Date: September 20, 2015

To : Environmental Protection Agency
Office of Water 410M
Re: Rulemaking Petition
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Petitioner: Erika Brotzman
Concerned citizen & J.D. Candidate 2016 | University of Colorado Law School
Date:

PETITION TO THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Re: Rulemaking Petition[1] to lower the threshold that qualifies animal feeding operations ("AFOs") as concentrated animal feeding operations ("CAFOs") and thereby "point sources" under § 402 of the Clean Water Act ("CWA").

This is a petition for the Administrator of the U.S. Environmental Protection Agency ("EPA") for a rulemaking under 33 U.S.C. § 1316(1)(A)[2] to expand coverage over the number of AFOs that qualify as CAFOs under 40 C.F.R. § 122.23(b)(6)(i) and thereby are regulated as "point sources." A federally promulgated expansion of the number of AFOs regulated is necessary to protect our Nation's waters and meet the requirements of the CWA.

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[1] 5 U.S.C. § § 553(b) and (e) of the Administrative Procedural Act requires agencies to "give an interested person the right to petition for the issuance ... of a rule," and requires the agency to respond promptly and provide a statement of the grounds if it decides to deny the petition. *See generally Telecommunications Research & Action Ctr. v. F.C.C.*, 750 F.2d 70 (D.C. Cir. 1984)750 F. 2d 70 (D. C.Cir. 1984) (setting out standards for agency handling of petitions for rulemaking, known as *TRAC* standards) (George C. Coggins, Charles F. Wilkinson, John D. Leshy, and Robert L. Fishman, FEDERAL PUBLIC LAND AND RESOURCES LAW, 224 7th ed. (2014).

[2] 33 U.S.C.A. § 1316 (1)(A) Water Pollution Prevention and Control, National Standards of Performance ("The Administrator shall, within ninety days after October 18, 1972, publish (*and from time to time thereafter shall revise*) a list of categories of sources, which shall, at the minimum, include... feedlots." (emphasis added) referring to sources that are point sources and thereby regulated under the CWA's NPDES permitting program).

The Petitioner is a concerned citizen and student at Colorado Law whose recreational and aesthetic interests related to waters in the state of Colorado and in her home-state of Hawaii are severely and adversely impacted by the lack of stringent federal standards for animal feeding operations.[3]

Due to an inadequate nonpoint source pollution control regime under the CWA, AFOs continue to cause dramatic adverse effects on waterways nationwide. Documented and scientifically based solutions exist, including mandatory monitoring of nutrient management plans and adaptive waste management alternatives, with which to address this water quality problem. Indeed, given its current rules, EPA obviously recognizes the importance of regulating some types of AFOs. However, as this petition suggests, the current rules simply do not go far enough.

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[3] A large contingent of the petitioner's family lives in Hilo, on the Big Island of Hawaii. The beaches and ocean are a strong part of Hawaiian tradition and culture. One of the Clean Water Act's original goals was to make water "fishable and swimmable" by 1983. Honoli'i is a locals' beach in Hilo, Hawaii. Due to the topography and consistently reliable tidal activity, Honoli'i is the safest and most popular recreational beach for families and surfers to recreate, swim, and surf in the Hilo area – but only when the water is clear. In 1989, it was reported to contain a health-threatening concentration of pollutants (citing Stephen Skipper, *A Study of the Prevalence and Dispersal Patterns of Sewage Pollution at the Honolii Surfing Area, Hilo Hawaii*, 1 (Summer, 1989) http://scholarspace.manoa.hawaii.edu/bitstream/handle/10125/23477/Skipper.pdf?sequence=). Today, Honoli'i is still plagued by pollution, continues to have chronic water quality problems, and is in top third of polluted beaches in the Hawaiian islands (citing NRDC, Testing the Waters 2014, *accessible at* http://www.nrdc.org/water/oceans/ttw/hi.asp). After any rainstorm, which is frequent in Hilo, pollutants from industry, agriculture, and sewage are washed to the bay. Reports indicate that people have developed serious illnesses and even died as a result of the polluted water in this bay. Honoli'i is the closest beach to the petitioner's family home in Hawaii, otherwise the next closest safe beach is over an hour's drive away. The petitioner and petitioner's family are directly affected by unregulated waters and continue to face health risks from the waters near their home. In December of 2013, the petitioner surfed at Honoli'i and luckily *only* caught a minor skin bacterial infection. The petitioner's niece and nephew are now at the age of learning to swim and surf and regularly go to this beach. These waters are identified on the Clean Water Act's (CWA) § 303(d) list as impaired, but along with the many exemptions allowed for stormwater, agriculture, and waste treatment systems, the most popular beach in Hilo remains a threat to health on a frequent basis.

This petition requests that the EPA amend the current regulations pertaining to CAFOs and AFOs in the following ways:

1. Expand the class of CAFOs by lowering the number of animals that qualify an AFO as a CAFO and are thereby subject to NPDES permitting requirements under current CAFO regulations;

2. Allow newly regulated CAFOs to apply for general permits and include this as a condition for avoiding more stringent individual permit requirements;

3. Tighten standards for nutrient management plans for CAFOs, including plan approval, water quality monitoring, enforcement procedures, and penalties for violations;

4. Regulate current waste management practices that directly contribute to polluted runoff, including a ratio capping the number of animals per available acreage of sprayfields;

5. Establish more effective engagement with the public; and
6. Increase transparency in information reporting.

The EPA has attempted to address the problems relating to inadequate regulations over CAFOs. The EPA has promulgated rules including regulations that would impose restrictions on CAFOs and their potential to discharge pollutants. The EPA has attempted to issue a reporting rule with which to gather data to aid in more effective regulation and engagement with the regulated community. But, the courts and regulated communities have not been receptive to these ideas. This petition shows why these rules are still urgently needed and that modest modifications to these rules will address the regulated communities' concerns evident in response to EPA's prior attempts.

