EXHIBIT 1

PROPOSED BRIEF OF AMICI CURIAE DR. JOHN IKERD, AUSTIN FRERICK, CRAWFORD STEWARDSHIP PROJECT, FAMILY FARM DEFENDERS, FARM AID, MISSOURI RURAL CRISIS CENTER, NATIONAL FAMILY FARM COALITION, NATIONAL SUSTAINABLE AGRICULTURE COALITION, AND WESTERN ORGANIZATION OF RESOURCE COUNCILS

No. 23-2146

IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

FOOD & WATER WATCH, et al.,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
Respondent,

and

AMERICAN FARM BUREAU FEDERATION, et al.,
Intervenor-Respondents

ON PETITION FOR REVIEW OF AN ACTION
BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BRIEF OF AMICI CURIAE DR. JOHN IKERD, AUSTIN FRERICK, CRAWFORD STEWARDSHIP PROJECT, FAMILY FARM DEFENDERS, FARM AID, MISSOURI RURAL CRISIS CENTER, NATIONAL FAMILY FARM COALITION, NATIONAL SUSTAINABLE AGRICULTURE COALITION, AND WESTERN ORGANIZATION OF RESOURCE COUNCILS IN SUPPORT OF PETITIONERS

Sam Heppell
Jacob Schuhardt
Mark N. Templeton
Abrams Environmental Law Clinic
University of Chicago Law School
6020 S. University Ave
Chicago, IL 60637
(773) 702-9611
heppell@uchicago.edu
Attorneys for Amici Curiae

March 4, 2024

TABLE OF CONTENTS

TABLE OF AUTHORITIES

RULE 26.1 DISCLOSURE STATEMENTS

Pursuant to Fed. R. App. P. 26.1 and 29(a)(4)(A), amici state as follows:

Dr. John Ikerd and Austin Frerick are individuals who are not required to submit a Rule 26.1 Corporate Disclosure Statement.

National Sustainable Agriculture Coalition (NSAC) is an unincorporated nonprofit association of grassroots organizations. Because NSAC is not a corporation, it is not required to submit a Rule 26.1 Corporate Disclosure Statement. NSAC does not issue any stock, has no parent corporation, and is not owned in whole or in part by any publicly held corporations.

Crawford Stewardship Project, Family Farm Defenders, Farm Aid, Missouri Rural Crisis Center, National Family Farm Coalition, and the Western Organization of Resource Councils are nonprofit corporations. They have no parent corporations, and no publicly held corporation owns 10% or more of any of their stock.

March 4, 2024

/s/ *Sam Heppell*

Sam Heppell
Jacob Schuhardt
Mark N. Templeton
Abrams Environmental Law Clinic
University of Chicago Law School
6020 S. University Ave
Chicago, IL 60637
(773) 702-9611
heppell@uchicago.edu
Attorneys for Amici Curiae

INTEREST AND IDENTITY OF AMICI

Dr. John Ikerd is Professor Emeritus of Agricultural & Applied Economics at the University of Missouri (Columbia), from which he received a BS, MS, and Ph.D. in agricultural economics. His expertise focuses on economics and agricultural sustainability, a field in which he has authored seven books and dozens of book chapters and journal articles.

Austin Frerick is a writer, scholar and Thurman Arnold Fellow at Yale University. His expertise focuses on agricultural and antitrust policy. In his forthcoming book Barons: Money, Power, and the Corruption of America's Food Industry, he describes the concentration of power in the American food system. He received his BA from Grinnell College and an MPA from University of Wisconsin-Madison.

Crawford Stewardship Project works to protect Wisconsin's Driftless region from the risks posed by industrial agriculture and other extractive and polluting industries by conducting community engagement and community science and by promoting sustainable land and water use.

Family Farm Defenders is a national grassroots organization with more than 3,000 members across fifty states. The organization has longstanding concerns about the expansion of industrial livestock operations that harm the environment to the detriment of small-scale family farmers and their rural communities.

Farm Aid has worked for thirty-nine years to promote food from family farms, strengthen local and regional markets, support farm families in crisis, and advocate for fair farm policies that bolster family-farm-centered agriculture. It has raised more than $78 million to promote a strong and resilient family farm system of agriculture.

Missouri Rural Crisis Center is a statewide farm and rural organization with more than 5,000 member families. Its mission is to preserve family farms, promote land stewardship and environmental integrity and strive for economic and social justice. It advocates for fair and competitive agricultural markets which support independent family farm livestock production and secure nutritious affordable food for everyone.

National Family Farm Coalition (NFFC) is an alliance of grassroots farmer- and advocate-led groups representing the rights and interests of independent family farmers, ranchers, and fishermen since 1986. Today, NFFC's 31 state, national, and regional farm and rural organizations are bound by a common mission of advancing food sovereignty in our food and agriculture system.

The National Sustainable Agriculture Coalition (NSAC) is an alliance of over 150 grassroots organizations that advocates for federal policy reform to advance the sustainability of agriculture, food systems, natural resources, and rural communities.

Western Organization of Resource Councils (WORC) is a network of nine grassroots organizations in seven Western states with 19,935 members, many of them ranchers and farmers committed to common-sense reform in agriculture and rural economic development.

Collectively, amici represent the voices of tens of thousands of family farmers and rural community members who have both policy interests and personal stakes in promoting economically and environmentally sustainable agriculture in their communities.

AUTHORITY TO FILE AND RULE 29 STATEMENTS

As set forth in the accompanying motion, Amici seek leave of Court to file this brief. No party or its counsel authored this brief in whole or in part. The brief was authored by amicus curiae John Ikerd and counsel for amici,[1] with the participation, review and approval of the other amici. No party or its counsel, nor anyone other than amici and their counsel, contributed financial support intended to fund the preparation or submission of this brief.

[1] Counsel appreciate the assistance of University of Chicago law students Parker Anderson, Lee Place, Catherine Stevinson, and Kai Thompson and undergraduate student Jonathan Garcia in researching and supporting the drafting of this brief.

