/thewto_e/whatis_e/tif_e/agrm3_e.htm (last visited Mar. 27, 2007).

362. *Id.*

363. A full discussion of this notion is outside the scope of this article. See generally RANDY SCHNEPF, CONG. RES. SERV., U.S. AGRICULTURAL POLICY RESPONSE TO WTO COTTON DECISION, (Sept. 2006), *available at* http://www.nationalaglaw center.org/assets/crs/RS22187.pdf (last visited Mar. 27. 2007).

icy with respect to the role that farm commodity programs and market-oriented "green box" payment programs such as CSP should play. Thus, the policy environment over the next few years is conducive to considering a significantly expanded role for CSP and its application to the issue of nonpoint source pollution from agriculture, specifically including nutrient runoff from poultry litter and other animal wastes throughout the United States and in the IRW.

IV. CONCLUSION

The complex factual, historical, legal, policy, and scientific context in which *State of Oklahoma* arises and the national significance of the issues involved in that case were foretold by Professor N. William Hines more than three decades ago in his article, *Agriculture: The Unseen Foe in the War on Pollution*. Consider the following passage from that article, which was written two years prior to enactment of the Clean Water Act:

> Agricultural wastes receive practically no attention under the new [water quality] standards. Nearly all regulatory efforts are directed at municipal and industrial wastes, and agricultural pollution is regarded as primarily a research concern. There may be some justification for this position, since agricultural pollutants, which do not emanate from point sources, are not generally susceptible to conventional pollution control techniques. The need to identify, control, and prevent agricultural pollution, however, cannot be overemphasized. Commercial agriculture daily engages in practices having enormous water quality ramifications; in many parts of the country agricultural pollutants could, if unchecked, cancel gains achieved through municipal and industrial clean-ups. Taken together, the four major sources of agricultural pollution– *animal wastes*, chemicals, sediment, and salt– constitute a serious threat to the nation's ability to meet the timetables currently being created for compliance with the new water quality standards. . . .
>
> Steady increases in per capita meat consumption and continued population growth have caused agricultural technology to seek more efficient methods for producing meat animals. The result is the modern confinement feeding operation, in which large numbers of animals are scientifically fed and managed in tightly restricted quarters. Current estimates project continued rapid expansion of confinement feeding operations. . . .
>
> Unfortunately, waste management technology has not kept pace with improved-efficiency feeding operations. . . . In yesterday's small feedlot operation, manure was a valuable by-product used to fertilize the land that produced crops that fed the next generation of animals. . . . [B]ut the economic value of waste as fertilizer is increasingly insufficient to sustain its use or sale. . . . Thus[,] a once-valuable production input has become a nonproductive cost item, and in the process a waste disposal problem of immense dimensions has been created. . . .

> [W]astes pose[] . . . a variety of pollution threats to water, the three most important of which are oxygen depletion, pathogenic bacteria, *and increased nutrient content*. . . . A heavy rain washing the surface of a feedlot and draining into a nearby stream can cause severe oxygen depletion for miles downstream. . . .
>
> Animal wastes perform the same nutritional function for aquatic organisms as they do for field crops; thus feedlot runoffs are suspected to be a prominent cause of the high levels of nitrogen and phosphorus that support flourishing algae populations. The nitrate content of concentrated animal wastes is so high that nitrate poisoning of both surface and underground water supplies is an additional public health threat. . . .
>
> The force of law has not been brought to bear on agriculture as it has on other major sources of water pollution. Agricultural pollution has thus far been ignored because it is less visible and more difficult to correct than is pollution from municipalities and industry. Currently, only those types of agricultural pollution that are obvious and subject to effective direct control receive regulatory attention. . . .
>
> Public regulation of agricultural pollution will take three primary forms: (1) increased controls on point sources where on-site treatment is feasible, (2) direct restrictions on the use of chemical inputs to agricultural production, and (3) regulation of land use patterns and practices. . . .*The ideal construct might involve the employment of land use controls by a comprehensive watershed management authority*.[364]

Since publication of this passage in 1970, the animal agriculture industry has undergone dramatic structural changes. The number of hog farms has decreased from over 750,000 to approximately 80,000. Dairy farms have decreased from approximately 650,000 to approximately 80,000. The number of cattle feedlots has decreased significantly since 1970, with a decline from 190,000 to 110,000 from 1987 to 1997 alone. The poultry industry has undergone similar structural shifts as well. The level of production in the hog, dairy, cattle, and poultry sectors has not decreased during these structural changes.