SUMMARY

The CWA does not directly regulate nonpoint sources. Yet, based on current statistics, nonpoint source pollution is one of the greatest challenges for clean water protection.[4] Nonpoint source pollution from all sources, including agriculture, accounts for almost 75 percent of pollution in the nation's most polluted waters.[5] Nonpoint source pollution is the leading cause of surface water impairment according to recent state water quality assessment reports.[6] Agricultural stormwater runoff and a staggering number of AFOs are considered nonpoint sources and exempt from regulation under the CWA.

Animal feeding operations contribute to water pollution. As part of current agricultural practices, nitrogen and phosphorus are the primary nutrients that impair water quality. The use of commercial fertilizers and manure are the main sources contributing nitrogen and phosphorous nutrients to agricultural land.[7] According to data collected by the U.S. Geological Survey NAWQA program, nitrate concentrations are the highest and exceeded drinking water standards in agricultural areas. For example, animal manure affects the seriously impaired Chesapeake Bay watershed: contributing approximately 19 percent of the total nitrogen and 26 percent of the total phosphorus to the Bay.[8] By the end of the 20th Century, "[l]and use models identif[ied] agriculture as the leading source of nitrogen and phosphorus in the environment, accounting for 76 percent

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[4] John H. Davidson, *The Federal Farm Bill and the Environment*, Nat. Resources & Env't, 3 (Summer, 2003) (citing James M. Quigley, *Water Quality and Agriculture*, in AGRICULTURE AND THE QUALITY OF OUR ENVIRONMENT 134 (1967)).

[5] *Id*, at 3.

[6] Envtl. Prot. Agency, Water: Polluted Runoff (National Water Quality Inventory) http://www.epa.gov/owow_keep/nps/whatis.html (last visited Mar. 8, 2012) (http://water.epa.gov/polwaste/nps/agriculture.cfm) (States reported that nonpoint source pollution was the leading cause of water quality impact on lakes and rivers, second largest source of impairment to wetlands, and a major contributor to estuary and wetland water quality contamination); *see also* Envtl. Prot. Agency, Basic Information, Polluted Runoff (Nonpoint Source Pollution).

[7] Rena I. Steinzor and Yee Huang, *Manure in the Bay: A Report on Industrial Animal Agriculture in Maryland and Pennsylvania* (2012) http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2079716.

[8] *Id.*

and 56 percent, respectively."[9] Agriculture impacts 48% of impaired river miles and 41% of impaired lake acres.[10] Numerous studies indicate a causal relationship between agriculture, AFOs, and impaired waters.

The decline on an ecosystem's viability strongly indicates the suitability of that environment, including water, for safe and beneficial uses for the human population. Agriculture operations add ammonium, nitrates, nitrites, and phosphorous to watercourses affecting the downstream ambient water quality.[11] Overloading waters with nitrogen and phosphorous causes eutrophication, algae blooms, excessive salinity, sedimentation, and toxicity and can permanently alter ecosystems.[12] The large "hypoxic" zone in the Gulf of Mexico is caused by the heavy flow of nitrogen and other nutrients originating from agricultural activity.[13] Manure also contains pathogens, antibiotics, and other pollutants such as cleaning fluids, heavy metals, synthetic fertilizers, and pesticides. All of these pollutants pose a serious risk to human and environmental health.[14]

The Natural Resource Conservation Service within the Department of Agriculture provides research, technical, and financial assistance to improve management of runoff and

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[9] J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 Ecology L.Q. 263, 285 (2000) (citing James Stephen Carpenter, *Farm Chemicals, Soil Erosion, and Sustainable Agriculture*, 13 Stan. Envtl. L.J. 190, 201 (1994)).

[10] Envtl. Prot. Agency, *supra* note 6.

[11] Jan G. Laitos & Heidi Ruckriegle, *The Clean Water Act and the Challenge of Agricultural Pollution*, 37 Vt. L. Rev. 1033, 1033 (2013).

[12] *Id.*

[13] Davidson, *supra* note 4, at 3 ("The most dramatic physical evidence of this intense agricultural activity is the development of a large "hypoxic" zone in the Gulf of Mexico. An area of the Gulf sometimes equal in size to New Jersey becomes depleted of oxygen every year because of the heavy flow of nitrogen and other nutrients down the Mississippi River. The Gulf's so-called dead zone can only be corrected, according to some government reports, by reducing fertilizer use by 20 percent and restoring 5 million acres of wetlands.).

[14] Steinzor, *supra* note 8.

nonpoint sources.[15] Yet, due to the voluntary nature of the program and the lack of any enforcement provision, the effectiveness of this program remains debatable. A direct regulatory mechanism to control agriculture-based nonpoint source pollution is currently unavailable.[16] Massive quantities of water runoff released by farms – considered nonpoint source pollution – continues to flow unregulated.[17]

The EPA has made noble attempts to advance scientifically based and public interest oriented policies that provide solutions, but not much has changed in the 21st Century to significantly address CAFO water pollution.[18] In 2001, the NRDC published a report discussing the pollution caused by AFOs and CAFOs, detailing health effects and water quality impacts from one of the most commonly used waste management method – sprayfields and lagoons.[19] In 2013, the NRDC published a report discussing that inadequate regulation of waste lagoons continues to threaten human health.[20] In over 12 years, not enough improvements have been made and the situation affecting environmental and human health remains dire as AFOs and CAFOs increase in size singularly and collectively.

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[15] Envtl. Prot. Agency, Water: Polluted Runoff, Agriculture *supra* note 6.
[16] Laitos, *supra* note 12, at 1035.

[17] *See also* Davidson, *supra* note 14.

