

**UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA**

JAMES FARMER,  
12125 County Road 102  
Grandview, Texas 76050

ROBIN ALESSI,  
12125 County Road 102  
Grandview, Texas 76050

PATSY SCHULTZ,  
12201 County Road 102  
Grandview, Texas 76050

KAREN COLEMAN,  
12201 County Road 102  
Grandview, Texas 76050

TONY COLEMAN  
12201 County Road 102  
Grandview, Texas 76050

JOHNSON COUNTY, TEXAS  
2 North Main Street  
Cleburne, TX 76033

MAINE ORGANIC FARMERS AND  
GARDENERS ASSOCIATION  
294 Crosby Brook Road  
Unity, ME 04988

*Plaintiffs,*

v.

UNITED STATES ENVIRONMENTAL  
PROTECTION AGENCY  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460;

*and*

Civil Action No. 24-cv-1654

**AMENDED COMPLAINT FOR  
DECLARATORY AND INJUNCTIVE  
RELIEF**

MICHAEL REGAN, in his official capacity  
as Administrator of the United States  
Environmental Protection Agency, 1200  
Pennsylvania Avenue, N.W. Washington,  
DC 20460,

*Defendants.*

## **INTRODUCTION**

1. Plaintiffs James Farmer, Robin Alessi, Patsy Schultz, Karen Coleman, and Tony Coleman, (collectively, “farming family plaintiffs”) are farmers and ranchers in Grandview, Texas who are suing the United States Environmental Protection Agency for its failure to place any limits on the quantities of highly toxic per- and polyfluoroalkyl substances (PFAS) allowed to be present in sewage sludge that is applied on land as fertilizer. After a load of sludge was spread on a neighbor’s property, their farm animals and pets began sickening and dying of unknown causes in alarming numbers, and several of the plaintiffs themselves began experiencing health problems. Testing revealed exceedingly high levels of PFAS on their land, water, and animals that had no other explicable source.

2. Plaintiff Johnson County, Texas, the county in which the farming family plaintiffs live and work, has expended significant resources to investigate local PFAS contamination from sewage sludge and assist the farming family plaintiffs and other county residents. Plaintiff Maine Organic Farmers and Gardeners Association (MOFGA) is a nonprofit organization that has had to expend substantial resources assisting its members who have been and continue to be harmed by EPA’s failure to regulate PFAS in sewage sludge.

3. Together, these individuals and entities (collectively, “Plaintiffs”) bring this complaint against the United States Environmental Protection Agency and its Administrator

(collectively, “EPA”) under the citizen suit provision of the Clean Water Act (CWA), 33 U.S.C. § 1365(a)(2), for failing to perform its non-discretionary duty to identify and regulate toxic pollutants in sewage sludge as required by 33 U.S.C. § 1345(d). Specifically, EPA has failed to *identify* as existing in sewage sludge at least eighteen toxic PFAS that available scientific evidence shows are present in sewage sludge in concentrations which may adversely affect public health or the environment, in violation of 33 U.S.C. § 1345(d)(2). EPA has also failed to *promulgate regulations* specifying appropriate restrictions, as required by the same provision, for several other PFAS that EPA has previously recognized exist in sewage sludge and for which sufficient information necessitating regulation exists.

4. In addition to violating its non-discretionary duties under the CWA, EPA has violated the Administrative Procedure Act, 5 U.S.C. §§ 701-706. EPA’s failure, in its biennial reports, to identify toxic PFAS that available information shows are present in sewage sludge in concentrations which may adversely affect public health or the environment under 33 U.S.C. § 1345(d)(2)(C) is arbitrary and capricious, while EPA’s failure to regulate certain toxic PFAS despite ample available information warranting such regulation constitutes an agency action unlawfully withheld or unreasonably delayed. 5 U.S.C. § 706(1) and (2)(A).

5. Sewage sludge, also euphemistically referred to as “biosolids,” is the solid waste filtered from wastewater treatment plants. It includes chemicals discharged in industrial wastewater as well as everything sent down the drains of homes and businesses, from human excrement flushed down toilets to materials exiting via utility sinks, laundry machines, and dishwashers. Wastewater treatment facilities are allowed to sell sewage sludge as fertilizer, but must first treat it to remove pathogens and certain toxic contaminants identified by EPA.

6. The Clean Water Act requires EPA to keep close tabs on hazardous substances in sewage sludge because it is spread as fertilizer on staggering amounts of acreage across American farms (millions of acres of cropland alone), pastures, home gardens, yards, golf courses, and wildlands. Under the CWA, EPA must check for – and report biennially on – previously unknown or undetected toxic pollutants in sewage sludge for which available scientific evidence shows that their presence in sewage sludge may harm human health or the environment, and regulate them accordingly. 33 U.S.C. § 1345(d)(2).

7. PFAS are toxic human-made chemicals linked to cancer, reproductive problems, and reduced vaccine effectiveness, among other adverse health effects. They are so highly persistent, bio-accumulative, and bio-magnifying<sup>1</sup> that they have earned the nickname “forever chemicals,” and they are present in a wide range of consumer products, including shampoo, makeup, clothes, non-stick cookware, and food packaging, as well as in industrial products.

8. PFAS from sewage sludge applied on a nearby property contaminated the farming family plaintiffs’ land and water, killed and sickened their livestock and farmed fish, injured their health, threatened their livelihoods, and devalued their property. EPA’s failure to identify and regulate PFAS in sewage sludge exposes the farming family plaintiffs to continuing harm from future applications of sewage sludge on nearby properties.

9. Until EPA regulates PFAS in sewage sludge to protect America’s farms, gardens, citizens, and environment, Plaintiffs Johnson County and the Maine Organic Farmers and Gardeners Association must continue to expend significant personnel time and money to test for PFAS pollution from land-applied sewage sludge and help affected farmers.

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<sup>1</sup> “Bio-accumulative” refers to a substance’s accumulation within a living organism, while “bio-magnifying” refers to a substance’s build-up within food chains: from plants to animals that eat the plants, to animals that eat those animals, and so forth.