SUMMARY OF THE ARGUMENT

EPA's refusal to promulgate appropriate regulations for concentrated animal feeding operations (CAFOs) results in a market distortion, allowing CAFOs to reap the economic benefits of polluting while shifting the environmental and social costs onto the public. EPA's regulatory forbearance—a misguided extension of a doctrine intended to support family farms[2] but applied inappropriately to industrial agriculture—results in serious environmental damage and imposes unwarranted competitive barriers on diversified family farms. Adequately regulating CAFOs under the Clean Water Act (CWA) would help correct this unfair market advantage by requiring CAFOs to prevent or internalize the cost of pollution, while supporting family farmers and protecting the public interest.

ARGUMENT

I. EPA's refusal to regulate CAFOs effectively is an unwarranted application of "agricultural exceptionalism" to industrial agriculture.

Over recent decades, the U.S. agricultural sector has undergone a radical transformation. Throughout much of the 20th century, small family farms were the cornerstone of agricultural production, engaging in diversified practices spanning a

[2] This brief uses "family farms" as descriptive short-hand for small and mid-sized diversified farms, except where clear from context that another meaning is intended.

wide array of crops and livestock.[3] This diversified approach utilizes resources efficiently, with different elements of the farm ecosystem complementing and supporting one another.[4] Families participate actively in all facets of farm life, fostering strong connections to the land and sustainable, holistic approaches to agriculture.[5]

During this period, state and federal governments adopted the doctrine of "agricultural exceptionalism" to exempt the farm sector from a range of regulations.[6] The doctrine was intended to recognize the differences between diversified family farms and industrial manufacturing.[7] It developed when the agricultural landscape was dominated by smaller, well-managed, diversified family farms, most with both crop and livestock enterprises.[8] This diversification not only

---

[3] Melanie J. Wender, *Goodbye Family Farms and Hello Agribusiness: The Story of How Agricultural Policy is Destroying the Family Farm and the Environment*, 22 Vill. Envt. L.J. 141, 143 (2011).
[4] *Id*., 145-147.
[5] Jim Hanson, *A Phenomenological Case for the Family Farmer as an Environmental Steward*, 11 Great Plains Res. 347, 352 (2001).
[6] Jessica Guarino, *The Injustices of Agricultural Exceptionalism: A History and Policy of Erasure*, 27 Drake J. Agric. L. 321, 323 (2022). (Agricultural exceptionalism is commonly defined as "[t]he exemption of agriculture from social, labor, health, and safety legislation [that] has reinforced agriculture's unique status in law and society."); Danielle Diamond et. al, Agricultural Exceptionalism, Environmental Injustice, and U.S. Right-to-Farm Laws September 2022, 52, ELR 10727, 10728 (tracing the origin of agricultural exceptionalism back to Jeffersonian notions of a well-distributed agrarian food systems).
[7] Danielle Diamond et. al, *Agricultural Exceptionalism, Environmental Injustice, and U.S. Right-to-Farm* Laws, 52 ELR 10727, 10728-29 (September 2022).
[8] Wender, *supra* n.3, 141-147.

generated additional income, but helped farmers maintain soil fertility and manage pests.[9] These farms were intricately adapted to the ecological conditions of their respective bioregions,[10] and used sustainable and resilient agricultural practices, requiring less regulatory oversight.[11]

Contemporary industrial agriculture contrasts starkly with these traditional family farms. A decades-long shift in federal agricultural policy prioritized the industrial-scale production of cheap food, no matter the cost.[12] Because industrial-scale agriculture is less resilient than diversified farming practices,[13] this shift necessitated an array of subsidy and support programs to absorb the inherent economic risks.[14] By the turn of the century, a seismic shift had taken place, and

---

[9] *Id.,* 145-147.
[10] Hanson, *supra* n.5.
[11] John Ikerd, *Family farms of North America International* (Policy Centre for Inclusive Growth (IPC-IG) Food and Agricultural Organization and UNDP, Working Paper No. 152 at 3-4, 19-20).
[12] The Rockefeller Foundation, *Reset the Table – Meeting the Moment to Transform the U.S. Food System* (2020), 12, 16.
[13] John Ikerd, *Farm and Food Policies for a Sustainable Future*, 6 The Business, Entrepreneurship & Tax Law Review 34, 39-40 (2022).
[14] *Id.*, 34-42 (programs include commodity price supports, subsidized crop insurance, and periodic disaster payments); *see also generally* Congressional Research Service, *Budget Issues That Shaped the 2018 Farm Bill* (Feb. 28, 2019) (listing actual and projected spending, 1990-2028, for assistance, insurance, commodity, and conservation programs); Chris Edwards, *Cutting Federal Farm Subsidies*, Cato Briefing Paper 162 (Aug. 31, 2023) (describing types and amounts of federal farm subsidies); Daren Bakst, *What You Should Know About Who Receives Farm Subsidies*, The Heritage Foundation Backgrounder 3306 (Apr. 16, 2018) (noting that, in 2016, 80% of commodity payments and 85% of crop

crop and livestock production became increasingly industrialized. While many diversified family farms still exist today,[15] large industrial operations dominate agricultural production.[16] Modern agribusinesses, which generate significantly more pollution than their small-scale predecessors,[17] deviate markedly from the farming practices underpinning agricultural exceptionalism. Rather than supporting the nation with sustainable practices and contributing positively to rural communities, these large-scale operations have created pollution hotspots in rural America—particularly in areas saturated with CAFOs.[18]

---

insurance indemnities went to farms with median household wealth of at least $1.7 million); National Sustainable Agriculture Coalition, *How Well Is the Farm Credit System Serving Young, Beginning, and Small Farmers?*, June 17, 2016 (government makes borrowing money to build and operate CAFOs significantly easier than starting diversified farming operations).

[15] Ikerd, *supra* n.11, at 24 ("[S]mall multifunctional farms already account for at least 70 per cent of global food production.")

[16] In 2022, just 6% of U.S. farms (those with $1 million+ in annual sales) accounted for 78% of all agricultural sales. The number of farms with less than $1 million in annual sales shrank by 165,000 between 2017-2022. *See* U.S. Department of Agriculture, *2022 Census of Agriculture Farm Economics* (Feb. 2024).