[18] Attempts include: in 1999 the Clinton Administration issued a Unified Strategy for AFOs; in 2001 the EPA proposed a CAFO rule with revised NPDES regulations and Effluent Limitations Guidelines; in 2008 the EPA promulgated a Final CAFO Rule that was revised in accordance with the vacated portions resulting from *Waterkeeper Alliance et el. v. EPA*, 399 F.3d 486 (2005); in 2012 the EPA promulgated a Final CAFO Rule addressing the 5th Circuit's ruling in *National Pork Producers Council v. EPA* (2011) and withdrew the proposed NPDES CAFO Reporting Rule.

[19] Robbin Marks, Natural Res. Def. Council and the Clean Water Network, *Cesspools of Shame: How Factory Farm Lagoons and Sprayfields Threaten Environment and Public Health* 3-4 (2001), available at http://www.nrdc.org/water/pollution/cesspools/cesspools.pdf.

[20] NRDC, *Pollution from Giant Livestock Farms Threatens Public Health* ("Waste lagoons and manure sprayfields -- two widespread and environmentally hazardous technologies -- are poorly regulated.") http://www.nrdc.org/water/pollution/nspills.asp.

I. FACTUAL BACKGROUND

As farming technology advanced, the livestock industry took advantage of this and created economies of scale. In the last half century, the number of farms have decreased while the number of animals produced for human consumption have nearly doubled.[21] This resulted in livestock being confined and concentrated in smaller areas while the quantity of animals increased. The majority of livestock produced for human consumption are raised in animal feeding operations, "and the number of animals located in concentrated animal feeding operations is unprecedented."[22] This concentration of animals raised for human consumption also resulted in an increased concentration of animal waste. But, regulating and managing this waste without allowing it to cause serious adverse effects on the environment has not kept pace.

The EPA estimates about quarter million working farms and ranches in the United States are considered AFOs and these operations collectively generate about 500 million tons of manure each year.[23] This quantity of waste is more than 3 times the amount of raw waste generated by humans.[24] This waste significantly affects nearby waterbodies and local communities. The animal waste and wastewater generated at these operations enters waterbodies from spills, breaks in waste storage structures, stormwater runoff, nonpoint sources, and excessive application of manure to cropland.[25] Improper waste management

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[21] Reagan M. Marble, *The Last Frontier: Regulating Factory Farms*, 43 Tex. Envtl. L.J. 175, 178 (2013) (citing the results of the 1997 Census of Agriculture, available at National Agric. Stat. Serv., U.S. Dep't of Agric., 1997 Census of Agriculture (visited Feb. 10, 1999) http://www.nass.usda.gov/census/).

[22] *Id.*

[23] Pew Commission on Industrial Farm Animal Production, *accessible at* http://www.ncifap.org/issues/environment/.

[24] Envtl. Prot. Agency, Agricultural Nonpoint Source Fact Sheet (last visited March 19, 2015), http://water.epa.gov/polwaste/nps/agriculture_facts.cfm#agrunoff.

[25] Envtl. Prot. Agency, Animal Feeding Operations Overview, *supra* note 24.

and excessive application of fertilizer in the form of manure are the primary methods contributing to water pollution.[26]

A. Nonpoint Source Pollution Evades CWA Regulation through Stormwater Exemptions.

Stormwater runoff is exempt from regulation under the CWA. Stormwater runoff originates from naturally occurring water flow, rainfall or snowmelt, and other kinds of precipitation.[27] Stormwater runoff's exemption adversely affects waterbodies when precipitation and the resulting stormwater drains in the waters of the United States [*hereinafter* "regulated waters"]. Livestock operations' wastewater, animal waste, and other harmful and toxic pollutants that combine with stormwater affect waterbodies; and without regulation for stormwater, livestock operations are exempt from this liability.[28] Because of the lack legal liability, this polluted runoff is difficult to control.

Agricultural runoff also causes significant pollution in much the same way stormwater runoff does. As agricultural runoff travels over the ground it picks up and carries pollutants, such as excess fertilizers, toxic chemicals, and bacteria, and deposits these pollutants into lakes, rivers, wetlands, coastal waters and groundwater.[29] Agricultural runoff from fields and crops and irrigation return flows, however, are exempt from the CWA.[30] In Iowa, a state well known for farming and agriculture, nonpoint source pollution contributes more than 90 percent of the water pollution.[31] Considering the amount of

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[26] Envtl. Prot. Agency, Agricultural Nonpoint Source Fact Sheet *supra* note 25.

[27] *Id.*

[28] Envtl. Prot. Agency, Animal Feeding Operations Overview, *supra* note 24.

[29] Envtl. Prot. Agency, *What is Nonpoint Source (NPS) Pollution? Questions and Answers*, http://water.epa.gov/polwaste/nps/qa.cfm (last updated Mar. 6, 2012).

[30] Laitos, *supra* note 12 (citing 33 U.S.C. § 1314(f)(A) (2000)).

[31] *Id.*

agricultural land in the United States, nonpoint source discharge is an alarming source of water pollution.

Pollutants discharged by AFOs are not regulated unless the pollutants are discharged through man-made ditches or similar man-made devices, or discharged directly into regulated waters. Even then polluted runoff is exempt from the CWA and NPDES permitting if it is stormwater or agricultural runoff. Regulating more AFOs will establish some control over this agriculturally-related nonpoint source pollution.

B. Recent Case Law Shows the Need for More Regulation and Control of Agriculturally Related Water Pollution.

Despite CAFOs being designated as point sources, the CWA exempts CAFO-related "agricultural stormwater discharges" from regulation.[32] In 2013, a District Court in West Virginia affirmed this exemption for a CAFO poultry raising facility. The EPA found the CAFO violated its NPDES permit because dust and poultry manure particles combined with precipitation and the polluted runoff discharged into nearby regulated waters. The court held that because stormwater discharge is exempt from NPDES permit requirements, the stormwater runoff, even if it contained pollutants that originated at the CAFO, was therefore also exempt.[33] This case reveals the need for improved regulation. Pollutants originate from some source and if the operation is not held liable then the question is: who is?