10. The PFAS that EPA has failed to *identify as present* in sewage sludge in its most recent Biosolids Biennial Report No. 9 (Biennial Review), despite available information showing that each are present in sewage sludge in concentrations that may affect public health and the environment based on their toxicity, persistence, concentration, mobility, or potential for exposure, are listed in the following table. Plaintiffs refer to this table and the one in the subsequent paragraph throughout this Complaint to distinguish between the two groups of substances at issue in this lawsuit.

<b>Table 1: PFAS present in sewage sludge that EPA failed to identify in its Biennial Reviews</b>		
<b>Abbreviation</b>	<b>Full name</b>	<b>CAS#</b>
FBSA	Perfluorobutylsulfonamide	30334-69-1
PFHpS	Perfluoroheptanesulfonic acid	375-92-8
EtFOSE	Ethyl-N-(2-hydroxyethyl)-perfluorooctanesulfonamide	1691-99-2
MeFOSE	N-Methyl perfluorooctane sulfonamidoethanol	24448-09-7
6:2 FTOH	6:2 fluorotelomer alcohol	647-42-7
7:2 FTOH	7:2 fluorotelomer alcohol	755-02-2
8:2 FTOH	8:2 fluorotelomer-alcohol	678-39-7
9:2 FTOH	9:2 fluorotelomer alcohol	87017-97-8
10:2 FTOH	10:2 fluorotelomer alcohol	865-86-1
11:2 FTOH	11:2 fluorotelomer alcohol	1545-59-1
12:2 FTOH	12:2 fluorotelomer alcohol	39239-77-5
13:2 FTOH	13:2 fluorotelomer alcohol	176676-70-3
14:2 FTOH	14:2 fluorotelomer alcohol	60699-51-6
8:2/10:2 diPAP	8:2/10:2 disubstituted polyfluoroalkyl phosphate	1158182-60-5

10:2 diPAP	10:2 Fluorotelomer phosphate diester	1895-26-7
10:2/12:2 diPAP	10:2/12:2 Fluorotelomer phosphate diester	1158182-61-6
7:3 FTCA	7:3 Fluorotelomer carboxylic acid	812-70-4
HFPO-DA (GenX)	Hexafluoropropylene oxide dimer acid	13252-13-6

11. The PFAS for which sufficient scientific information exists requiring EPA to *regulate* in sewage sludge based on available information showing that each is present in sewage sludge in concentrations that may affect public health and the environment based on their toxicity, persistence, concentration, mobility, or potential for exposure are in the following table. EPA first listed each substance in its Biennial Review No. 5 (2012-2013):

<b>Table 2: PFAS present in sewage sludge that EPA failed to regulate</b>		
<b>Abbreviation</b>	<b>Full name</b>	<b>CAS #</b>
PFBA	Perfluorobutanoic acid	375-22-4
PFBS	Perfluorobutanesulfonic acid	375-73-5
PFHxA	Perfluorohexanesulfonic acid	307-24-4
PFHxS	Perfluorohexane sulfonate	355-46-4
PFHpA	Perfluoroheptanoic acid	375-85-9
PFOA	Perfluorooctanoic acid	335-67-1
PFOS	Perfluorooctanesulfonic acid	1763-23-1
PFNA	Perfluorononanoic acid	375-95-1
PFDA	Perfluorodecanoic acid	335-76-2
PFUnDA	Perfluoroundecanoic acid	2058-94-8
PFDoDA	Perfluorododecanoic acid	307-55-1

12. This suit seeks to remedy the ongoing harms caused by EPA's failure to comply with its mandatory CWA duty to identify and regulate these dangerous substances in sewage sludge. EPA's failure has enabled the land application of PFAS-laden sewage sludge on millions of acres of land, harming Plaintiffs and people across the country by exposing them to PFAS in soil, water, crops, meat, and fish, limiting their recreational opportunities, and depriving them of the procedures guaranteed by the Clean Water Act for timely identification and regulation of harmful substances in sewage sludge. As Plaintiffs have experienced, the spreading of PFAS-contaminated sewage sludge also poses tremendous financial burdens to individuals, government entities, and nonprofit organizations.

13. There are no national requirements to test sewage sludge for PFAS or warn farmers that they could be using contaminated sludge. This is an urgent and pervasive problem.

14. To remedy the injuries and guard against future harm, Plaintiffs ask the Court to declare that EPA has violated both the Clean Water Act and the Administrative Procedure Act by failing to timely identify and regulate the PFAS listed in Tables 1 and 2 in sewage sludge; and order EPA to complete its mandatory duties expeditiously pursuant to deadlines established by the Court.

### **JURISDICTION AND VENUE**

15. This Court has jurisdiction over the action pursuant to 28 U.S.C. §§ 1331 (federal question), § 1346(a)(2) (federal defendant), § 1361 (action to compel federal employee), as well as pursuant to the Clean Water Act, 33 U.S.C. § 1365(a)(2) (citizen suit provision). This Court may issue a declaratory judgment under 28 U.S.C. § 2201(a) and grant further relief under 28 U.S.C. § 2202.

16. This complaint also states claims under the Administrative Procedure Act, 5 U.S.C. §701 et. seq., which authorizes federal courts to compel agency actions wrongfully withheld or unreasonably delayed, and to hold unlawful and set aside agency actions and conclusions found to be arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with applicable law. *Id.* § 706.

17. As required by 33 U.S.C. § 1365(b)(2), the farming family plaintiffs gave a 60-day notice of their intent to file suit on February 22, 2024 via United States Mail.

18. Over the next few months, Plaintiffs Johnson County and the Maine Organic Farmers and Gardeners Association sent EPA their own 60-day notice letters (on May 13, and May 14, respectively, by U.S. Mail), both attaching the farming family plaintiffs' notice of intent to explain the basis of the claims against EPA.

19. Attorneys for Plaintiffs had several conversations and email communications with EPA officials regarding the four notices of intent, but the Parties were not able to reach resolution. Over sixty days have now passed on each of the notices of intent.

20. Venue is proper in this Court under 28 U.S.C. § 1391 as Defendants reside or have offices located in this judicial district, and it was in this district that a substantial part of the events or omissions giving rise to the claim occurred.

### **PARTIES**

21. Plaintiffs Farmer, Alessi, Schultz, Coleman, and Coleman are individuals whose lives have been and are continuing to be directly harmed by EPA's failure to identify and regulate certain PFAS in sewage sludge. EPA's failure deprives them of timely identification and regulation of harmful PFAS in sewage sludge and prolongs their potential of being further exposed to these chemicals.