[17] U.S. Department of Interior, *Quality of Water from Domestic Wells in Principal Aquifers of the United States, 1991–2004* 26 (2009).

[18] *See, e.g.*, Julia Kravchenko et al., *Mortality and Health Outcomes in North Carolina Communities Located in Close Proximity to Hog Concentrated Animal Feeding Operations*, 79 N. Carolina Med. J. 278–88 (September–October 2018) (lower life expectancy and higher rates of multiple serious medical conditions for those living near CAFOs); Kaye H. Kilburn, *Human Impairment from Living near Confined Animal (Hog) Feeding Operations*, Incorporating Environmental Health in Clinical Medicine (2012) (higher rates of neurobehavioral and pulmonary impairment for people living near massive hog facility and manure lagoon).

Despite this dramatic shift toward large, industrial farm operations, the government—and EPA in particular—has failed to adapt its regulatory approach. Instead, government agencies continue to apply "agricultural exceptionalism" to exempt industrial-scale agriculture from meaningful, appropriate regulation[19]—notwithstanding that Congress recognized CAFOs' unique environmental hazards by expressly including them within the definition of "point source" pollution under the CWA.[20]

Regulatory agencies' failures to adapt to massive shifts in modern agriculture led to industrial agriculture receiving the benefits of a paradigm of regulatory forbearance that was never designed with industrial-scale production in mind. In particular, EPA allows industrial-scale CAFOs to discharge massive quantities of concentrated pollutants into waterways, harming the environment and endangering public health.[21] This enables industrial agriculture to avoid or externalize significant operational costs.

---

[19] Charlotte E. Blattner and Odile Ammann, *Agricultural Exceptionalism and Industrial Animal Food Agricultural Exceptionalism and Industrial Animal Food Production: Exploring the Human Rights Nexus Production*, 15 J. of Food Law & Policy, 102, 102 (2019).

[20] 33 U.S.C. § 1362(14).

[21] Jeff El-Hajj, *Confined Animal Feeding Operations in California: Current Regulatory Schemes and What Must Be Done to Improve Them*, 15 Hastings Environ. Law J. 349, 355 (2009).

Industrial agriculture should be regulated just like other industries whose production processes have comparable environmental and public health impacts. Regulations should be scale-appropriate, risk-based, and science-based. EPA must reject the doctrine of "industrial agricultural exceptionalism" and impose the protections that the CWA requires.

II. EPA's refusal to regulate CAFOs effectively distorts the animal production market by allowing CAFOs to externalize their pollution costs and diminishing the ability of family farms to compete.

CAFOs are the epitome of specialized, standardized, and consolidated industrial agriculture. Up to tens of thousands of livestock and millions of poultry are crowded into factory-like buildings, with virtually no access to the natural environment.[22] Comprehensive corporate production contracts stipulate all major production practices, including feeding and healthcare, for most CAFOs.[23] Large corporate processors and integrators increasingly own their own production facilities as well as the animals.[24] In such instances, corporations often operate multiple CAFOs with hired workers rather than contracting with individual CAFO

[22] Environmental Integrity Project, *Raising a Stink: Air Emissions on Factory Farms* (July 2002).
[23] James M. MacDonald et al., US Department of Agriculture Economic Research Service, *Three Decades of Consolidation in U.S. Agriculture* 40, 46 (March 2018).
[24] Paul Stokstad, *Enforcing Environmental Law in an Unequal Market: The Case of Concentrated Animal Feeding Operations*, 15 Mo. Envtl. L. & Pol'y Rev. 229, 234, 259 (2008).

owners.[25] Under these factory-like arrangements, CAFOs can achieve industrial economies of scale. CAFOs have far more characteristics of industry than farming.

Concentrating so many animals in confined spaces has significant environmental impacts. EPA's refusal to regulate allows CAFOs to enjoy the economic benefits of concentrated industrial operations while shifting many of the costs onto the public in the form of significant pollution.[26] Phrased differently, EPA's inadequate CAFO regulations effectively subsidize and incentivize animal production methods that harm human and environmental health—in blatant contradiction of EPA's mission and the CWA's objectives.[27]

Allowing CAFOs to avoid these costs provides CAFOs with economic advantages and disadvantages family farms. Small and mid-sized family farms produce far less waste, and diversified operations with both livestock and crop production can use efficient practices like rotational grazing to keep that waste within the environment's natural absorptive capacity.[28] However, the economic

---

[25] *Id.*
[26] *See* Doug Gurian-Sherman, *CAFOs Uncovered: The Untold Costs of Confined Animal Feeding Operations*, Union of Concerned Scientists (2008), 41-42, 51-54; Michelle B. Nowlin, *Sustainable Production of Swine: Putting Lipstick on a Pig?*, 37 Vt. L. Rev. 1079, 1085-1100 (2013).
[27] *Id.*
[28] William S. Eubanks II, *The Sustainable Farm Bill: A Proposal for Permanent Environmental Change*, 39 Envtl. L. Rep. 10493, 10509 (2009).

benefit of this operational efficiency is mooted by EPA's inadequate regulations. The general public—and rural communities and small and mid-sized farmers in particular—bear the brunt of EPA's misguided regulatory forbearance.[29]

A. Unregulated CAFOs are major sources of water pollution that harm rural communities.

CAFOs can cause significant harm to waterways and groundwater through both the quality and quantity of the waste that they produce. Absent regulation, simple economics disincentivize CAFOs from adopting more sustainable practices. All but the largest CAFOs are exempted from the CWA permitting process entirely.[30] And the Nutrient Management Plans (NMPs) that EPA requires of large CAFOs are inadequate to address their significant waste quality and quantity problems.

First, regarding quality, CAFOs generate waste that is less balanced than manure from family farms. Due to uniformity in livestock and feed, CAFO manure contains high concentrations of nutrients like nitrogen and phosphorus.[31]

---

[29] Wender, *supra* n.3, 141-147.

[30] 40 CFR §122.23 (requiring only "large" CAFOs to obtain an NPDES permit and exempting small and medium CAFOs entirely from the permitting requirement except in narrow circumstances).