In 2002, environmental groups filed suit against a livestock operation that allegedly violated the CWA by not obtaining a NPDES permit for pollutants discharged from the operation's drainage canals.[34] Man-made canals are point sources under the CWA.

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[32] *Alt v. U.S. E.P.A.*, 979 F. Supp. 2d 701, 710 (N.D.W. Va. 2013), appeal dismissed (Oct. 2, 2014).

[33] *Id.* Furthermore, the court held that because the CAFO was cleared of liability, it was not required to change or mitigate the impact it had on nearby water.

[34] *Fishermen against the Destruction of the Environment, Inc. v. Closter Farms, Inc.*, 300 F.3d 1294 (11th Cir. 2002).

However, the Eleventh Circuit held that because "agricultural stormwater discharge" and "irrigation return flow" are both exempt under the CWA the operation was not liable for contributing the pollution.[35] This case exemplifies the ease with which livestock operations can contribute pollutants to waterbodies without liability. Considering the vast amount of agricultural land in the United States, stormwater runoff combined with agricultural pollutants can have a dramatic effect on water quality nationwide. The lack of regulation for this kind of water pollution hampers the EPA's ability to comply with the mandates of the CWA. Without additional regulatory controls for these types of runoff other methods of control for agriculturally-related water pollution are imperative.

At times, the EPA's own interpretation of provisions under the CWA contributes to failures to control water pollution. In 2013, an environmental group challenged the EPA's decision not to require a NPDES permit for a logging company's activities.[36] The company built culverts and ditches that would allow pollutant discharge into regulated waters. While the ditches and culverts were point sources, the EPA interpreted "natural runoff" to include runoff that was channeled through manmade pipes and ditches and argued that the CWA exempts this kind of stormwater.[37] This narrow reading of the criteria under which a NPDES permit is required weakens point source pollution regulation. If stormwater and agricultural runoffs remain exempt from the CWA, then the EPA must enact other methods by which this agriculturally-related pollution is regulated. Expanding the number of AFOs subject to regulation under the NPDES program will help make up for the lack of regulation over these exempt polluting sources.

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[35] *Id.*

[36] *Decker v. Northwest Environmental Defense Center*, 133 S. Ct. 1326 (2013).

[37] *Id.*

C. Purpose and Need to Regulate More AFOs by Lowering the Thresholds that Qualify an AFO as a CAFO and thereby Regulated as a Point Source.

Unregulated AFOs significantly contribute to the nonpoint source pollution. The difference between an AFO and a CAFO is an important distinction as it applies to CWA regulations. CAFOs are defined as point sources under the CWA.[38] Thus, discharge from CAFOs is regulated and these operations must apply for NPDES permits and comply with NPDES permitting requirements.[39] Depending on the size of the operation, the number of animals confined in a designated area, and the contribution to water quality impairment an AFO qualifies as a CAFO. Medium and large CAFO's are subject to NPDES permit regulation.[40] Higher risk AFOs that demonstrate significant contribution to water pollution may also be designated as CAFOs and subject to the NPDES program.[41] Yet, an overwhelming number of AFOs do not meet the regulatory definition of a CAFO – out of the nearly 238,000 AFOs, only 20,000 are subject to regulation;[42] "[a]pproximately ninety-five percent of AFOs are regulated under voluntary programs."[43]

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[38] 40 C.F.R. § 122.23(a) (2013) (noting that CAFOs are point sources that require NPDES permits).

[39] Envtl. Prot. Agency, Water Permitting (NPDES), Agriculture (last visited March 19, 2015) http://water.epa.gov/polwaste/npdes/Agriculture.cfm.

[40] § 122.23 (b)(6).A Medium Concentrated Animal Feeding Operation: includes any AFO with the type and number of animals that fall within any of the ranges listed [below] and which has been defined or designated as a CAFO. [[ ] The type and number of animals that it stables or confines falls within any of the following ranges: (A) 200 to 699 mature dairy cows; [ ] (C) 300 to 999 cattle other than mature dairy cows or veal calves [ ]; (D) 750 to 2,499 swine each weighing 55 pounds or more; (E) 3,000 to 9,999 swine each weighing less than 55 pounds; [ ] (H) 16,500 to 54,999 turkeys; (I) 9,000 to 29,999 laying hens or broilers, if the AFO uses a liquid manure handling system; [or] (J) 37,500 to 124,999 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system.

[41] Envtl. Prot. Agency, Water Permitting (NPDES), Agriculture *supra* note 41.

[42] Emily R. Lyons, *EPA's Authority Gone Awry: The Flawed CAFO Reporting Rule*, 15 Vt. J. Envtl. L. 599, 604 (2014) (citing Envlt. Prot. Agency, Producers' Compliance Guide for CAFOs 9 (Nov. 2003) *available at* http://www.epa.gov/rfa/documents/Compliance-CAFOs.pdf).

[43] Shauna R. Collins, *Striking the Proper Balance Between the Carrot and the Stick Approaches to Animal Feeding Operation Regulation*, U. Ill. L. Rev. 923, 934 (2012)(citing U.S. Dep't of Agric. & U.S. Envtl. Prot.

AFOs that are not deemed CAFOs - and thereby regulated as point sources – impair waters nationwide. Because these operations are not required to apply for NPDES permits, the resulting contribution of pollution to waterways escapes regulation as a nonpoint source.[44] In Iowa, for example, the largest water utility provider asserts that the voluntary methods by which certain farming operations comply with CWA regulations are not working, and argues that these operations should be made to comply with the same standards as applied to larger operations.[45] Expanding CWA regulatory coverage over more AFOs would address this contention and the pollution problems in Iowa and many other states.

D. Poorly Managed Animal Waste Significantly Contributes to Nonpoint Source Pollution.

Poorly managed AFO waste and excessive application liquefied manure onto crop land causes serious acute and chronic water quality problems.[46] The most common method used by AFOs to manage animal waste is land application of manure onto crop lands.[47] In

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Agency, Unified National Strategy for Animal Feeding Operations P 4.2 (1999), http://cfpub.epa.gov/npdes/afo/ustrategy.cfm (follow link for PDF version).