22. Since a neighbor's property was spread with sewage sludge in November 2022, Plaintiffs James Farmer and Robin Alessi's soil and surface water has become polluted with exceedingly high levels of PFAS, the presence of which has no other conceivable explanation.

23. Plaintiffs Farmer and Alessi have suffered medical issues that may be linked to PFAS exposure, including high blood pressure, respiratory and cardiac issues, generalized pain, and skin irritations.

24. Plaintiffs Farmer and Alessi have many farm animals and household pets that died following the land application of the sewage sludge. These include two active dogs, a family cat, two previously healthy horses, a newborn bull calf, fish in their stock ponds (catfish, perch, bass, and minnow that died of no apparent cause), and several types of birds that died with no apparent wounds or other apparent cause of death: peacocks, ducks, chickens, guineas, and cranes. Their cats and dogs appear to be suffering from new medical issues. The animals that died as well as the animals that are sick drank/drink well water or pond water directly, and some of them grazed/graze off the pastures and ate/eat hay grown on the property.

25. Plaintiffs Farmer and Alessi have grown a vegetable garden every year and relied on the produce as food, which they can no longer do. They have started to purchase bottled water for drinking and cooking, and fear the local aquifer will ultimately be polluted as the PFAS leach further into the ground.

26. Now that their property and surface water is polluted with PFAS, they face the stark possibility of having to abandon the home they love and the property they have developed into a working ranch, raising cattle, freshwater fish, and game birds, which may have to be euthanized since they cannot be safely consumed. The polluted property is Plaintiffs Farmer and Alessi's main asset, and PFAS contamination from sewage sludge has negatively impacted its

value. EPA's continuing failure to identify and regulate PFAS in sewage sludge subjects them to the potential for additional contamination on their current farm and on any other property they might farm or own in the future.

27. Since a neighbor's property was spread with sewage sludge in November 2022, Plaintiffs Schultz, Coleman, and Coleman have dealt with PFAS-polluted soil and surface water on the property that Plaintiff Schultz owns and on which the Colemans farm. (Plaintiff Schultz is Plaintiff Karen Coleman's mother, and Plaintiff Tony Coleman's mother in law.)

28. The Colemans have suffered medical issues that may be linked to PFAS exposure. In August 2023, Karen Coleman suffered from a mass on her thoracic spine: a bone lesion and mass with severe compression of her spinal canal that presents a high risk of paralysis. She has continued intermittent pain that radiates around her left rib cage and weakness in her left hip. She now is being monitored for pre-diabetes as well. Tony Coleman never suffered any medical issues until recently when he contracted an upper respiratory virus which continued to worsen for a lengthy period of time.

29. Since the sewage sludge application in November 2022, multiple heifers and calves owned by the Colemans have died of unknown causes on the subject property. The liver of a stillborn calf that died in December 2023 tested with 610,000 ppt of PFOS, a type of PFAS. Because the calf was stillborn, all the PFOS in the calf's body was from the mother cow (e.g., the placenta and mother's blood).

30. To put the calf's PFOS level in perspective, Maine issued a consumption advisory for beef with PFOS with an action level of 3,400 ppt of PFOS for children and 7,300 ppt of PFOS for adults. In addition, Michigan required a farm to shut down and issued a consumption

advisory when beef from cattle tested between 980 to 2800 ppt of PFOS. The PFOS level found in the Colemans' stillborn calf exceeded those levels by hundreds of times.

31. Now that Plaintiff Schultz's property is polluted with PFAS she and the Colemans face the stark possibility of having to abandon the home they love and the property they have developed into a working cattle ranch. They are suffering significant daily economic losses due to the inability to market their cattle or beef or hay and may have to euthanize their entire herd, a crushing and emotional task.

32. Plaintiffs Schultz, Coleman, and Coleman have purchased and installed water filters for the house have purchases bottled water for drinking and cooking, and are concerned that the PFAS will contaminate the local aquifer as it leaches further into the ground.

33. Plaintiff Schultz's property is her main asset, and PFAS contamination has decimated its value and made it costly and difficult to clean up and restore. She had intended for her daughter and son-in-law to inherit the property they work on daily. The Colemans have lost income and may have to completely shut down the business they have worked so hard to build. EPA's continuing failure to identify and regulate PFAS in sewage sludge subjects them to the potential for additional contamination on their current farm and on any other property they might farm or own in the future.

34. Sewage sludge is a readily and cheaply available fertilizer marketed in the farming family plaintiffs' area. The company that produces the sewage sludge that harmed them, Synagro, entered into a contract in 2019 with the City of Fort Worth to manage the city's sewage sludge program, which produces about 26,500 dry tons of fertilizer each year. The product is then sold to farmers and landowners in twelve North Texas counties as a cheaper alternative to commercial fertilizer. Per the contract, Synagro built a new biosolids processing facility to

produce dry pellet fertilizer. Synagro plans to market the pellets beyond applying them to local farms, and may begin selling them in stores. Synagro maintains permits for land application of the sewage sludge with the Texas Commission for Environmental Quality, and maintains the label for its sewage sludge fertilizer with the Texas Feed and Fertilizer Control Service Office of the State Chemist.

35. If EPA were to comply with the Clean Water Act and regulate PFAS in sewage sludge, Plaintiffs would not have to worry about nearby property owners further contaminating their land with PFAS-laden sewage sludge applications, PFAS in local food sources, or PFAS pollution from sewage sludge applied on future land they might choose to own or farm on. Furthermore, if they could be confident that sewage sludge did not contain toxic pollutants like PFAS, then they could purchase it for use as fertilizer without poisoning themselves, their animals, and their land.