[31] Jodi Soyars Windham, *Putting Your Money Where Your Mouth Is: Perverse Food Subsidies, Social Responsibility & America's 2007 Farm Bill*, 31 Environs Envtl. L. & Pol'y J. 1, 21 (2007); Robin Marks, *Hog Wash: Factory Farm Giveaways in Clean Water Act Proposals*, 3 (Natural Resources Defense Council 1995).

While small amounts of balanced manure from geographically dispersed farms pose few environmental concerns, the concentrated chemicals in CAFO manure can cause environmental problems in waterways and groundwater.[32]

Second, regarding quantity, CAFOs house large numbers of animals which collectively generate excessive amounts of waste that gets overapplied to adjacent farm fields, harming waterways and groundwater.[33] The large amounts of conventional, nonconventional, and toxic pollutants produced by CAFOs—manure, pathogens, pharmaceuticals, and heavy metals—far exceed the land's ability to absorb and neutralize these hazards.[34] Stormwater runoff from these fields washes excess waste into nearby waterways, threatening water quality and

---

[32] *Id.*

[33] R. Shepard, *Nutrient Management Planning: Is it the Answer to Better Management?*, 60 J. Soil and Water Conservation 171, 176 (2005); Andrew Sharpley, *Agricultural Phosphorous, Water Quality, and Poultry Production: Are They Compatible?*, 78 Poultry Sci. 660, 668 (1999); see also Sarah A. Porter & David E. James, *Using a Spatially Explicit Approach to Assess the Contribution of Livestock Manure to Minnesota's Agricultural Nitrogen Budget*, 10 Agronomy 480 (2020); Matthew T. Streeter, et al., *Effects of Cattle Manure and Soil Parent Material on Shallow Groundwater Quality*, 6 Agrosystems, Geosciences & Environment (2023).

[34] Chris Jones et al., Center for Agricultural and Rural Development, Iowa State University, *The Urgent Need to Address Nutrient Imbalance Problems in Iowa's High-Density Livestock Regions*, Ag. Policy Rev. (2019); Greg Brenneman, Iowa State University, University Extension, *You Can't Afford Not to Haul Manure* (Feb. 1995) (The sheer volume of waste and nutrient imbalance makes on-site utilization impractical for CAFOs.)

aquatic life.[35] Indeed, EPA's own analysis shows that "agricultural runoff is the leading cause of water quality impacts to rivers and streams."[36] Moreover, these chemicals can leach into the soil, causing groundwater pollution and impacting drinking water for neighboring communities.[37] CAFOs are almost entirely located in rural communities, so rural communities endure disproportionate harms.[38]

Absent regulations that preclude uncontrolled or minimally-controlled manure disposal, the expense of transporting and dispersing manure at distant sites creates an incentive for CAFOs to spray manure with concentrated pollutants on nearby fields, in quantities far surpassing the capacity of the land to assimilate the nutrients.[39] While it would be theoretically possible for CAFOs to transport manure off-site for use in nutrient deficient croplands, in most cases, it is not

---

[35] Gurian-Sherman, *supra* n.26, 52; GAO, *Concentrated Animal Feeding Operations: EPA Needs More Information and a Clearly Defined Strategy to Protect Air and Water Quality from Pollutants of Concern* (2008).
[36] EPA, *Nonpoint Source: Agriculture*.
[37] M.E Anderson & M.D. Sobsey, *Detection and Occurrence of Antimicrobially Resistant E. Coli in Groundwater on or Near Swine Farms in Eastern North Carolina*, 54 Water Sci. & Technology 211-218 (2006); Ryan Alan Mohr, *Waterkeeper Alliance v. EPA: A Demonstration in Regulating the Regulators*, 10 Great Plains Nat. Resources, 18, 25 (2006); Bernard T. Nolan, Kerie J. Hitt, *Vulnerability of shallow groundwater and drinking-water wells to nitrate in the United States*, 40 Environ. Sci. Technol, 7834 (2006).
[38] *See generally* K.J. Donham, et al., *Community health and socioeconomic issues surrounding CAFOs*. 115 Environmental Health Perspectives, 317-320 (2007).
[39] Gurian-Sherman, *supra* n.26 ("Because CAFOs contain many animals in a relatively small area, the waste they produce becomes a major disposal problem unless ample cropland is available nearby. Unfortunately, such cropland is often too distant to be accessed without considerable expense").

profitable to do so.[40] Transportation costs for manure are high relative to the nutrient value of the manure transported, especially compared to more cheaply available chemical fertilizers.[41] Once manure hauling costs exceed manure value, manure becomes a negative-value byproduct of CAFO operations. As a result, CAFOs are economically incentivized to overapply manure on nearby land to avoid alternative disposal costs, while failing to return nutrients to infertile land where the feed grains for their livestock are actually produced and the nutrients would actually be of value.[42]

EPA's requirement that certain CAFOs develop and implement Nutrient Management Plans fails to address these problems. While NMPs are designed in theory to ensure CAFOs apply only as much waste manure as nearby fields can absorb,[43] in practice there is minimal accountability or verification of the accuracy of NMP calculations or compliance with NMP requirements.[44] EPA incorrectly assumes or accepts that the existence of a CAFO's NMP will minimize discharge

---

[40] *Id.*
[41] Robert L. Kellogg et al., *Manure Nutrients Relative to the Capacity of Cropland and Pastureland to Assimilate Nutrients: Spatial and Temporal Trends for the United States,* United States Department of Agriculture (2000), 70.
[42] Jenessa Duncombe, *Index Suggests That Half of Nitrogen Applied to Crops Is Lost*, 23 Eos (2021).
[43] 40 CFR §122.42(e)(1)(ix); EPA, *Chapter 6: Confined Animal Feeding Operations (CAFOs) – Permitting*.
[44] Blattner, *supra* n.19, 111; Alexis Andiman and Kara Goad, *Pollution from the Largest, Dirtiest Meat- and Dairy-Production Facilities Worsens Injustice. We're Calling for Change,* Earthjustice (December 13, 2022).