[44] Albert Ettinger, *Water Pollution, Agriculture, and the Law (Or Lack of Law), available at* ilrdss.sws.uiuc.edu_pubs_govconf2009_Plenary2_Ettinger.pdf. ("CAFO pollution from animal manure can escape regulation as a point source pollution if it is first spread on a farm field. Under current law, this process magically converts manure to agricultural stormwater pollution, even if the phosphorus, pathogens, antibiotics and other pollutants in the manure later reach the water.").

[45] The New York Times, "Conflict Over Soil and Water Quality Puts 'Iowa Nice' to a Test", April 18, 2015, (noting that many operations are not required to comply with federal standards and few implement voluntary efforts to address the problem) accessible at http://www.nytimes.com/2015/04/19/us/conflict-over-soil-and-water-quality-puts-iowa-nice-to-a-test.html?ref=todayspaper&_r=4.

[46] Lyons, *supra* note 44, at 601 (citing National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) Reporting Rule, 76 Fed. Reg. 65,431, 65,431 (proposed Oct. 21, 2011) (to be codified at 40 C.F.R. pt.9, 122-123, 412)); *see also* Envtl. Prot. Agency, Water: Polluted Runoff, Agriculture, *supra* note 6.

[47] Kate Celender, *The Impact of Feedlot Waste on Water Pollution Under the National Pollutant Discharge Elimination System (NPDES)*, 33 Wm. & Mary Envtl. L. & Pol'y Rev. 947, 948 (2009) (citing Robbin Marks, Natural Res. Def. Council and the Clean Water Network, *Cesspools of Shame: How Factory Farm Lagoons and*

this method, feedlots collect waste from an area containing a concentrated number of animals, store the untreated waste in lagoons and then spray the liquefied animal waste as fertilizer onto agricultural land known as "sprayfields."[48] This waste is contaminated with pathogens, antibiotics, pesticides, and ammonia. When manure is over-applied to sprayfields, the residual pollutants combine with runoff and wash in to surface water and also seep into the ground contaminating groundwater.[49] Consequently, the polluted water damages ecosystems, spreads disease (such as E-coli), and contaminates water supplies.

Proper management of this waste and pollutants is critical to maintain water quality. But unregulated AFOs are not required to adhere to any compliance standards to ensure this waste and the adverse effects are properly managed. For a vast majority of AFOs the principal approach in developing and implementing strategies to reduce water pollution and risk to public health associated with this pollution is through voluntary efforts.[50] This voluntary effort is arguably largely not utilized.[51] Furthermore, in many states, CAFO programs are only now starting to implement minimum federal standards.[52] For these reasons, AFOs' millions of tons of waste produced annually present a serious problem for human and environmental health.[53]

Sprayfields Threaten Environment and Public Health 3-4 (2001), available at http://www.nrdc.org/water/pollution/cesspools/cesspools.pdf).

[48] *Id.*

[49] *Id.*

[50] Envtl. Prot. Agency, National Management Measures to Control Nonpoint Source Pollution from Agriculture, Ch. 4D Animal Feeding Operations, *accessible at* http://water.epa.gov/polwaste/nps/agriculture/agmm_index.cfm.

[51] New York Times, *supra* note 47.

[52] Steinzor, *supra* note 8.

[53] Celender, *supra* note 51, at 951 (citing Marks, *supra* note 37, at 3-4).

A. Statewide Enforcement Efforts Also Struggle with CAFOs' CWA Violations.

According to the Idaho State Department of Agriculture and Department of Environmental Quality 2011 report regarding statewide discharges and enforcement actions, 24.1 percent of the state's CAFOs violated federal and state laws by discharging unpermitted pollutants into navigable waters.[54] Additionally, nearly half of the sprayfields where large CAFOs applied animal waste contained phosphorous levels that exceeded federal and state standards.[55] Over application of manure directly contributes pollutants to waters when combined with runoff. Part of the problems result from runoff exemptions, but also from inadequate standards, and the lack of resources for enforcement efforts. Similar to the Clean Air Act, perhaps the EPA should require permit fees to provide states with adequate resources to monitor and enforce standards.

B. States Often Adopt the Minimum Federally Required NPDES Requirements.

Too often, in efforts to foster profitable agribusiness, many states choose to enforce only the minimum requirements required under the CWA. The states that most urgently need to implement enhanced regulations are the ones dominated by agricultural interests. In some cases only the alarming effects of AFOs' contribution to water pollution prompt the states to increase standards, but many times this only happens when the situation is severe.[56] State discretion along with the "lack of oversight or strong national guidelines from the EPA creates lack of uniformity in application and enforcement."[57] Thus, increased

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[54] *Id.* (citing Transcript of Shavonne Hasse testimony before the Idaho House Agricultural Committee, 8 (Feb. 28, 2011) (synthesizing results of an audit of state records pertaining to large CAFOs) available at http://idahocares.org/icarelargecafoauditpresentation).

[55] *Id.*

[56] Drew Kershen, *Agricultural Biotechnology: Environmental Benefits for Identifiable Environmental Problem*, 2002. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=389481 (discussing that the State of Oklahoma mandated a 98% reduction of phosphorus in the Illinois River, primarily coming from dry litter manure produced and land-applied by chicken farmers within the river basis.)

[57] Celender, *supra* note 51, at 8 (citing Environmental Integrity Project, www.environmentalintegrity.org/pub401.cfm).

federal standards would prevent states from relaxing environmental controls in efforts to appeal to agribusiness.

