SB0732–Rule-FAV.pdf
Uploaded by: Ana Rule
Position: FAV

JOHNS HOPKINS
BLOOMBERG SCHOOL
of PUBLIC HEALTH
DEPARTMENT OF ENVIRONMENTAL HEALTH AND ENGINEERING

Submitted to:	**Education, Energy and the Environment Committee**
on:	**SB0732: Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits**
Position:	**Favorable**
Submitted by:	Ana María Rule, PhD, Board member, Maryland Pesticide Education Network
Hearing Date:	February 18, 2024

My name is Dr. Ana Rule and I am Assistant Professor at the Johns Hopkins Bloomberg School of Public Health (JHBSPH) in the Department of Environmental Health and Engineering. The opinions expressed here are my own and do not necessarily reflect the views of The Johns Hopkins University. I am submitting this written testimony **in support of SB0732.** The impacts of PFAS on public health have been one of my professional concerns. Recent findings that Biosolids applied to Maryland farm fields contain high levels of PFAS have increased my concern.

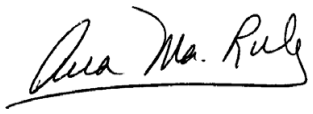
Since 1999, the CDC, through the National Health and Nutrition Examination Survey (NHANES) has measured PFAS in blood of the U.S. population. **This effort found that in 2020 about 97% of U.S. people have PFAS in their blood**, even though companies stopped manufacturing PFOS in 2002 and PFOA in 2015. Furthermore, the NHANES study has found that PFOA and PFOS in blood are declining, which is evidence that limiting introduction of PFAS in the environment, **as this bill SB0732 is proposing**, is the right approach. However, in a recent pilot study that I am leading, we found PFOA and PFOS in every one of the 41 Maryland residents that were tested, and 85% have PFAS levels in their blood at concentrations that trigger special screening by clinicians, including for breast, liver and testicular cancer.

As an example of how people are exposed, the shared waterway between the upstream rural and downstream urban areas of the Monocacy River (a tributary of the Potomac river) have been found to be contaminated with PFAS. **Contamination appears to be primarily due to the application of biosolids on upstream rural farmlands**. Unfortunately, because of this, PFAS contamination is now in well water supplies in local public schools and in groundwater where downstream urban communities frequently recreate. The Maryland Department of the Environment (MDE) has identified PFAS contamination in fish samples high enough to warrant a fish consumption advisory in and around the City of Frederick.

Because of their persistence both in the environment and our bodies, every exposure to a PFAS chemical can have long-term impacts. Given that these pesticides are widely used, we are experiencing ongoing, even if intermittent, exposures that increase our toxic body burden. **There are healthcare and environmental costs of not taking action to prevent unnecessary, accumulating PFAS pollution, and SB0732 takes important action steps by requiring biosolids to be tested 14 days prior to being applied to farmland and establishing a limit of 1 ppb for PFOS and PFOA in biosolids.**

To summarize, PFAS leads to concerning health risls. By passing **SB0732**, this committee can protect the health of Maryland residents and the environment from avoidable ongoing PFAS contamination. We need to stop unnecessarily adding to the already huge PFAS burden of our environment.

I urge you to give **SB0732**a favorable vote. Thank you for your consideration.



Ana Maria Rule, PhD, MHS

Assistant Professor
Johns Hopkins Bloomberg School of Public Health
Board Member, MD Pesticide Education Network

SB0732 Favorable Brent Walls.pdf
Uploaded by: Brent Walls
Position: FAV

POTOMAC RIVERKEEPER NETWORK

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SB0732 - Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits
Hearing date: Tuesday, February 18, 2025

Position: FAVORABLE

Dear Chair Feldman and members of the Education, Energy, and Environment Committee:

Potomac Riverkeeper Network: *Our mission is to protect the public's right to clean water in the Potomac and Shenandoah Rivers and their tributaries. We stop pollution to enhance the safety of our drinking water, protect healthy river habitats, and enhance public use and enjoyment.*

As the representative of the 3000 members of Potomac Riverkeeper Network, we respectfully request a FAVORABLE report on SB0732 which establishes a long-overdue limit on toxic PFAS found in biosolids (sewage sludge) that is used as fertilizer and spread on Maryland's farm fields.