from farm fields, failing to account sufficiently for the finite capacity of the land to absorb significant amounts of highly concentrated CAFO manure.[45] Moreover, the agricultural stormwater exemption—under which most rainwater and irrigation runoff from CAFOs is defined not to be a "discharge" despite in fact causing the discharge of large quantities of waste into rivers and streams—is a notable loophole that further encourages reckless waste disposal practices.[46] The sheer volume of waste and nutrient imbalance makes effective on-site utilization impractical for the vast majority of CAFOs.[47] And EPA does not even prohibit spreading CAFO waste on frozen ground or in other dangerous conditions, underscoring that NMPs are not effective at ensuring nutrient absorption from waste dispersal.[48] Despite the obvious limits on land nutrient capacity, many CAFO operators elect to develop NMPs because they facilitate the cheaper disposal of CAFO waste.[49] EPA's failure to recognize the flawed reality of NMPs

---

[45] GAO, *supra* n.35, 6-8; Craig Cox, Environmental Working Group, *Trouble in Farm Country*; Kellogg, *supra* n.41.
[46] 33 U.S.C. § 1362(14).
[47] Wender, *supra* n.3, 141-150. Moreover, farmers often also resort to commercial fertilizers to compensate for nutrient deficiencies in manure, further straining the capacity of the land to absorb the nutrients. Duncombe, *supra* n.42.
[48] EPA, *NPDES Permit Writers' Manual for CAFOs, Appendix G, Winter Spreading Technical Guidance* (2004) (EPA merely "strongly prefers" CAFO permits to *either* prohibit application on frozen soil *or* include "specific protocols" to determine whether such application poses reasonable risk of runoff, but mandating neither option).
[49] Wender, *supra* n.3, 141-151.

underscores the need for additional, more effective regulation—particularly in light of the fact that EPA's existing regulations serve to exempt all but the largest CAFOs from regulation entirely.

EPA's existing CAFO regulations are woefully inadequate to protect environmental and public health from the threats posed by CAFOs. While estimates vary, livestock animals produce somewhere between three and twenty times more wastewater annually than people in the U.S., or as much as 1.37 billion tons of waste.[50] Additionally, CAFO waste runoff is ten to several hundred times more concentrated than raw sewage.[51] To put this into perspective, a single feeding operation with 800,000 pigs could produce over 1.6 million tons of waste a year, one and a half times more than the annual sanitary waste produced by the city of Philadelphia, Pennsylvania.[52] A 2,499-head hog CAFO, which is not even classified as large and thus is not required to have a permit,[53] creates as much or more biological and chemical waste as a town of 10,000 people—which EPA requires to operate sophisticated waste treatment facilities to protect environmental and public health. CAFOs may not need treatment infrastructure comparable to

---

[50] EPA, *Detecting and Mitigating the Environmental Impact of Fecal Pathogens Originating from Confined Animal Feeding Operations: Review* (2005).
[51] El-Hajj, *supra* n.21, 351.
[52] GAO, *supra* n.35, 5.
[53] EPA, *NPDES Permit Writers' Manual for CAFOs, Chapter 2: AFOs and CAFOs* at 2-9; GAO, *supra* n.35, 61.

municipal wastewater treatment facilities, but EPA must regulate them sufficiently to address their inherent environmental and public health threats.

B. EPA's regulatory forbearance asymmetrically reduces the cost of production for industrial-scale animal farmers, giving them an unfair advantage over more sustainable competitors.

1. EPA's failure to regulate CAFOs adequately operates as an unjustified subsidy by allowing CAFOs to externalize the costs of their manure waste.

EPA's failure to regulate discharges from CAFOs under the CWA in a manner proportionate to their scale and level of risk has the effect of granting a subsidy to large-scale industrial animal operations. EPA's regulatory forbearance allows CAFOs to produce at costs significantly lower than they would incur if EPA prevented them from polluting the environment. Appropriate EPA regulation of CAFOs would require livestock and poultry producers to adopt more costly sustainable farming practices that do not threaten environmental and public health—or, at the very least, pay the higher costs of adequate pollution mitigation. EPA's approach thus grants CAFOs an unfair and anti-competitive market advantage, as their incurred cost of production is lower than the real cost of production, while allowing CAFOs to use rural America and its waterways as dumping grounds for industrial quantities of animal wastes.[54]

[54] Windham, *supra* n.31, 22.

An analysis of the agricultural sector in the aggregate provides important context for the magnitude of the externalized costs of the failure to regulate appropriately. The United Nation's Food and Agriculture Organization (FAO) recently published an extensive study of national agrifood systems that attempts to calculate the "true cost" of food.[55] According to the FAO, the hidden environmental cost of food in the U.S. amounts to nearly $236 billion annually. [56]

Adequate regulations would substantially reduce these hidden costs by requiring industrial agricultural operators to internalize the costs of their environmental and public health impacts. Meaningfully regulating CAFOs under the CWA will not eliminate the total hidden environmental cost of food production in this country, but it would be a significant step towards reducing the costs imposed on society by CAFO operations.

2. Imposing meaningful CWA regulations on CAFOs would help diversified family farms to compete.

The current state of American agriculture is far afield from a fair, free marketplace in which both CAFOs and small and mid-sized diversified farms can compete with one another on a level playing field. Instead, there are numerous factors which have the effect of slanting the playing field in favor of large,

---

[55] FAO, *The State of Food and Agriculture – Revealing the true cost of food to transform agrifood systems* (2023).
[56] *Id.* at 97 ($236 billion in hidden environmental costs, out of $1.6 trillion in total hidden costs).

industrial agricultural operations like CAFOs.[57] EPA's failure to enact adequate regulations under the CWA to restrict CAFO pollution is one significant aspect of the market-distorting impact of government policies in favor of CAFOs and to the detriment of diversified family farms.