The current regulation provides discretionary authority to determine whether additional livestock operations qualify as a CAFO. According to § 122(c)(3)(ii) a small AFO *may* be designated as a CAFO and thus subject to regulation. If that operation is a significant contributor of pollutants to regulated waters, the appropriate authority may require a NPDES permit.[58] According to this provision there is no delineated or precise measurement by which the State or regional Administrator shall determine whether the AFO is a "significant contributor." This leaves open the question regarding much discretionary authority states are afforded in making this decision. The problem then becomes the "race to the bottom," because livestock operations in many states are significant contributors to state revenue. A state relying on this kind of revenue is likely inclined to impose the least amount of regulations. States' discretionary authority and thus lack of consistent nationwide regulation is a notable factor inhibiting remediation of impaired waters. The EPA should consider changing this discretionary authority determined by the use of the word "may" to a mandatory obligation by using the word "shall" in the regulation § 122(c)(3)(ii).

Despite AFOs' potential to singularly and collectively significantly impact water quality, the limited criteria under which an AFO must be designated a CAFO leaves much of AFOs' nonpoint source pollution unregulated. To strengthen implementation of the CWA and increase water quality control, the EPA must expand the number of AFOs that qualify as CAFOs by the lowering the number of animals required to meet the threshold and by making water quality standards more stringent which brings more AFOs into the CAFO category.[59]

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[58] 40 U.S.C. § 122.23(c).

[59] *See* 40 C.F.R. 122.23(c) (noting that "The appropriate authority ... may designate any AFO as a CAFO upon determining that it is a significant contributor of pollutants to waters of the United States.").

II. EPA MUST PROMULGATE RULES REGULATING MORE AFOS AND INCREASE FEDERAL STANDARDS TO MEET THE REQUIREMENTS OF THE CLEAN WATER ACT.

A. The EPA Must Expand the Number of AFOs that Qualify as CAFOs and thereby "Point Sources" by Lowering the Threshold by Which an AFO Qualifies as a CAFO.

The EPA has the authority to promulgate a rule that increases the type and size of a livestock operation that qualifies as a CAFO. Under 33 U.S.C.A. § 1316(1)(A) the EPA has the authority to revise the categories of point sources under the CWA. The EPA has invoked this authority before. The EPA's decision to set "minimum size requirements for fish hatcheries to be considered concentrated aquatic animal production facility point sources that require NPDES permits" was affirmed after an environmental group challenged the unregulated discharges of a fish hatchery.[60] This decision subsequently expanded the reach of the NPDES permitting program to aquatic life harvesting operations. With the same authority, the EPA should expand coverage of the NPDES program by lowering the threshold that qualifies an AFOs as a CAFOs.

B. More Stringent Federal Standards are Necessary to Meet the Requirements of the Clean Water Act.

i. *Nutrient management plans*

By tightening the water quality standards the number of AFOs that qualify as CAFOs would increase because these more stringent standards would identify more AFOs as significant contributors of water pollution. Based on how the current regulations are meted out, small AFOs can be regulated if they substantially contribute to water impairment.[61]

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[60] *Wild Fish Conservancy v. Quilcene Natl. Fish Hatchery* pincite (W.D. Wash (2009)).

[61] 40 C.F.R. 122.23(c).

ii. *Waste management practices*

Identification of certain waste management practices that interact with stormwater and other nonpoint sources should be subject to NPDES permit requirements. Spray fields and lagoons are one of the most common methods of waste management for livestock operations. Waste lagoons pose a threat to surface and groundwater when the containers holding the waste break. Excessive application of waste onto sprayfields also affects surface and groundwater when the excessive nutrients runoff with stormwater or seep into the ground. CAFO waste management practice that evades point source regulation is land application. By spreading manure onto crop fields this process "magically converts manure to agricultural stormwater pollution, even if the phosphorus, pathogens, antibiotics and other pollutants in the manure later reach the water."[62] Regardless of the size of an AFO, a livestock operation that produces more manure than it can responsibly manage should be subject to NPDES permitting. Properly designed and monitored nutrient management plans can identify and address issues that arise from over-application of animal waste onto sprayfields.

Imposing a ratio of animals to land available for land application (unless operations adequately use another waste management method) curtails the potential of polluted runoff resulting from over application of manure onto sprayfields. Placing a cap on the number of animals per acre of sprayfield can reduce the concentration of waste and pollution applied to sprayfields. Requiring CAFOs to reduce the number of animals if that operation violates a NPDES permit would reduce the amount of waste generated until that operation can manage the excess waste and comply with permit requirements.[63] These would be simplified approaches encompassing a significant portion of AFOs, particularly because lagoons and sprayfields are a popular form of waste management. These

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[62] Ettinger, *supra* note 46.

[63] Celender, *supra* note 51, at 949-50.

approaches would not be deterred by nonpoint source exemptions and can be incorporated into the nutrient management plans.

iii. *Mandatory monitoring and reporting*

Current regulations do not impose enough mandatory requirements for water quality compliance for many AFOs. Online reporting and transparency will make citizen enforcement easier. Adaptive management should be considered with adequate baseline measurements and goals identified. AFOs should be designed and operated to avoid excess waste discharge by having engineered runoff controls, waste storage, and nutrient management plans.[64] Proper manure handling and storage for purposes of land application, soil testing for nutrient absorption capacity, and limiting or decreasing the number of animals per a certain portion of acreage available for land application are some adaptive management methods.[65] Information gathering and increasing effective regulation on waste management practices is key to advancing water quality controls.

D. The EPA Can Issue General Permits for Newly Formed AFOs Qualifying as CAFOs.

General permits for the expanded number of AFOs subject to the NPDES program would impose a minimal burden on these operations. A NPDES general permit can include multiple operations that have a similar kind of discharge and are located in a specific geographic area. A general permit is an efficient manner of regulating many entities at once because it "reduces paperwork for permitting authorities and permitees, and ensures consistency of permit conditions for similar facilities."[66] The use of general permitting will reduce the regulatory and financial burden for many of the newly regulated AFOs.

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[64] Envtl. Prot. Agency , *supra* note 54, at 2.

[65] *Id*, at 7.

[66] NPDES General Permit Inventory, http://cfpub.epa.gov/npdes/permitissuance/genpermits.cfm.