The Problem

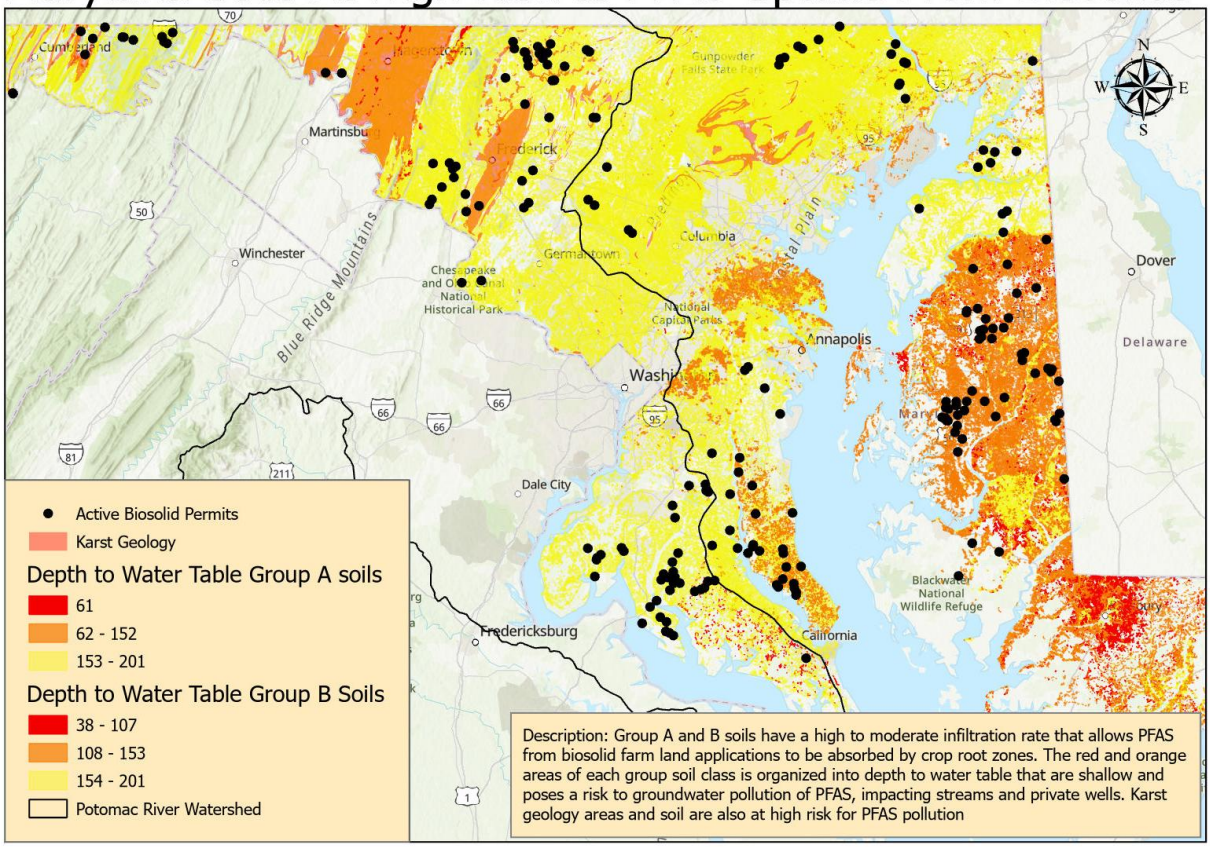
Biosolids are the solid waste, or sludge, produced during the treatment of municipal, human, and industrial wastewater. In Maryland, biosolids — including some from out-of-state facilities — are used as fertilizer on farms. However, these biosolids often contain pathogens and toxic substances, including PFAS chemicals, also known as "forever chemicals." While existing Maryland regulations prohibit immediate grazing, raw crop consumption, and public access to treated fields, these measures fall short when biosolids contain PFOS and PFOA, two highly toxic PFAS compounds that persist in the environment and pose significant risks to human and ecological health. During treatment, these chemicals concentrate in biosolids, which are then spread on agricultural fields.