It is a basic tenet of economic theory that permitting a market participant to engage in production which is economically beneficial but which imposes a harmful externality on others—for example, unregulated pollution—will skew the marketplace in favor of the polluter and unfairly disadvantage its competitors whose production methods are less pollutive.[58] The obvious solution to the failure of unregulated markets to account for externalities is to regulate, forcing companies to internalize those costs rather than impose them on society at large. In other industrial sectors, such regulations have been effective in getting polluters to internalize a fair share of the pollution they generate.[59]

Enacting meaningful CAFO regulations under the CWA, as requested by the Petitioners in their 2017 Petition to EPA, would benefit diversified, independent

---

[57] *See generally supra* n.14.
[58] Thomas Helbling, *Externalities: Prices Do Not Capture All Costs,* International Monetary Fund Finance and Development Magazine (describing pollution as "the traditional example of a negative externality," where polluter "makes decisions based only on the direct cost of and profit opportunity from production and does not consider the indirect costs to those harmed by the pollution")
[59] Mengxin Wang et al., *The Relationship between Environmental Regulation, Pollution, and Corporate Environmental Responsibility* 18 Int. J. Environ. Res. Public Health 8018, 8027 (2021).

family farms. The configuration of these family farms—operating with a diverse mix of crops and livestock and at a scale and utilizing practices and systems to operate without polluting the surrounding land and waters—should provide a competitive advantage, in terms of their ability to produce without generating a "costly" harmful byproduct in the form of excess waste.[60] However, in light of EPA's refusal to regulate, diversified family farms receive no competitive benefit from their more efficient, less waste-generating operations since CAFOs do not have to internalize their pollution costs.

EPA should use its authority under the CWA to require CAFOs to internalize the costs of their waste production. Imposing adequate CWA regulations would incentivize agribusiness appropriately to implement more sustainable farming practices and give diversified family farms a greater chance to compete in the market.

3. Diversified family farms are not inherently uncompetitive.

In addition to their ability to operate in a more environmentally sustainable manner than CAFOs, diversified family farms can operate in an economically competitive manner. With a more level playing field, well-run diversified family farms are fully capable of competing in the marketplace alongside CAFOs.

---

[60] Gurian-Sherman, *supra* n.26, 23-25; Timothy A. Wise, *Identifying the Real Winners from U.S. Agricultural Policies* (Global Development and Environment Institute Working Paper No. 05-07, 5.

In economic theory, there are two types of economies of scale.[61] *Internal* economies of scale refer to differences in the costs of production of a good associated with different sizes of production units.[62] For example, in animal agriculture, internal scale relates to the number of hogs in a single farming operation or production unit.[63] By contrast, *external* economies of scale refer to differences, such as the costs of fertilizer *or the cost of complying with government regulations*, for different sizes of management units.[64] For example, a larger industrial operation can spread the costs of pollution control technologies over a larger number of units of production than a smaller operation, thereby resulting in a lower cost per unit for the pollution control technology for a larger operation than a smaller operation.

While many people assume that the larger the scale of an operation, the cheaper the per unit cost is, data reveals that family farms and CAFOs can have similar per-unit costs because industrialized systems face limits in the internal economies of scale.[65] As an industrial farming operation becomes larger, it can reach a point where the rising costs associated with increasing management

---

[61] John Ikerd, *The Economic Pamphleteer: Economies of Scale in Food Production*, 12 J. of Ag., Food Sys., and Comm. Develop. 156 (2023).
[62] *Id.*
[63] *Id.*
[64] *Id.*
[65] *See, e.g.*, William D. McBride and Nigel Key, U.S. Department of Agriculture, *Economic and Structural Relationships in U.S. Hog Production* (February 2023).

inefficiency exceed the reduction in total costs associated with spreading fixed costs over additional production or output.[66]

Critically, most well-managed, diversified family farms can reach this tipping point for when internal economies of scale "max out."[67] Put another way, the point where increasing the scale of farming operations faces diminishing returns in efficiency—due to the difficulties of effective management and oversight for larger operations—is below the size of most CAFO operations.[68] One study concludes that while "[e]conomies of size exist in production agriculture . . . these economies are dissipated much sooner than is realized."[69] In fact, a variety of studies have shown that well-managed, diversified family farms can achieve most internal economies of scale.[70] For instance, a 2016 comprehensive study by an International Panel of Experts on Sustainability-Food (IPES) concluded that smaller, diversified family farms can match industrial agriculture in terms of total outputs while "performing particularly strongly under environmental stress, and

---

[66] Gurian-Sherman, *supra* n.26, 375-392.
[67] *Id.*
[68] *Id.*
[69] Michael Duffy, *Economies of Size in Production Agriculture*, 4 Journal of Hunger & Environmental Nutrition, 375 (2009).
[70] Ikerd, *supra* n.61.

delivering production increases in the places where additional food is desperately needed."[71]

Where CAFOs do find economic advantage is with respect to external economies of scale.[72] "External economies of scale for large, industrial agricultural operations arise from the ability to manage, control, and reap the economic benefits from large quantities of agricultural production, rather than from the internal economic advantages per bushel, hundredweight, or other unit of production that benefit single farming operations."[73]

With regard to pollution, CAFOs benefit from external economies of scale while not being required to internalize any of the associated costs, due to EPA's failure to impose adequate regulations regarding waste management. The larger the animal feeding operation, the greater the external economies of scale a CAFO can theoretically enjoy, but the greater the corresponding harms that an insufficiently-regulated operation poses to the environment, public health, and rural communities.[74] EPA's failure to impose adequate restrictions on larger scale

---

[71] International Panel of Experts on Sustainable Food Systems, *From Uniformity to Diversity: A Paradigm Shift from Industrial Agriculture to Diversified Agroecological Systems*, 3 (June 2016).
[72] Ikerd, *supra* n.61.
[73] *Id.* at 156.
[74] Doug Gurian-Sherman, *supra* n.26 at 17.

manure generators like CAFOs disproportionately benefits those entities at the expense of family farms.

Industrial agriculture can use the financial advantages offered to them from external economies of scale and lack of regulation to squeeze independent producers out of business. External economies of scale and lack of regulation reduce costs and provide additional profitability to industrial agriculture as compared to family farms.