General permitting would also help the EPA comply with much of the premises set forth in the 2013 Review of the 2003 CAFO Rule pursuant to section 610 of Regulatory Flexibility Act ("REA").[67] In this review the EPA determined that, "revisions to minimize the regulations' impacts on small entities are not warranted at this time." The review also noted careful consideration for not imposing undue financial and resource burdens on smaller entities.[68] Expanding regulation by modestly lowering the threshold by which an AFO qualifies as CAFO will have minimal impact on the 2013 CAFO Rule REA Report.

E. Quantifiable and Unquantifiable Human and Environmental Costs.

Water pollution poses a direct threat to public and environmental health. The result of improperly managed AFO waste is severe water quality impairment and adverse impacts on human and environmental health.[69] Many of these impacts result in unquantifiable costs. The most dramatic effect of this pollution on the environmental has been massive fish kills.[70] At the later part of the last century the Department of Agriculture reported that "erosion damages [we]re assumed to be $2.2 billion and pesticide damages $839 million, the total exceeds $3.0 billion."[71]

While much of the attention regarding the environmental impacts of fertilizer runoff focuses on its nutrient loading effect, "recent studies have suggested that fertilizers may

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[67] Envtl. Prot. Agency, CAFO Regulations, *accessible at* http://water.epa.gov/polwaste/npdes/afo/CAFO-Regulations.cfm#flexibility.

[68] Envtl. Prot. Agency, Regulatory Flexibility Act (RFA) Section 610 Review of NPDES Permit Regulation and Effluent Limitations Guidelines Standards for CAFOs, Docket ID # EPA-HQ-OW-2012-0813, *available at* www.regulations.gov.

[69] Envtl. Prot. Agency, Water: Polluted Runoff, Agriculture *supra* note 6.

[70] Claudia Copeland, Cong. Research Serv., RL31851, Animal Waste and Water Quality: EPA Regulation of Concentrated Animal Feeding Operations (CAFOs) 1 (2010), available at http://nationalaglawcenter.org/wp-content/uploads/assets/crs/RL31851.pdf.

[71] James Stephen Carpenter, *Farm Chemicals, Soil Erosion, and Sustainable Agriculture*, 13 Stan. Envtl. L.J. 190, 220 (1994) (citing UNITED STATES DEPARTMENT OF AGRICULTURE, 1990 FACT BOOK OF AGRICULTURE 3, 13 (1991)).

pose toxicity threats as well."[72] Animal waste from livestock production consists of "a mixture of urine, feces, animal hair... antibiotics, and trace elements such as arsenic, pesticides, pathogens, and hormones."[73] This waste pollutes water with that same mixture of harmful elements.[74] Excessive nitrogen and phosphorous is toxic not only to fish, but also can cause brain damage or even death in human newborn infants. These pollutants cause a wide range of human health impacts including infections of the skin, eye, ear, nose, and throat and contamination of drinking water.[75] The costs to human health can be quantifiable when taking into account the medical care costs. For example, according to a 2013 report by the NRDC, the "antibiotic resistance" epidemic, which is in good part spread by polluted runoff, costs "$55 billion due to excess hospital costs and lost productivity."[76] Remediating polluted waters by curtailing the source of pollution will have a direct impact on these environmental and health related costs.

Furthermore, a number of states now face a significant outlay of costs to manage the impact of an overload of these nutrients in the water treatment systems. For example, the City of Tulsa, OK spends an additional $100,000 a year to combat algae growth in the city's drinking water source.[77] Recently, in Boulder, Colorado, the city filed suit against agricultural businesses regarding the expense the city would need to spend for upgrades to

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[72] J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 Ecology L.Q. 263, 349 (2000) (citing Office of Solid Waste, U.S. Envtl. Protection Agency, Estimating Risk from Contaminants Contained in Agricultural Fertilizers 1-1 (1999) (draft report)).

[73] Reagan M. Marble, *The Last Frontier: Regulating Factory Farms*, 43 Tex. Envtl. L.J. 175, 178 (2013) (citing the results of the 1997 Census of Agriculture, available at National Agric. Stat. Serv., U.S. Dep't of Agric., 1997 Census of Agriculture (visited Feb. 10, 1999) http://www.nass.usda.gov/census/).

[74] UN News Centre, *Rearing cattle produces more greenhouse gases than driving cars* (2006)(noting the combination of antibiotics, hormones, chemicals, fertilizers and pesticides originating from livestock operations polluting waters nationwide.).

[75] *Id.*

[76] NRDC Fact Sheet, March 2015, *accessible at* http://www.nrdc.org/food/files/antibiotic-resistance-farms-FS.pdf.

[77] Envtl. Prot. Agency, Guidance document, 2003 (citing Lassek, 1997).

the water treatment facility due to the effects of a substantially increased amount of nutrients in the water source. In order to comply with EPA's phosphorous standards, Boulder, Colorado is facing an outlay of approximately $20 million to upgrade the sewage treatment plant.[78] Furthermore, the city estimates the 2015 Nitrogen Upgrades Project will be around $3.5 million.[79] Many communities throughout the nation are facing the same problems in order to comply with CWA regulations. In Des Moines, Iowa, the largest water utility has filed suit against farmers due to costs related to operating the tanks that remove nitrates. Due to high nitrate runoff, Des Moines's drinking water poses health risks for local communities and faces the risk of violating federal quality standards. Furthermore, "traditional, industrial agriculture has no real interest in taking the steps that are necessary to radically change their operations in a way that will protect our drinking water."[80] Polluted runoff from agriculture is more often the source imposing new financial demands on these municipalities. Because of the size and healthy economy in both areas, arguably the pollution and needed wastewater treatment facility upgrades are not isolated situations - hundreds or more municipalities are or will be facing the same financial strain.