The Risk to Maryland Water Resources and Human Health

Biosolids containing PFAS run off farm fields and filter into groundwater, contaminating drinking water sources. When biosolids are applied to farm fields, PFAS pollutants are not bound to soils and end up leaching through the soil and into the sub-surface water. The depth to water values for all soils in Maryland are updated annually and the following map highlights the soils in Maryland that have a higher risk of PFAS contamination impacting the groundwater; which in turn can contaminate private wells that are on or surrounding the farms where biosolids are applied. The map below also locates the existing sites where land applied biosolids. The red and dark orange indicate high risk areas that fall mostly on the Eastern Shore, but also on the lower Potomac River region along with areas in Frederick County. These are primarily rural areas with a dominant agricultural land use.

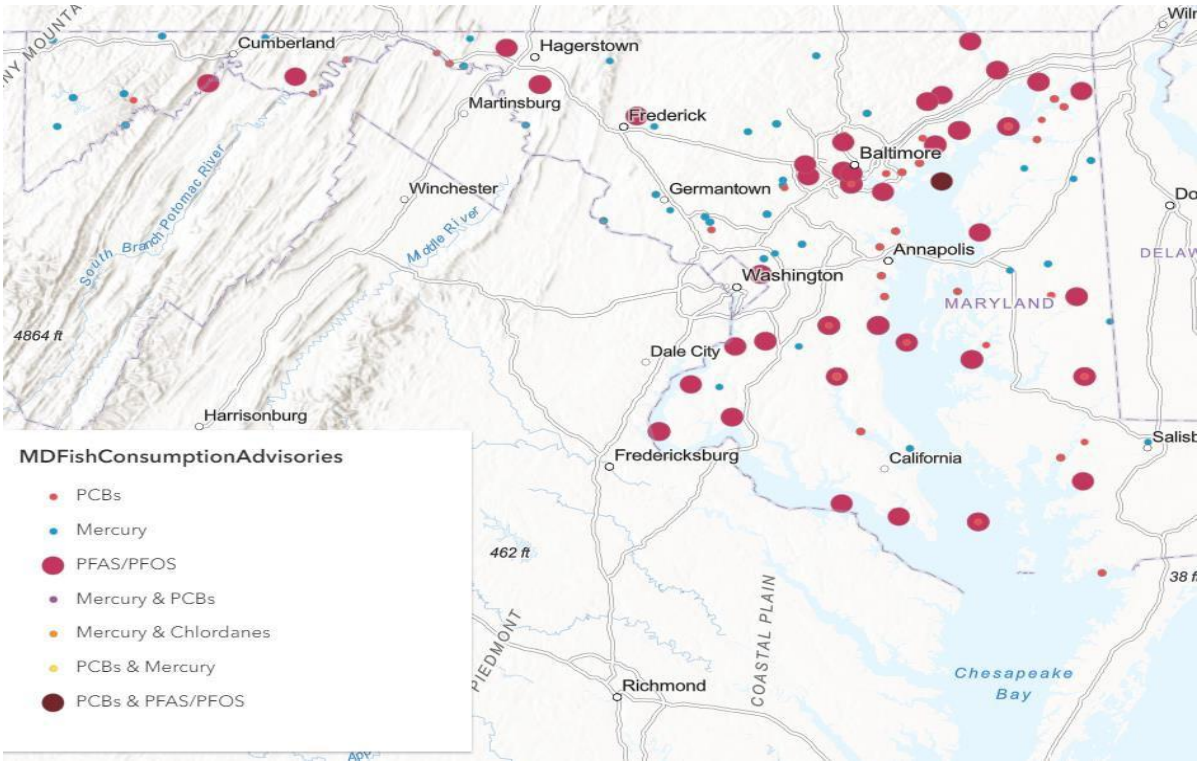
PFAS pollutants build up in soils after repeated biosolid applications, which means PFAS is available for long periods after application to leach into groundwater and run off into local streams. PFAS pollutants can also be taken up by leafy plants such as soybeans and grasses used for pasture which research shows can impact farm products and pasture grazed animals.

Maryland Soils At High Risk to PFAS Uptake From Biosolids



PFAS Puts Maryland's Fisheries at Risk

PFAS is known to bioaccumulates in fish and wildlife, increasing the risk to hunters and fisherman and their families by eating contaminated meat. In 2023, Maryland Department of the Environment issued fish consumption advisories for several species at 38 locations across the State of Maryland, with 80% of these sites located in agricultural regions. The advisories are also in areas where communities' subsistence fish to feed their families.