The contemporary American agricultural market reveals many economically inefficient and uncompetitive traits; appropriate EPA regulation under the CWA would not solve all of these problems, but it would help to mitigate some of the distortionary advantages enjoyed by CAFOs. Large industrial operators are able to reduce prices low enough to clear markets of production they have under contract and to remain profitable themselves, but the resulting low prices do not allow for enough profitability for independent producers.[75] As a result, corporate contractors can force independent producers, such as family farmers, out of business, even if those independent producers are more economically efficient than their contract operators. This strategy was used to squeeze independent producers out of poultry, beef, and pork production and is currently being used to squeeze out the remaining

[75] *Id; see also, e.g.,* James M. MacDonald, et al., *Consolidation in U.S. Dairy Farming*, (July 2020).

independent dairy farmers.[76] Through consolidation, corporate contractors, who are also processors, can control pricing at the wholesale (live market) level.[77]

The kinds of regulatory advantages provided to CAFOs make it hard for family farms to be sufficiently profitable to support a family. Prior to the 1970s, farm families derived most of their household incomes from the farm.[78] In the 1970s, with government farm programs shifting to subsidize larger industrial agricultural operations, family farms increasingly relied on off-farm employment.[79] By 2022, only thirty-seven percent of farmers with primary occupations other than farming had positive income from farming, and among those with positive farm incomes, their farms contributed only eight percent to their total median household income.[80] For farmers whose primary occupation was farming, fifty percent had positive farm income, and farming contributed twenty-four percent of their total household income.[81] Eighty-six percent of commercial farms—farms with over $350,000 in annual cash sales—had positive farm income in 2022, and farm

---

[76] *Id.*
[77] Ikerd, *supra* n.61; *see also* Angela Huffman, et al., *Consolidation, Globalization, and the American Family Farm* Organization for Competitive Markets (August 2017).
[78] Heidi J. Bubela, *Off-farm Income: Managing Risk in Young and Beginning Farmer Households*, 31 Choices (2016).
[79] U.S. Department of Agriculture. *Farm Household Well-being: Farm Household Income Estimates* (November 30, 2023).
[80] *Id.*
[81] *Id.*

income accounted for eighty-two percent of their total median household income.[82] In other words, the family farms that survived nearly fifty years of government subsidies to industrial farming operations[83] have been forced to rely on off-farm employment to support their families while corporate-controlled operations collect the subsidies and profits.

While internal economies of scale do not significantly favor CAFOs, CAFOs still enjoy a competitive advantage in external economies of scale, particularly in their ability to externalize pollution costs onto society. The lax regulation by bodies like EPA allows CAFOs to offer products at lower prices by avoiding the full costs of their operations, thus disadvantaging environmentally conscious small-scale farmers who internalize sustainable practices into their pricing. Ending the effective subsidy of refusing to regulate CAFOs under the CWA would address one of the advantages that CAFOs receive and help to restore competition to the market by giving diversified family farms a better chance at profitability. This would also benefit rural communities and rural economies more broadly, as the dominance of industrialized agriculture has resulted in significant harms.[84]

---

[82] *Id.*
[83] Wender, *supra* n.3, 143-160.
[84] Jodi Soyars Windham, *Putting Your Money Where Your Mouth Is: Perverse Food Subsidies, Social Responsibility & America's 2007 Farm Bill*, 31 Environs Envtl. L. & Pol'y J. 1, 14, 29 (2007).

4. Opposition to meaningful CWA regulations for CAFOs is driven by industrial agricultural interests, not the interests of small and mid-sized family farmers.

The voice of industrial agricultural interests plays a dominant role in both legislative and legal settings. However, these voices may not represent the same interests as small and mid-sized family farmers.

The intervention paperwork filed in this case is prototypical. In their motion to intervene, Intervenor-Respondents describe themselves respectively as "the global voice for the Nation's . . . pork producers,"[85] "the largest non-profit general farm organization in the United States,"[86] "the Nation's largest and most active poultry organization,"[87] and an organization representing "95 percent of all U.S. egg production."[88]

Perpetuating EPA's regulatory forbearance, and the resulting market effects in favor of large producers, is unsurprisingly a policy priority of those large producers. For example, local Farm Bureau organizations have taken positions

---

[85] Dkt. 10, ECF 12-13 (describing National Pork Producers Council).
[86] *Id.*, ECF 12 (describing American Farm Bureau Federation). While AFBF states that it "represent[s] about six million families," *id.*, more than three times the total number of U.S. farms in 2022, U.S. Department of Agriculture, 2022 Census of Agriculture, tbl.1 (2024). "In many states, anyone who signs up for Farm Bureau insurance becomes a member of the Farm Bureau automatically, which explains why the American Farm Bureau Federation boasts 6 million members when the United States has only about 2 million farmers." Ian Shearn, Food & Environment Reporting Network, *Whose Side Is the Farm Bureau On?*, (July 17, 2012).
[87] Dkt. 10, ECF 12 (describing U.S. Poultry & Egg Association).
[88] *Id.*, ECF 13 (describing United Egg Producers).

that benefit CAFO operators over the interests of family farmers. In a notable case in Missouri, as one example, a long-time Farm Bureau member and small farmer sought assistance from his local Farm Bureau organization in his fight against the environmental impact of a nearby 80,000-animal CAFO.[89] However, the organization sided with the CAFO owner, Premium Standard, and supported the kind of legislation that "limited citizens' ability to sue large agribusinesses over the harm their factories inflict on neighboring property owners."[90]

As the signatories on this amicus brief demonstrate, agricultural organizations do not speak with one voice on these issues. In contrast to the Intervenor-Respondents and some of their broad assertions, the amici signatories to this brief genuinely represent the interests of small and mid-sized farmers.[91]

5. Imposing meaningful CWA regulations on CAFOs would benefit the public at large.

Industrial agriculture is capturing the benefits from external economies of scale economies and EPA's failure to regulate, and is not passing those benefits on to consumers.[92] Regulatory forbearance allows CAFOs to capture a wider operating margin, allowing them to undersell their products and to push out family

---

[89] *See* Shearn, *supra* n.86.
[90] *Id; see generally* Vicki Monks, *Amber Waves of Gain: How the Farm Bureau is Reaping Profits at the Expense of the America's Family Farmers, Taxpayers, and the Environment,* DEFENDERS OF WILDLIFE (2000).
[91] *See supra,* Interest and Identity of Amici.
[92] Ikerd *supra* n.61, 155-158.

farms with more sustainable practices. This deprives consumers of the benefits of competition between diversified family farms and CAFOs. Imposing meaningful regulations on CAFOs would not harm consumers.