36. Plaintiff JOHNSON COUNTY, TEXAS is the county in which the farming family plaintiffs live and work. The County has a significant agricultural presence: 2,745 farms totaling in 287,921 acres, including 109,535 acres of cropland and 63,000 cattle. The value of the crops and livestock in the County is in the tens of millions of dollars. The contamination of farmland by PFAS from land-applied sewage sludge has become a significant problem for Johnson County in recent years. In December 2022, the County expended approximately \$30,000 in PFAS testing alone as part of its investigation into harms to the farming family plaintiffs in this case. The County's Environmental Crimes Investigator found that neighboring land had piles of sewage sludge produced by a company called Synagro. She obtained a sample of Synagro biosolids, which tested at 35,610 ppt total PFAS. There were twenty-seven individual

PFAS present, including eleven of the PFAS<sup>2</sup> appearing in Table 2, *supra* at ¶ 11, which Plaintiffs contend EPA already has enough information to regulate. She also tested samples of the farming family plaintiffs' land, water, and dead animals. Thirteen of the twenty-seven PFAS identified in the biosolids made by Synagro were present in the soil and water samples, and of the eleven individual PFAS appearing in Table 2, extremely high concentrations of eight of them were found on the farming family plaintiffs' properties. The county has diverted significant financial resources and personnel hours toward this investigation, other investigations of PFAS contamination from sewage sludge, and public meetings on the issue of PFAS in sewage sludge. The county is concerned about the potential for widespread drinking water contamination within the County and losses to its cultural heritage and reputation as a healthy place to live and farm.

37. Plaintiff MAINE ORGANIC FARMERS AND GARDENERS ASSOCIATION (MOFGA) is the largest state organic organization in the country. It is a nonprofit organization with over 15,000 dues-paying members headquartered in Unity, Maine, and its mission is to educate about and advocate for organic agriculture, illuminating its interdependence with a healthy environment, local food production, and thriving communities. It also owns MOFGA Certification Services, LLC (MCS), a U.S. Department of Agriculture-accredited organic certification entity that certifies 525 organic farms and processing operations in Maine and New Hampshire representing roughly \$120 million in sales. From around 2022, when several MOFGA-certified organic farms began reporting PFAS contamination, MOFGA has had to divert significant staff time and financial resources to assisting farmers who are dealing with PFAS contamination from land-applied sewage sludge. The organization responded with nearly

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<sup>2</sup> 1) PFBS; 2) PFHxA; 3) PFHxS; 4) PFHpA; 5) PFOA; 6) PFOS; 7) PFNA; 8) PFDA; 9) PFUnDA; 10) PFDODA; and 11) PFBA.

all staff hands on deck to provide affected farmers with technical assistance and created – and continues to manage – a PFAS Emergency Relief Fund that has disbursed more than \$1.5 million in direct support for more than 50 affected farm families. Seven MOFGA-certified operations had to pause sales due to the severity of PFAS contamination, and two had to shut down entirely. MOFGA also owns a public water supply located in an area where several farms have experienced PFAS contamination. The organization had the water tested and discovered that two of its own wells were contaminated with PFAS, including seven of the PFAS that Plaintiff alleges EPA should regulate (those in Table 2, *supra* at ¶ 11). MOFGA had to work with the DEP to install a necessary filtration, and anticipates that it will need additional filtration infrastructure soon.

38. Defendant EPA is the federal agency charged with implementing the Clean Water Act, including provisions requiring it to identify and regulate toxic pollutants in sewage sludge.

39. Defendant Michael Regan is the Administrator of the EPA and is sued in his official capacity.

### LEGAL BACKGROUND

40. Congress enacted the Federal Water Pollution Control Act of 1972, 33 U.S.C. § 1251 *et seq.*, commonly known as the Clean Water Act (CWA) “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a).

41. The CWA contains an entire section dedicated to the disposal or use of sewage sludge: 33 U.S.C § 1345. In this section, Congress mandated that the EPA Administrator, by November 30, 1986:

shall identify those toxic pollutants which, on the basis of available information on their toxicity, persistence, concentration, mobility, *or* potential for exposure, *may* be present in sewage sludge in concentrations which *may* adversely affect public health or the environment, and propose regulations specifying acceptable

management practices for sewage sludge containing each such toxic pollutant and establishing numerical limitations for each such pollutant for each use identified under paragraph (1)(A).

33 U.S.C. § 1345(d)(2)(A)(i) (emphasis supplied), and to promulgate such regulations no later than nine months later (by the following August), explicitly including in that time frame the opportunity for public hearing, *id.* § 1345(d)(2)(A)(ii).

42. Congress also required the EPA Administrator, not less often than every two years, to “review the regulations promulgated under this paragraph for the purpose of identifying additional toxic pollutants and promulgating regulations for such pollutants consistent with the requirements of this paragraph.” *Id.* § 1345(d)(2)(C).

43. The citizen suit provision of the Clean Water Act provides that any person may sue the EPA Administrator for an alleged failure to perform a nondiscretionary act or duty, and provides district courts the jurisdiction to order the Administrator to perform such act or duty. 33 U.S.C. § 1365(a)(2).

44. The Administrative Procedure Act authorizes courts to “compel agency action unlawfully withheld or unreasonably delayed,” 5 U.S.C. § 706(1), and to hold unlawful and set aside agency actions found to be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,” *id.*, § 706(2)(A).

## **FACTUAL BACKGROUND**

### **I. PFAS Pose Serious Risks to Human Health and the Environment.**

45. All PFAS contain bonds between atoms of carbon and fluorine, which are extremely chemically and thermally stable; indeed, almost indestructible. It is these strong carbon-fluorine bonds and the resulting inability of PFAS to readily degrade in the environment that have earned them the nickname “forever chemicals.”

46. PFAS gets into the bodies of living organisms in many ways: ingestion through food or drink, inhalation, and even dermal (skin) absorption. PFAS bioaccumulate in the human body, and the CDC recommends “exposure reduction” in all people with more than 2 ng/mL in their blood.<sup>3</sup>

47. PFAS are associated with a wide range of risks to human and animal health such as cancer, hormone disruption, liver and kidney damage, birth defects, developmental and reproductive harm, changes in serum lipid levels, increased cholesterol and risk of obesity, and immune system toxicity.<sup>4</sup>

48. Indeed, PFAS are so dangerous even in incredibly small quantities that in April 2024, EPA released a National Primary Drinking Water Regulation (NPDWR) for several PFAS, including maximum contaminant level goals (MCLGs) and maximum contaminant levels (MCLs), the latter of which are enforceable levels with which suppliers of municipal drinking water must comply in the future:

Compound	Final MCLG <sup>5</sup>	Final MCL (enforceable levels)
PFOA	Zero	4.0 parts per trillion (ppt)
PFOS	Zero	4.0 ppt
PFHxS	10 ppt	10 ppt
PFNA	10 ppt	10 ppt
HFPO-DA (GenX Chemicals)	10 ppt	10 ppt
Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS	1 (unitless)	1 (unitless)

<sup>3</sup> Available at <https://www.atsdr.cdc.gov/pfas/resources/pfas-information-for-clinicians.html> (last visited June 6, 2024).