In 2024, Dr. Vicki Blazer with USGS published a paper on the testing of small mouth bass at several river systems in the Chesapeake Bay, including Maryland. The results of the study identified two dominant sources of PFAS in agricultural areas, pesticides and biosolids. The chart below compares the land use at 4 of the locations. The second slide shows the levels of 4 PFAS compounds found in small mouth bass at each location with PFOS having higher concentrations.

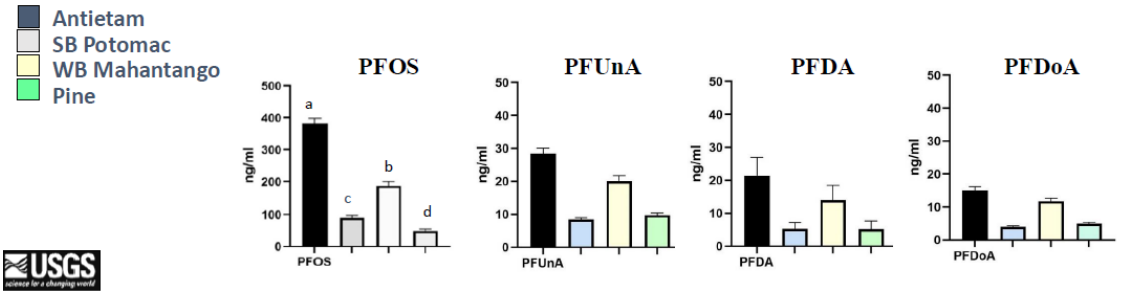
Land-use Comparison – Upstream Catchment

Site	Drainage area (km²)	Percent Agriculture	Percent Pasture	Percent Crop	Percent Forest	Percent Developed
Antietam Creek	730	49	21	28	32	17
South Branch Potomac River	3,150	14	13	1	81	3
West Branch Mahantango Creek	218	32	12	20	60	7
Pine Creek	2,437	9	8	1	84	4

USGS

Initial PFAS Analyses - 2018

- **Used archived plasma from smallmouth bass collected at four sites for analyses of 13 PFAS**
- **Four PFAS were found in every sample with PFOS having the highest concentrations**



USGS

[video presentation](#) | [powerpoint presentation](#)

EPA Actions on PFAS in Biosolids

Since 2003, EPA has known that biosolids can contain alarming levels of PFAS. In a 2018 report, the Environmental Protection Agency's (EPA) Inspector General accused the agency of failing to properly regulate biosolids. However, it wasn't until January 2025 that the EPA's draft Sewage Sludge Risk Assessment was released. It highlights the severe risks posed by PFOS and PFOA levels as low as 1–5 parts per billion (ppb), linking exposure to contaminated water, wildlife, and crops to serious health issues, including immune dysfunction, thyroid disease, and cancer.

In April of 2024, the EPA issued national drinking water limits for PFOA and PFOS at 4 parts per trillion (ppt) each. There are no other pollutants that are regulated by EPA or any state with limits lower or even close to 4 ppt. This means that the potential for PFOA and PFOS to cause harm is severe and must have lower limits. Biosolids are measured in parts per billion, which is 1000 times greater than parts per trillion. The reason for this difference is that biosolids are in a semi-solid form tied to a mix of solid and aqueous. When biosolids are applied to a farm field and is incorporated into the soil, weather events promote leaching into the groundwater and into streams from stormwater run off. Depending on the concentration of PFOS and PFOA in the biosolids, the leaching concentration is well above the 4 ppt drinking water limit. However, we do not usually drink straight from the river and the river volume tends to dilute the levels. But the repeated application of biosolids and the cumulative impact of several farm sites leaching PFAS increases the PFAS levels contaminating our fish, our drinking water source and the foods we grow. That is why the EPA draft Sewage Sludge Risk assessment sets the human health hazard limit to 1 ppb. The EPA limit is backed but robust scientific research, rather than statistical assessments of the present concentration of PFAS in biosolids that states like Michigan use as a basis for their PFAS limits in biosolids. In August of 2024, MDE issued recommendations for limits in biosolids for PFOA and PFOS at 100 ppb. This concentration limit was taken from Michigan's regulations, which has no scientific basis for human health exposure.

What the Bill Does

- Requires biosolids originating from multiple plants and are commingled at a storage facility, will be tested 14 days prior to being applied to farmland. This does not include biosolids directly from a wastewater plant to a farm for application.
- Establishes a limit for PFOS and PFOA in biosolids at 1ppb.