III. EPA MUST ISSUE FEDERAL MINIMUM STANDARDS FOR REPORTING INFORMATION AND EFFECTIVELY ENGAGE WITH THE PUBLIC

A. Public Participation Not Litigation

Enforcement of the NPDES regulations should not be left to rely on citizen efforts. Recently, an EPA administrator for a region with an appreciable number of livestock

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[78] Conversation with Mark Squillace, Feb 10 , 2015, Prof. Squillace is a member of the Water Resources Advisory Board for the City of Boulder.

[79] The Daily Camera, Boulder teams with Avery Brewing to aid city's wastewater treatment process, February 5, 2015, accessible at http://www.dailycamera.com/boulder-business/ci_27470278/boulder-teams-avery-brewing-aid-citys-wastewater-treatment.

[80] The New York Times, "Conflict Over Soil and Water Quality Puts 'Iowa Nice' to a Test", April 18, 2015, (noting that many operations are not required to comply with federal standards and few implement voluntary efforts to address the problem) accessible at http://www.nytimes.com/2015/04/19/us/conflict-over-soil-and-water-quality-puts-iowa-nice-to-a-test.html?ref=todayspaper&_r=4.

operations stated, "not all the players that should apply for permits are."[81] When asked what enforcement mechanism are used to address this problem, the response was that sometimes the Agency has the resources to amend the situation, but more often than not enforcement depends on citizen efforts.[82] Litigation is expensive, time-consuming, and creates an adversarial environment between regulators, the regulated community, and concerned citizens. Effective public participation, however, can help provide information upfront and ideally before violations occur or at least at an early enough stage where the regulatory agency can intervene in a cooperative manner rather than in at adversarial stage in the courtroom.

B. Expanding the Number of AFOs Qualifying as CAFOs Increases Reporting and Information Gathering.

Expanding the number of AFOs that must apply for a NPDES provides the EPA with better capacity for data gathering. The CAFO Reporting Rule offered for Notice and Comment in 2012 attempted to initiate an information collection policy to help establish more effective regulations. However, the rule was withdrawn in part because it failed to offer sufficient public participation. The reason that the EPA offered for withdrawing this rule was that it duplicated state data collection and this caused an unnecessary drain on government resources. Missing from the EPA's analysis was any recognition of the utter inadequacy of current state information. Since the withdrawal of the rule, the EPA is left relying on states to amass and provide the necessary information. However, the quality and quantity of data is still lacking to help the EPA implement effective regulation. A

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[81] Phone conversation with EPA Administrator, April 7, 2015.

[82] *See Am. Canoe Ass'n v. Murphy Farms, Inc.*, 326 F.3d 505 (4th Cir. 2003) (Environmental groups can invoke the citizen suit provision under § 505 of the CWA for claims of ongoing violations of NPDES permits or unpermitted pollutant discharge. In 2003, watersports and conservationist groups alleged a hog farm violated the CWA by discharging swine waste into nearby navigable waters without a NPDES permit. The groups alleged that unpermitted discharges of swine waste adversely affected their members' aesthetic, recreational, and economic interest in the waters at issue. The court held the group had standing and remanded to the case with respect to the issue of CWA jurisdiction. But litigation is not the best remedy to the overall problem.).

transparent federal effort to gather accurate information would offer a vehicle for effectively engaging the public about the need for additional regulations. A CAFO Reporting Rule is necessary because the information needed to promulgate, monitor, and enforce effective regulation has not come forth. Human health and environment pays the toll for this gap in regulation. Expanding coverage over more AFOs will generate this needed information. The EPA must issue federal minimums for the quality of information they need to engage in effective policymaking. By expanding the number of AFOs that qualify as CAFOs, and thereby must report information, increases the scope of information gathering relating to these operations.

C. Transparency and Effective Public Engagement will Complement Information Gathering, Monitoring, and Enforcement.

Public engagement can complement information gathering, monitoring and enforcement. Transparency through published notices will aid in effective public participation. More public involvement brings more information and better informed decisions, "[e]ngaging a broad range of parties ... in a robust and meaningful way will invariably bring out new information and new ideas that can help agencies make a better decision."[83] Furthermore, often times without meaningful public participation "special interests easily play a dominant role in influencing the outcome of a proposed action."[84]

Public engagement will further add to data on AFOs; additionally, information from the public tends to be site specific and tailored to each region's conditions. However, the public needs to know what the issues are, and the agencies, therefore, must make this information more accessible to the public. Public participation can provide the EPA and other regulatory administrative agencies with additional site-specific information gathered in communities nearby and affected by AFOs' potential contribution to water impairment. Transparency and public participation is key to advancing effective regulation and it can

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[83] Mark Squillace, *Meaningful Engagement in Public Lands Decisionmaking*, 59 Rocky Mt. Min L. Find. 21-1, 1 (b) (2013) (ENVIRONMENTAL DECISIONMAKING, University Colorado Law School (2014), at 181).

[84] *Id.*

complement the efforts required for monitoring and enforcement. The EPA must implement a more robust public participation process to compliment the goals of monitoring, compliance, and initiate enforcement for violations.

CONCLUSION

The most egregious sources of nonpoint source pollution are agriculture and stormwater runoff, yet, both sources are exempt from regulation under the CWA. The EPA's regulatory authority extends only so far and establishing mandatory controls to address all of the problems relating to nonpoint source pollution is beyond the Agency's authority. Until Congress enacts law that allows the CWA to regulate some, if not all, of agricultural and stormwater runoff, the EPA's regulatory reach extends only by means authorized under the current statute. Thus, while the EPA cannot regulate agricultural or stormwater runoff, the Agency can expand CWA coverage over more AFOs by revising the categories in 40 C.F.R. § 122.23(b)(6) and lowering the numbers of animals that qualify certain AFOs as CAFOs. Public policy concerns supports and the EPA's expanding coverage of more AFOs as CAFOs; increasing federal standards pertaining to AFO nutrient management plans, waste management practices and required reporting, as well as implementing more robust public engagement.

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