<sup>4</sup> U.S. Dept. of Health and Human Services, Agency for Toxic Substances and Disease Registry, Toxicological Profile for Perfluoroalkyls, (May 2021), available at <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf> (last visited June 5, 2024).

<sup>5</sup> The maximum contaminant level goal represents the level of a contaminant in drinking water below which there is no known or expected risk to health – this means that there is ***NO dose below which PFOA or PFOS are considered safe.***



Compound	Final MCLG <sup>5</sup>	Final MCL (enforceable levels)
	Hazard Index <sup>6</sup>	Hazard Index

These exceedingly low levels highlight the dangers of allowing the spreading of PFAS-laden sewage sludge across millions of acres of America’s farms, gardens, golf courses, and wild areas.

49. EPA also designated PFOS and PFOA as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).<sup>7</sup>

50. A large body of research on the environmental fate and toxicity of PFAS has focused on perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), and more recently, per- and polyfluoroalkyl ether acids such as “GenX” chemicals. There is a substantial body of scientific evidence demonstrating that wastes containing these PFAS are toxic, mobile, environmentally persistent, bio-accumulative, and bio-magnifying.

51. Twenty-five years ago, in 1998, the company 3M first sent EPA data showing that PFOS is persistent, unexpectedly toxic, and bio-accumulative, and EPA began investigating the following year. By 2000, the manufacturer entered into an agreement with EPA promising to phase out all PFOS and PFOA production. In 2006, eight other major PFAS manufacturers agreed to voluntarily phase out PFOA production.

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<sup>6</sup> Because low levels of multiple PFAS (that individually might not result in adverse health effects) may pose concerns when combined in a mixture, EPA uses a “Hazard Index” to determine the health concerns associated with exposure to chemical mixtures. In this case, it sums fractions of the level of four individual PFAS in relation to their health-based values to give a Hazard Index of the highest level that will not result in adverse health effects.

<sup>7</sup> EPA, Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances, April 19, 2024, *available at* <https://www.epa.gov/superfund/designation-perfluorooctanoic-acid-pfoa-and-perfluorooctanesulfonic-acid-pfos-cercla> (last visited June 5, 2024).

52. As manufacturers phased out these PFAS, they began using other types of PFAS, such as “GenX” chemicals. However, scientists are now finding these to have similar health and environmental risks. A compilation of PFAS toxicity studies shows that *virtually every PFAS examined* is correlated with adverse health outcomes.<sup>8</sup>

## **II. PFAS Are Widely Used and Are Present in Sewage Sludge in Concentrations that May Adversely Affect Public Health.**

53. PFAS have been used starting in the 1940s across many sectors of society in a wide array of applications: non-stick coatings, waterproofing and stain proofing of upholstery and clothing, firefighting foam, take-out containers, personal care products, and makeup, to name a few. Additionally, a fluorination process used on hundreds of millions of plastic containers per year used to store various consumer and industrial substances (including edibles) creates PFAS that leach into the contents of the containers.

54. As EPA itself has succinctly explained, “PFAS enter wastewater treatment systems through discharges from industrial, commercial, and domestic sources. These PFAS can end up in biosolids - the solid matter left at the end of the wastewater treatment process.” EPA, *Joint Principles for Preventing and Managing PFAS in Biosolids*, July 24, 2023.<sup>9</sup>

55. Since there is no current federal regulation of the vast majority of PFAS, companies that make or use PFAS can dispose of them in wastewater, which then ends up in municipal wastewater treatment plants. Indeed, a large part of PFAS in wastewater treatment plants come from industrial wastewater.

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<sup>8</sup> PFAS Project Lab, Northeastern University, PFAS-TOX Database, *available at* <https://pfasproject.com/pfas-toxic-database/> (last visited June 5, 2024).

<sup>9</sup> *Available at* chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/<https://www.epa.gov/system/files/documents/2023-07/Joint-Principles-Preventing-Managing-PFAS.pdf> (last visited June 6, 2024).

56. In addition to industrial discharges, PFAS are also washed down the drains of America's households and businesses, sloughing off from the myriad PFAS-laden products that consumers use every day, and present also in the waste flushed down toilets and sinks.

57. While wastewater treatment plants remove some chemicals from wastewater, they do not remove PFAS. In fact, concentrations of PFAS are often higher in the effluent of such treatment plants than the influent, indicating that precursor PFAS are transforming into new PFAS during the treatment. Studies quantifying PFAS precursor fractions in sewage sludge have found more than 75% of the PFAS fluorine mass was associated with precursors.<sup>10</sup>

58. Virtually all sewage sludge-based fertilizers tested have been found to contain large amounts of PFAS. A 2013 study of sewage sludge archived from 2001 showed large concentrations of PFAS in all samples, including abundant quantities of PFOS and PFOA, for which EPA has determined there is no dose below which can be considered safe for human exposure.<sup>11</sup>

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<sup>10</sup> Schaefer, C. E., Hooper, J., Modiri-Gharehveran, M., Drennan, D. M., Beecher, N., & Lee, L. (2022). Release of poly- and perfluoroalkyl substances from finished biosolids in soil mesocosms. *Water Research*, 217(April), 118405. Available at <https://doi.org/10.1016/j.watres.2022.118405> (last visited June 6, 2024).

<sup>11</sup> Venkatesan, AK, Halden, RU. *National inventory of perfluoroalkyl substances in archived U.S. biosolids from the 2001 EPA National Sewage Sludge Survey*. *J Hazard Mater*. 2013 May 15;252-253:413-8. doi: 10.1016/j.jhazmat.2013.03.016.

59. Farmers in Michigan,<sup>12</sup> New Mexico,<sup>13</sup> and Maine<sup>14</sup> have been forced to shut down operations due to PFAS contamination, and testing of Farming Family Plaintiffs' own properties found thirty-two different PFAS, including many at issue in this lawsuit.