Farmers and watermen are sounding the alarm and filing lawsuits. Their fear is the liability of PFAS pollution contaminating their well and their neighbors drinking water. Farmers are concerned that the products they produce are contaminated with PFAS and may cause harm to the communities they provide food for. We should act now. Maryland can't wait for the EPA and must take stronger action to safeguard its drinking water sources, environment and the health of our farmers and communities.

We urge this committee to issue a favorable report on SB0732.

Sincerely,

Brent Walls
Upper Potomac Riverkeeper
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443-480-8970

In Favor of SB0732.pdf
Uploaded by: Carole Trippe
Position: FAV

Testimony in Support of SB0732
Sewage Sludge Utilization Permits – Per-and Polyfluoroalkyl Substances – Concentration Limits
Senate Education, Energy, and the Environment Committee 18 February 2025
Submitted on 14 February 2025 before 6 pm

To the Chair and Committee Members,

My name is Carole Trippe. I live in Chestertown, MD near the Chester River on the Eastern Shore. I urge a favorable report on SB0732. Thank you in advance for your consideration of support.

Biosolids containing PFAS – persistent and harmful "forever chemicals" – pose a serious risk to public health and the environment. When spread on farmland, these chemicals pollute soil, groundwater, crops, and wildlife, endangering communities, especially in rural areas like where I live on the Eastern Shore. To address this crisis, **Maryland must implement strict PFAS limits in biosolids and mandate testing before land application** to protect drinking water, food supplies, and ecosystems from further contamination.

This Bill will:

- Require testing of biosolids for PFAS contamination at least 14 days before land application
- Require the Maryland Department of the Environment to set health-based concentration limits for PFOS and PFOA in biosolids applied to agricultural land
- Restrict the application of biosolids with PFOS and PFOA concentrations higher than the limits.

By testing biosolids for PFAS and restricting application based on human and environmental health-based limits, Maryland will target biosolids disposal while protecting public health and the environment.

I **support Bill SB0732** because it proactively protects Maryland's drinking water, food supply, and environment from harmful PFAS contamination**, and will help to ensure our future generation's health and well-being.**

Thank you for your consideration, and I look to this committee to give SB0732 a **favorable** report.

Sincerely,
Carole Trippe
caroletrippe@gmail.com
537 High Street
Chestertown, MD 21620

Chesapeake Legal Alliance - Favorable - SB 732.pdf
Uploaded by: Evan Isaacson
Position: FAV

CHESAPEAKE
LEGAL ALLIANCE

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Support for Senate Bill 732

Dear Chairman Feldman and Members of the Committee:

The Chesapeake Legal Alliance strongly supports Senate Bill 732. This Committee has become well-acquainted in recent years with the unique public health threat posed by Per- and polyfluoroalkyl substances (PFAS). However, the issue of sewage sludge regulation is a topic that has received less attention in recent years from this Committee.

Ten to twenty years ago, as land application of sludge from sewage treatment plants in Maryland began rapidly expanding to become the dominant form of disposal for this large waste stream, the number of bills to regulate land application increased correspondingly. According to the Department of Legislative Services, in 2006, about 30% of sewage sludge generated in Maryland was applied to agricultural fields. By 2009, that figure jumped to 50%, and by 2018, 88% of sewage sludge was reportedly applied to our farmland.

Perhaps not surprisingly, the response to this trend from members of the General Assembly was robust. A review of DLS's legislative database shows that one or more bills were filed every year from 2006 to 2014 to regulate, restrict, or ban the disposal of sewage sludge via land application on agricultural fields. As one would expect, these bills were sponsored and vigorously pursued by the representatives of Maryland's agricultural communities, especially the Eastern Shore and Southern Maryland, including entire county delegations.

Although the vast majority of farms in Maryland do not accept biosolids, there are dozens of sites throughout the state that do. The transfer of residuals from human and industrial waste into these communities naturally provoked concerns, including the potential for constituents in these wastes to contaminate local water, soil, and air. What was not understood by communities or their legislative representatives a decade ago was the extent to which hazardous and persistent chemicals were present in the waste and building up in the soils. PFAS was simply not on the mind of the public or policymakers then.

But we now understand that this class of chemical, popularly known as "forever chemicals," have managed to jump from the laboratory to every reach of the planet and every part of the human body. And what scientists and regulators are learning more about each year is *how* this contamination happens. We now know that the land application of sewage sludge on agricultural fields is one of several major pathways for human exposure globally, either directly in the areas of application or indirectly through contamination of drinking water (especially well water) or the food system.