Despite these dramatic changes and their connection to water quality, the Clean Water Act's nonpoint source pollution provisions have remained fundamentally unchanged. In addition, many believe that the provisions are an ineffective means for addressing nonpoint source pollution concerns, particularly nutrient runoff from animal waste. If an individual perceives the CWA nonpoint source provisions to be inadequate to address these concerns, to what legal or policy mechanism can or should that individual term to address its concerns? *State of Oklahoma* indicates that many may choose to liti-

364. N. William Hines, *Agriculture: The Unseen Foe in the War on Pollution*, 55 CORNELL L. REV. 740, 740-60 (1970) (citations omitted) (emphasis added).

gate on federal and state grounds and that the Comprehensive Environmental Response, Compensation, and Liability Act may become the weapon of choice.

As noted, CERCLA-based litigation may have its limitations and may not be the most effective means for addressing concerns over the quality of the nation's waters. For instance, what if the plaintiffs in *State of Oklahoma* do not prevail? To what legal or policy tools could they then turn to address their concerns?

The enactment of the CWA in 1972 consummated Congress' view that the Federal Water Pollution Control Act of 1948 did not adequately address concerns over the quality of the nation's waters. Likewise, the emergence of CERCLA-based litigation such as *State of Oklahoma* and *City of Tulsa* consummates the view held by many that the CWA does not adequately address concerns over the impact that nutrient runoff from animal waste can have on water quality.

Perhaps neither the CWA nor litigation, particularly CERCLA-based litigation, holds the answer for how to address nonpoint source pollution in the form of nutrient runoff from animal waste. One alternative is to use the Conservation Security Program framework to develop a voluntary, science and technology-driven regulatory regime that could have a lasting impact on significant resource concerns such as water, soil, air, energy, and plant and animal life on agricultural lands in the Illinois River Watershed and throughout the United States. Such an approach would allow for the application of modern science and technology as well as the adaptation of new scientific and technological developments in the years ahead.

In addition, agricultural actors in a watershed could accelerate implementation of the CSP in their respective watershed through voluntary participation in the Conservation Security Program Watershed Trust Fund, which would comprehensively address agricultural pollution issues specific to that watershed. A *quid pro quo* for participation in the trust fund could be the institution of a moratorium on litigation that could be brought against the agricultural actors that contributed to the watershed trust fund. Of course, these options are available at a historically significant time as Congress considers a new farm bill that is heavily influenced by the impact of globalization and forces of international trade.

Regardless of the legal or policy approach taken in the years ahead, concerns over the impact that nonpoint source pollution, including nutrient runoff from animal waste, will not disappear. The structure of the animal agriculture industry is extremely unlikely to fundamentally change. The connection between the impact that these structural changes can have on the environment will

continue, just as they have since the 1970 publication of *Agriculture: The Unseen Foe in the War on Pollution*. Thus, the question is not *whether* society will address these concerns but *how* will these concerns will be addressed. Unless a different approach is developed, the likely vehicle will be CERCLA-focused litigation such as *State of Oklahoma* and *City of Tulsa*.

In 1972, Congress wisely charted a new course in the never-ending debate over how to protect and improve the quality of the nation's waters. In so doing, Congress ensured that the quality of the nation's waters would improve dramatically in the decades ahead. Today, Congress faces a new crossroads over how best to protect and improve the quality of the nation's waters as it relates to nonpoint source pollution. The decision, or lack thereof, that Congress makes at this juncture will almost certainly determine whether the quality of the nation's waters will improve over the coming decades. Hopefully, Congress and others will approach this complex problem in light of the following passage: "This time, like all times, is a very good one, if we but know what to do with it."