60. Most states do not test for PFAS and therefore do not even comprehend the magnitude of the problem, but it is generally becoming so widespread that the Senate recently introduced a bill entitled, "Relief for Farmers Hit with PFAS Act," currently being considered by its Committee on Agriculture, Nutrition, and Forestry. S. 74 118th Congress (2023-2024).

61. PFAS in sewage sludge leach into the soil, surface water, and groundwater, and are carried in dust. They can be then taken up by plants, which humans, pets, farm animals, and wildlife consume. Living organisms including humans can consume surface water or groundwater directly, including through private wells or municipal sources, and can inhale dust.

62. In 2021, scientists published an article that predicted PFAS uptake and concentrations in different plants from sewage sludge and calculated the potential exposure to humans and animals consuming harvested vegetation.<sup>15</sup> They determined that EPA's then-current daily reference doses (the maximum acceptable oral dose of a toxic substance) of PFOA

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<sup>12</sup> Chris Clayton, "Forever Chemicals and Risks to Farms," *Progressive Farmer* (May 9, 2022) available at <https://www.dtnpf.com/agriculture/web/ag/livestock/article/2022/05/06/michigan-farm-cautionary-tale-pfas> (last visited June 5, 2024).

<sup>13</sup> Steve Davies, "New Mexico dairy farmer awaits PFAS relief as Congress looks to boost research funding," *AgriPulse* (June 29, 2022) available at <https://www.agripulse.com/articles/17916-new-mexico-dairy-farmer-awaits-pfas-relief-as-congress-looks-to-boost-research-funding> (last visited June 5, 2024).

<sup>14</sup> Kevin Miller, "More than 50 Maine farms impacted by PFAS, but state officials see 'glimmer of hope,'" *Maine Public* (Feb. 1, 2023) available at <https://www.mainepublic.org/environment-and-outdoors/2023-02-01/more-than-50-maine-farms-impacted-by-pfas-but-state-officials-see-glimmer-of-hope> (last visited June 5, 2024).

<sup>15</sup> Lasee, S. et al, *The Effects of Soil Organic Carbon Content on Plant Uptake of Soil Perfluoro Alkyl Acids (PFAAs) and the Potential Regulatory Implications*, *Environmental Toxicology and Chemistry*, Vol 40(3), pp 832-845 (2021).

and PFOS could be met by consuming vegetables grown in sewage sludge amended soils. As explained *supra* in paragraph 42, EPA has since declared a maximum contaminant level goal of **zero** for these two substances for consumption in drinking water.

63. Because PFAS can bio-magnify, PFAS from soil can be taken up by plants, which are then eaten by animals such as cows, creating contamination of both the milk and the meat.

64. If water is contaminated with PFAS, fish in those waters also become contaminated. Further, PFAS can lead to acute toxicity and result in death of these fish.

65. Farms, ranches, and communities can be devastated by the subsequent contamination of water, soil, crops, fish, and livestock. This threat of contamination is not merely hypothetical – it has happened to the Plaintiffs in this case.

66. EPA’s failure to identify and regulate PFAS harmed and continues to harm Plaintiffs and people across the country.

### **FIRST CAUSE OF ACTION**

#### **EPA’s Failure to Identify the Presence of the PFAS Listed in Table 1 in Sewage Sludge Violates the Clean Water Act**

67. Plaintiffs incorporate and re-allege all allegations set forth in the preceding paragraphs.

68. The biennial review requirement imposes on EPA a mandatory duty to keep close tabs on emerging or previously unidentified pollution threats in sewage sludge, and to list them for regulatory action under the CWA. 33 U.S.C. § 1345(d)(2)(C), when “on the basis of available information on their toxicity, persistence, concentration, mobility, *or* potential for exposure, *may* be present in sewage sludge in concentrations which *may* adversely affect public health or the environment.” 333 U.S.C. § 1345(d)(2)(A) and (B). This biennial review process is crucial so that EPA, Congress, and the public can understand – and be protected from – threats from new

substances as well as threats from old substances not previously detected in sewage sludge by prior outdated pollution detection technology.

69. EPA has already recognized the need for, and undertaken an effort to curate, a list of chemicals found in sewage sludge based on previous sewage sludge surveys and biennial reports where the agency determined that more than 250 chemicals were not previously reported as detected. However, EPA's most recent (2022) Biosolids Biennial Report No. 9 (the Biennial Report)<sup>16</sup> continues to be inadequate to meet the agency's obligations under the CWA as the agency failed to identify the PFAS in sewage sludge listed in Table 1 *supra* at ¶ 10.

70. Multiple peer-reviewed scientific studies indicate the PFAS listed in Table 1 are present in biosolids in concentrations that may affect public health and the environment based on their toxicity, persistence, concentration, mobility, or potential for exposure.

71. Recent scientific studies found concentrations of each of the Table 1 PFAS in sewage sludge across the United States and Canada. Each of these studies were available to EPA during the time the biennial report was created and published in 2022. The following is a list of some such studies:

- a. In 2017, scientists detected FBSA in biosolid amended soil in three separate locations: (1) Tillsonburg, Ontario, Canada; (2) Delhi, Ontario, Canada; and (3) Cambridge, Ontario, Canada. (Chu, 2017).
- b. PFHpS was found in biosolids, industrially impacted soil, and biosolid amended soil in various parts the midwestern United States. (Sepulvado, 2011; Blaine, 2013; Blaine, 2014).
- c. In 2021, EtFOSE was found in biosolids. (Thoma, 2022).
- d. In 2010, scientists found concentrations of 6:2FTOH, 7:2FTOH, 8:2FTOH, 9:2FTOH, 10:2FTOH, 11:2FTOH, 12:2FTOH, 13:2FTOH, 14:2FTOH in biosolids in Decatur, Alabama. (Yoo, 2010).

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<sup>16</sup> <https://www.epa.gov/system/files/documents/2022-12/2020-2021-biennial-report.pdf>

- e. In 2014, scientists found concentrations of 8:2/10:2 diPAP, 10:2 diPAP, and 10:2/12:2 diPAP in biosolids in Canada. (Lee, 2014).
- f. In 2021, scientists found concentrations of ErFOSE, MeFOSE, 5:3 FTCA, and 7:3 FTCA in biosolids. (Thomas, 2021).
- g. In 2021, researchers revealed the presence of GenX (HFPO-DA) in biosolids (Lee, 2021).