As we learn more about the sources, exposure pathways, and effects of PFAS, policymakers and regulators have responded. Bans and restrictions on land application of PFAS-contaminated sludge are beginning to proliferate in states (including Maine, Michigan, Minnesota, Connecticut) and an even larger number

are taking other actions like recommended limits or reduced application rates, increased monitoring, or notification to farmers and surrounding communities when higher levels of PFAS are detected.

For its part, the U.S. Environmental Protection Agency has just released its Draft Sewage Sludge Risk Assessment for two PFAS chemicals (PFOS and PFOA) in January 2025. While that report remains in draft form, the science behind it is robust and the conclusion is concerning. This EPA document examined the various human exposure pathways, both via direct contact on the farm and indirect contact with the PFAS exported from the application site, and quantified cancer risk from those exposure levels. The risk assessment then generated the recommended limit of 1 part per billion in sludge. Importantly, the assessment detailed the many reasons why "[t]he draft risk calculations are not conservative estimates."

Sewage sludge has for decades been subject to "cradle to grave" regulation by State and federal law, governing the generation, transport, storage, and ultimate disposal of these wastes. But while this regulatory framework is designed to control certain contaminants in land applied sludge, especially pathogens, most toxic chemicals are simply not covered under this regime; certainly not the most difficult to treat chemicals like PFAS.

Thankfully, the General Assembly jump started the effort to keep PFAS out of both the liquid and solid waste coming from our municipal wastewater treatment plants last year with the passage of Chapters 556 and 557 of 2024. When fully implemented – and if adequately enforced – these new statutory requirements will lower levels of PFAS in municipal sewage sludge in certain facilities through greater regulation of the upstream industrial facilities that send their contaminated wastewater to those municipal sewage treatment facilities. Additionally, as public and private sector efforts to reduce or eliminate PFAS in consumer products continue to develop, that will further reduce the contamination of sewage sludge slowly but surely over time. Eventually, we may hopefully reach the point where sludge from any and all sewage treatment facilities is safe enough to be land applied without the risk of elevated PFAS exposure.

For now, our rural communities and waterways remain in need of greater restrictions on PFAS in biosolids and a return to greater legislative scrutiny of this particular waste stream. For these and many other reasons we support Senate Bill 732.

For more information, you may reach Evan Isaacson at evan@chesapeakelegal.org.

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JCR_SB0732_14Feb2025.pdf
Uploaded by: Janet Ruhl
Position: FAV

Testimony in Support of SB0732/HB0909
Sewage Sludge Utilization Permits -
Per- and Polyfluoroalkyl Substances - Concentration Limits
Senate Education, Energy, and the Environment Committee 18 February 2025
Submitted on 14 February 2025 by 8:10 am

To the Chair and Committee Members,

My name is Janet Ruhl. I live in Galena, MD, on the Sassafras River, and I urge a **favorable** report on SB0732/HB0909. Thank you in advance for your consideration of support.

Biosolids are a valuable agricultural resource for soil conditioning and nutrient content. However, the sewage sludge from which biosolids are derived, may contain pollutants and disease-causing organisms (pathogens). Sewage sludge must be treated to meet state and federal regulations to protects human and environmental health. Limits are in place for several heavy metals, PCB, and pathogens.

With the growing knowledge regarding long-term toxicity of Per- and Polyfluoroalkyl Substances (PFAS), in particular perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), Maryland must implement limits for individual PFAS in biosolids in line with the limits established by the EPA, mandate testing for individual PFAS before land application, and restrict application of biosolids depending upon the concentrations of the individual PFAS found. These actions are needed to better manage applications of biosolids to protect drinking water, food supplies, and ecosystems from further contamination by harmful PFAS.

This Bill will:

- Require the Maryland Department of the Environment to set health-based concentration limits for PFOS and PFOA in biosolids applied to agricultural land
- Require testing of biosolids for PFAS contamination at least 14 days before land application.
- Restrict the application of biosolids with PFOS and PFOA concentrations higher than the limits.

By testing biosolids for PFAS and restricting application based on human and environmental health-based limits, Maryland will target biosolids disposal while protecting public health and the environment.