A more competitive marketplace would benefit both consumers and diversified family farms. Without competition from a sufficient number of small operations, producers, processors, or distributors can retain the excess profits rather than passing cost savings on to consumers.[93] In early 2019, farmers received less than fifteen cents of each consumer dollar spent on food, marking an all-time low.[94] Agribusiness corporations and their shareholders—not diversified family farms or consumers—reap the primary economic benefits of industrialized agriculture.

Society can afford alternatives to CAFOs that are more resilient, regenerative, sustainable. If CWA regulations diminished CAFO margins, then diversified family farms would be more competitive at the per-unit level.[95] Diversified family farms' lower regulatory burden from the CWA would balance against CAFOs' advantages in simplification of management and greater span of control.[96] This would facilitate price competition between CAFOs and diversified family farms, as diversified family farms could sell at rates that compete with

---

[93] John Ikerd, *The Economic Realities of CAFOs* (2020).
[94] U.S. Department of Agriculture, *Food Dollar Series,* (November 15, 2023).
[95] Ikerd, *supra* n.92.
[96] *Id.*

CAFO prices. And even if CAFOs' prices increased at the live market level, this would likely have a minimal impact on retail food prices for consumers.[97]

Balanced against an unlikely and at worst negligible increase in retail prices, meaningful CAFO regulations under the CWA would result in significant benefit to the public at large. As discussed above, the "hidden" costs of the American system of industrial agriculture includes hundreds of billions of dollars of environmental costs imposed on the public each and every year.[98] Individual Americans bear significant financial costs of unregulated CAFO pollution, in the form of higher public health costs, harms to tourism, increased spending on clean water infrastructure, and environmental restoration, much of which is paid for by taxpayer dollars.[99] And, of course, the real world health impacts, decreased property values and lost recreational opportunities caused by CAFO pollution are experienced by members of the public at large, disproportionately in rural communities.[100] EPA's regulatory forbearance, and the CAFO pollution it incentivizes, is plainly contrary to the broader public interest.

---

[97] Wise, *supra* n.60, 2.
[98] FAO, *supra* n.55, at 97.
[99] For example, the U.S. government estimates that taxpayers pay $1.7 billion annually, mainly through higher water bills, to manage nitrate pollution caused disproportionately by CAFOs. Marc Ribaudo et al., US Department of Agriculture, *Nitrogen in Agricultural Systems: Implications for Conservation Policy*, Report No. 127 (September 2011).
[100] Kravchenko, *supra* n.18; Gurian-Sherman, *supra* n.26, 41, 60-62.

CONCLUSION

EPA's failure to regulate allows CAFOs to reap the economic benefits of concentration and specialization while externalizing environmental and public health impacts. As a result, the unfair advantage EPA affords CAFOs have helped to push family farms out of the market. Small and mid-sized family farms are in some ways more economically efficient than CAFOs, in that their diversification and lower concentration allows them to reduce some costs of operation and avoid creating massive amounts of waste that cannot be productively used onsite. Imposing meaningful CWA regulations on CAFOs would eliminate the effective subsidy caused by EPA's failure to regulate, and would help level the playing field for small, diversified family farms, while protecting the broader public interest. The Court should grant Petitioners' request for review and overturn EPA's denial of Petitioners' request for a rulemaking to revise EPA's CWA regulations for CAFOs.

March 4, 2024

/s/ *Sam Heppell*

Sam Heppell
Jacob Schuhardt
Mark N. Templeton
Abrams Environmental Law Clinic
University of Chicago Law School
6020 S. University Ave
Chicago, IL 60637
(773) 702-9611
heppell@uchicago.edu
jschuhardt@uchicago.edu
templeton@uchicago.edu
Attorneys for Amici Curiae

CERTIFICATE OF COMPLIANCE

Form 8. Certificate of Compliance for Briefs

9th Cir. Case Number(s): 23-2146

I am the attorney or self-represented party.

This brief contains 6,961 words, excluding the items exempted by Fed. R. App. P. 32(f). The brief's type size and typeface comply with Fed. R. App. P. 32(a)(5) and (6).

I certify that this brief *(select only one)*:

[ ] complies with the word limit of Cir. R. 32-1.

[ ] is a **cross-appeal** brief and complies with the word limit of Cir. R. 28.1-1.

[X] is an **amicus** brief and complies with the word limit of Fed. R. App. P. 29(a)(5), Cir. R. 29-2(c)(2), or Cir. R. 29-2(c)(3).

[ ] is for a **death penalty** case and complies with the word limit of Cir. R. 32-4.

[ ] complies with the longer length limit permitted by Cir. R. 32-2(b) because *(select only one)*:

[ ] it is a joint brief submitted by separately represented parties;

[ ] a party or parties are filing a single brief in response to multiple briefs; or

[ ] a party or parties are filing a single brief in response to a longer joint brief.

[ ] complies with the length limit designated by court order dated _____.

[ ] is accompanied by a motion to file a longer brief pursuant to Cir. R. 32-2(a).

March 4, 2024 /s/ *Sam Heppell*

CERTIFICATE OF SERVICE

I hereby certify that I caused the foregoing document to be electronically filed with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit, as an exhibit to the accompanying motion for leave to file, by using the appellate CM/ECF system on March 4, 2024, thereby effecting service on counsel for all parties in the above-captioned matter.

March 4, 2024

/s/ *Sam Heppell*

Sam Heppell
Jacob Schuhardt
Mark N. Templeton
Abrams Environmental Law Clinic
University of Chicago Law School
6020 S. University Ave
Chicago, IL 60637
(773) 702-9611
heppell@uchicago.edu
jschuhardt@uchicago.edu
templeton@uchicago.edu
Attorneys for Amici Curiae