72. EPA's failure to identify the PFAS listed in Table 1 in its biennial reports violates the Clean Water Act.

### **SECOND CAUSE OF ACTION**

#### **EPA's Failure to Identify the Presence of the PFAS Listed in Table 1 in Sewage Sludge Violates the Administrative Procedure Act**

73. Plaintiffs incorporate and re-allege all allegations set forth in the preceding paragraphs.

74. EPA failure to identify the PFAS listed in Table 1, *supra* at ¶ 10 in its biennial reports constitutes an action unlawfully withheld or unreasonably delayed under the Administrative Procedure Act. *See* 5 U.S.C. § 706(1).

75. EPA's violation is continuous and ongoing. EPA will continue to violate the Administrative Procedure Act until it complies with its duty to identify the presence of all PFAS in sewage sludge for which available information suggests they may be present in concentration which may threaten human health or the environment.

### **THIRD CAUSE OF ACTION**

#### **EPA's Failure to Identify the Presence of the PFAS Listed in Table 1 in Sewage Sludge Is Arbitrary and Capricious and Violates the Administrative Procedure Act**

76. Plaintiffs incorporate and re-allege all allegations set forth in the preceding paragraphs.

77. The Administrative Procedure Act authorizes courts reviewing agency action to hold unlawful and set aside final agency action, findings and conclusions that are arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with the law. 5 U.S.C. § 706(2)(A).

78. EPA acted arbitrarily and capriciously and not in accordance with law by failing to identify the PFAS listed in Table 1, *supra* at ¶ 10, in its biennial reports.

#### **FOURTH CAUSE OF ACTION**

##### **EPA's Failure to Regulate the PFAS in Sewage Sludge Listed in Table 2 Violates the Clean Water Act**

79. Plaintiffs incorporate and re-allege all allegations set forth in the preceding paragraphs.

80. EPA has failed to regulate the PFAS listed in Table 2, *supra* at ¶ 11, despite overwhelming scientific evidence that they are present in sewage sludge in concentrations that may adversely affect human health or the environment such that EPA is statutorily mandated to promulgate pollutant limitations for them.

81. The PFAS in Table 2 have sufficient scientific information, including concentration data, human health toxicity data, ecological toxicity data, and environmental fate and transportation data, which shows that they may adversely affect public health and the environment to warrant regulation.

82. For some of the PFAS appearing in Table 2, EPA has found concentration data and ecological toxicity data but has stated that the agency is missing data on human health toxicity and environmental fate and transportation data. Specifically, for PFHxS, PFOA, and PFOS, EPA stated that it is only missing environmental fate and transportation data, while EPA stated that it was only missing human health and toxicity data for PFHxA.



83. However, various studies published prior to 2021 have shown both human health toxicity data and environmental fate and transport data for the PFAS listed in Table 2. Each of these studies were available to EPA during the time when EPA conducted the most recent Biennial Report. Despite this, EPA failed to review any of these studies during the agency's literature review and, as a result, failed to promulgate any regulations for any of these PFAS.

84. The following are a few of the studies that EPA failed to take into account that demonstrate that each of the PFAS listed in Table 2 have data on human health toxicity sufficient for EPA to promulgate regulations under 40 C.F.R. Part 503:

- a. PFBS has been associated with asthma (Rappazzo 2017, Sunderland 2018), the disruption of thyroid hormone balances (Lee and Choi 2017, Ren *et al.* 2016), the disruption of reproductive hormone concentrations (Zhou 2016), immunosuppression (Sunderland 2018), higher LDL cholesterol (Zeng *et al.* 2015, Seo *et al.* 2018), and impaired lung function in children (Qin *et al.* 2017).
- b. PFHxA has been associated with abnormal levels of thyroid hormones (Ren *et al.* 2016), impaired lung function in children (Qin *et al.* 2017), impaired liver function (Nian *et al.* 2019), higher low-density lipoprotein (LDL) cholesterol (Zeng *et al.* 2015), allergies (Okada 2014), and the disruption of reproductive hormone concentrations (Zhou 2016).
- c. PFHpA has been associated with heightened reproductive hormone concentrations (Zhou 2016), impaired lung function in children (Qin *et al.* 2017), allergies (Okada 2014), the failure of renal transport systems to control the excretion of uric acid (Seo *et al.* 2018).

- d. PFNA has been associated with higher LDL cholesterol in overweight men and women (Jain and Ducatman 2018, Zeng *et al.* 2015), immunosuppression (Sunderland 2018), asthma (Sunderland 2018), impaired lung function in children (Fu *et al.* 2014, Zeng *et al.* 2015), impaired liver function (Nian *et al.* 2019), allergies (Okada 2014), the disruption of reproductive hormone concentrations (Zhou 2016, Seo *et al.* 2018), and the failure of renal transport systems to control the excretion of uric acid (Seo *et al.* 2018).
- e. PFDA has been found to disrupt reproductive hormone concentrations (Zhou 2016), has been associated with autoimmune diseases (Sunderland 2018), impaired lung function in children (Qin *et al.* 2017), higher LDL cholesterol (Fu *et al.* 2014, Zeng *et al.* 2015, Seo *et al.* 2018), the disruption of reproductive hormone concentrations (Zhou 2016), and allergies (Okada 2014).
- f. PFUnDA has been associated with asthma (Sunderland 2018), autoimmune diseases (Sunderland 2018), allergies (Okada 2014), higher LDL cholesterol (Seo *et al.* 2018).
- g. PFDoDA has been associated with asthma (Sunderland 2018), autoimmune diseases (Sunderland 2018), impaired liver function (Nian *et al.* 2019), higher LDL cholesterol (Zeng *et al.* 2015, Seo *et al.* 2018), allergies (Okada 2014, Goudarzi *et al.* 2016).

85. The following are a few of the studies demonstrating that each PFAS listed in Table 2 has data on environmental fate and transport sufficient for EPA to promulgate regulations under 40 C.F.R. Part 503.