I **support** Bill SB0732/HB0909 which focuses on testing biosolids and restricting application based on the concentrations of individual PFAS. This bill is a logical extension to protecting agricultural lands from contamination with toxic heavy metals and disease-causing organisms (pathogens). With each new scientific discovery, we need to review and, potentially, adjust our practices.

Thank you for your consideration, and I look to this committee to give SB0732/HB0909 a **favorable** report.

Sincerely,
Janet C. Ruhl

Senate Testimony for PFAS in Biosolids Control Act

Uploaded by: John Thacker

Position: FAV

Testimony in Support of SB732

Senate Energy, Education, and Environment Committee February 18, 2025, at 1:00 pm
Submitted on the 14th day of February at 12:00 pm.

To Chair Feldman and Committee Members,

My name is John Thacker. I own a home on Island Creek, a tributary of the Choptank River in Talbot County, and I urge a favorable report on SB732.

SB732, Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits Bill, will serve to restrict the application of sewage sludge (Bio-Solids) containing excess PFAS to farmland as fertilizer, and thereby lessen the load of PFAS into Maryland's groundwater, and the Chesapeake Bay and its tributaries.

I **support** this bill because my home is in the critical area on Island Creek, with numerous farm fields in immediate proximity. My well water is drawn from a 200-foot deep groundwater well, and I fish and crab in Island Creek. Without the appropriate restrictions contemplated by this bill, there would remain a risk that the ground water and tidal waters will become increasing contaminated with PFAS, adversely impacting my family's and my neighbors' health. SB732 smartly addresses these concerns without overburdening agricultural interests.

Thank you for your consideration, and I respectfully ask this committee to give SB732 a **favorable** report.

Sincerely,
John Thacker
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johnpthacker@gmail.com
630-885-0130

In Talbot County:
28116 Brick Row Dr.
Oxford MD 21654

SB 0732).pdf
Uploaded by: Karen Holcomb
Position: FAV

Testimony in Support of SB 0732

Senate Energy, Education, and Environment Committee February 18, 2025
Submitted on February 14, 2025

To Chair Feldman and Committee Members,

My name is Karen Holcomb. I live in Chestertown, Maryland , near Fairlee Creek and in the midst of farm lands , and I urge a favorable report on SB0732. Thank you in advance for your consideration of support of this bill.

MARYLAND PFAS & SEWAGE SLUDGE BILL

Maryland applies nearly 90% of its biosolids to agricultural land, but biosolids containing PFAS — persistent and harmful "forever chemicals"— pose a serious risk to public health and the environment. PFAS enter wastewater treatment plants from industrial, landfill, and household sources, ultimately contaminating biosolids. When spread on farmland, these chemicals pollute soil, groundwater, crops, and wildlife, endangering communities, especially in rural areas like the Eastern Shore. **To address this crisis, Maryland must implement strict PFAS limits in biosolids and mandate testing before land application to protect drinking water, food supplies, and ecosystems from further contamination.**

THIS BILL WILL:

- Help prevent the spread of harmful PFAS chemicals into Maryland's soil, water, and food supply by *requiring testing of biosolids for PFAS contamination at least 14 days before land application.*
- Protect public health and the environment by *requiring the Maryland Department of the Environment to set health-based concentration limits for PFOS and PFOA in biosolids applied to agricultural land.*

This Bill aligns with federal, state, and Maryland-specific initiatives aimed at addressing PFAS contamination. It is consistent with federal actions such as the designation of PFOS and PFOA as hazardous substances under CERCLA (2024), the establishment of maximum contaminant levels for PFAS in drinking water (2024), and the EPA's Draft Risk Assessment on PFAS in biosolids (2025). It also mirrors initiatives in nearly a dozen states that have implemented or proposed PFAS monitoring requirements and restrictions on biosolids. Additionally, it builds on Maryland's legislative efforts, including the George "Walter" Taylor Act (2022) and the Protecting State Waters from PFAS Pollution Act (2024), as well as the Maryland Department of the Environment's PFAS Action Plan and biosolids testing initiatives.

Allowing biosolids with PFOS and PFOA above 1 ppb poses long-term health risks and will require costly remediation efforts. This bill proactively protects Maryland's drinking water, food supply, and environment from harmful PFAS contamination, ensuring public health and reducing future cleanup costs.

There are 98 biosolids land application permits covering over 2,700 acres of farmland in the Maryland — 28% of the permits covering 45% of the permitted land is on the Eastern Shore.