- a. PFAS from sewage sludge into soils leach during rain, floods, or even irrigation, as such events promote dissolution and migration (Sepulvado *et al.* 2011; Ahrens and Bundshuh 2014; Sharifan *et al.* 2021). This process can result in PFAS transport from surface soils to groundwater and surface water because PFAS releases often involve surface applications (Gellrich, Stahl, and Knepper 2012; Anderson, Adamson, and Stroo 2019; Galloway *et al.* 2020). PFAS can then be taken up by plants and ingested by humans and wildlife. (Benskin *et al.* 2012; Yan *et al.* 2015; Lang *et al.* 2017).
- b. There are a significant number of studies which review the fate and transport data for PFAS. Most notably, in 2020, scientists developed an equation for predicting PFAS uptake and concentrations in plants from biosolids and calculated the potential exposure to humans and animals consuming harvested vegetation. (Lasee *et al.* 2021). They determined that EPA's current daily reference doses of PFOA and PFOS (i.e., 20 ng/kg body weight for PFOA and 30 ng/kg body weight for PFOS) could be met by consuming vegetables grown in biosolid amended soils.
- c. Additionally, in 2020, an assessment of fate and transport models for groundwater leaching, surface water runoff, and plant uptake conducted by Arcadis U.S. and the National Council for Air and Stream Improvement identified five models to determine the amount of PFAS: (1) leaching from land applied residuals, (2) concentrations in surface runoff from land applied residuals, and (3) absorbed by plants from land applied residuals. (Arcadis U.S. 2020). Arcadis U.S. found that these existing models may be adequate to develop conservative estimates of

PFAS concentrations in surface water runoff and accumulation of PFAS in different soil, plant species and tissues. This demonstrates that there is available information on fate and transportation data for the listed PFAS.

- d. Aside from models available to EPA, there exist numerous publicly available scientific studies which specifically review environmental fate and transport data for the above listed PFAS:
- e. First, PFBS was found to: have a plant uptake in the shoot twice as high as in the root (Krippner *et al.* 2014); remain in the soil to be taken up by plants for years, (Milinovic *et al.* 2015); be taken up by soil, leachate, earthworms, and plants (Zhu, 2019); and elevate water concentration where biosolids were distributed (Linstrom *et al.* 2011)
- f. PFHpA was found to have a high plant uptake in the shoot (Krippner *et al.* 2014), was taken up by soil, leachate, earthworms, and plants (Bräunig, 2019, Zhu, 2019), and was found to compete for sorbtion spots in soil, which results in a greater spreading of PFAS through soil, plants, and water. (Gellrich, Stahl, and Knepper 2012).
- g. PFOA and PFOS were found to remain in the soil to be taken up by plants for years (Milinovic *et al.* 2015), was taken up by soil, leachate, earthworms, and plants (Bräunig, 2019, Zhu, 2019), was found to be more likely to interact with soil instead of wash out of it (Li *et al.* 2018), and was found to elevate water concentration where biosolids were distributed (Linstrom *et al.* 2011)
- h. PFNA was found to be more likely to interact with soil instead of wash out of it (Li *et al.* 2018), found to elevate water concentration where biosolids were

distributed (Linstrom *et al.* 2011), and was found to compete for sorbtion spots in soil, which will results in greater spreading of PFAS with lower attractions to soil (Gellrich, Stahl, and Knepper 2012).

- i. PFDA; was taken up by soil, leachate, earthworms, and plants (Bräunig, 2019, Zhu, 2019), was found to be more likely to interact with soil instead of wash out of it (Li *et al.* 2018), and found to elevate water concentration where biosolids were distributed (Linstrom *et al.* 2011)
- j. PFHxS, PFDoDA and PFUnDA were found to be taken up by soil, leachate, earthworms, and plants (Bräunig, 2019, Zhu, 2019), and were found to compete for sorbtion spots in soil, which will result in greater spreading of PFAS with lower attractions to soil (Gellrich, Stahl, and Knepper 2012).

86. EPA's failure to timely regulate the PFAS listed in Table 2, *supra* at ¶ 11, that are found in sewage sludge in concentrations that may threaten human health or the environment violates the Clean Water Act.

#### **FIFTH CAUSE OF ACTION**

##### **EPA's Failure to Regulate the PFAS in Sewage Sludge Listed in Table 2 Violates the Administrative Procedure Act**

87. Plaintiffs incorporate and re-allege all allegations set forth in the preceding paragraphs.

88. EPA's failure to regulate the PFAS listed in Table 2, *supra* at ¶ 11, in sewage sludge despite available evidence showing they are present in concentrations which may adversely affect public health or the environment constitutes an action unlawfully withheld or unreasonably delayed under the Administrative Procedure Act. *See* 5 U.S.C. § 706(1).

89. EPA's violation is continuous and ongoing. EPA will continue to violate the Administrative Procedure Act until it complies with its duty to regulate all PFAS in sewage sludge for which available information suggests they may be present in concentrations which may threaten human health or the environment.

### **REQUEST FOR RELIEF**

WHEREFORE, Plaintiffs respectfully request that this Court:

- A. Declare that EPA's failure to identify the PFAS listed in Table 1 as hazardous substances present in sewage sludge in EPA's biennial reports violates the Clean Water Act, 33 U.S.C. § 1345(d)(2)(C) and is an action unlawfully withheld or unreasonably delayed as well as an arbitrary and capricious action under the Administrative Procedure Act, 5 U.S.C. § 706(1) and (2)(A), respectively.
- B. Declare that EPA's failure to regulate the PFAS listed in Table 2 violates the Clean Water Act, 33 U.S.C. § 1345(d)(2)(C) and constitutes an action unlawfully withheld or unreasonably delayed under the Administrative Procedure Act, 5 U.S.C. § 706(1).
- C. Order EPA to identify the PFAS listed in Table 1 in its next biennial report and regulate the PFAS listed in Table 2 by the earliest practicable dates, pursuant to deadlines set by this Court;
- D. Retain jurisdiction over this matter until Defendants have fulfilled their statutory and Court-ordered obligations to protect the public from PFAS in sewage sludge;
- E. Award Plaintiffs reasonable costs and attorneys' fees; and
- F. Grant such other and further relief as the Court deems just and proper.

The original complaint having been filed on June 6, 2024, this amended version is respectfully submitted this 23rd day of July, 2024.

/s/ Laura Dumais

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