POTENTIAL IMPACTS

- Prevent PFAS-contaminated biosolids from contaminating Maryland's food, water, land, fish, and wildlife.
- Know exactly the amount and type of PFAS in biosolids prior to land application.
- Save the state's funding needed in the future for drinking water protection and environmental cleanup.

WHO WE ARE

ShoreRivers protects Maryland's Eastern Shore waterways through science-based advocacy, restoration, education, and engagement.

As a leading voice for water quality, our advocacy work is fundamental to creating system-wide change to abate pollution and protect our rivers and creeks.

CONTACT
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Choptank Riverkeeper
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SHORERIVERS

Testimony 2025 - SB0732 Sewage Sludge Utilization

Uploaded by: Mary Gant

Position: FAV

Senate Bill SB0732 Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits
Education, Energy, & Environment Committee – February 18, 2025
SUPPORT

Thank you for accepting written testimony from Kids for Saving Earth (KSE), an organization devoted to providing educational materials and activities for teachers, parents, and children to make their environment healthier.

Introduction

First created in the 1930s and 1940s, PFAS are among a class of more than 14,000 man-made chemicals that contain fluorine atoms bonded to a carbon chain. This carbon-fluorine bond is one of the strongest ever created by man and is rarely seen in nature. PFAS and their complex degradation products remain in the environment for so long that scientists are unable to estimate an environmental half-life.

Humans are exposed to PFAS through many pathways, practices, and products. Although drinking water is the exposure route for millions of people in the USA, inhalation and dermal absorption also contribute to body burden. Some PFAS bioaccumulate, leading to concentrations in animals that are significantly higher than the surrounding environment. PFAS can and do enter the human food chain. Plants can accumulate PFAS from the soil and water.

Health Effects Associated with PFAS Exposure

Immune Function. In 2016, the National Toxicology Program, a federal interagency program that evaluates and identifies the health effects of select substances, determined that PFOA and PFOS are hazardous to the immune system. Adult PFAS exposure has been associated with decreases in antibody production. Exposed children respond poorly to vaccines.

Cancer. PFOA is associated with an increased risk for testicular, ovarian, breast, and kidney cancer. Among men with a first-degree relative with prostate cancer, PFOA and PFOS are associated with increased risk for prostate cancer.

Child Development. Human epidemiology studies show associations between some PFAS and developmental effects. One study showed that PFAS exposure during pregnancy was associated with decreased birth weight and head circumference in males. A recent study of mothers and their babies showed prenatal exposure to PFOS is associated with cognitive effects and decreased ability to regulate behavior in school-age children.

Endocrine Disruption and Fertility. Our endocrine system controls our basic physiology, including metabolism, growth, fertility, and development. PFAS may interfere with healthy hormonal function in the body. Early-life exposure to PFAS may contribute to the development of metabolic diseases, including obesity and type 2 diabetes. Studies of pregnant women show that those with higher prenatal PFAS levels had children with higher body fat cells at age eight. A special concern is that PFAS alter thyroid hormone function that regulates metabolism and growth. Some PFAS decrease fertility and affect the ability to nurse. Animal studies support these conclusions.

Kids for Saving Earth urges your support for a favorable Committee report and passage in the Senate. The goal should be to eliminate all possible exposures to PFAS.

M.Pluta ShoreRivers Favorable Testimony SB732_Fina
Uploaded by: Matt Pluta
Position: FAV

Favorable, Senate Bill 732 – Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits

February 14, 2025

Thank you for the opportunity to submit testimony in **SUPPORT** of **SB732** on behalf of ShoreRivers, a river protection organization serving Maryland's Eastern Shore with more than 2,000 members. Our mission is to protect the waterways of Maryland's Eastern Shore through science-based advocacy, restoration, education, and engagement.

I am writing to express my strong support for SB732 which will **(1)** require testing of sewage sludge for PFOS and PFOA before its application on farmland as a fertilizer, and **(2)** to establish concentration limits for PFOS and PFOA to safeguard public and environmental health.

As this committee knows very well, PFAS are synthetic chemicals widely used in industrial processes, and consumer goods, and exposure to PFOS and PFOA has been linked to adverse health effects, including cancer, immune system suppression, and developmental issues. These chemicals enter wastewater systems through household and industrial discharges, and leachate from landfills. **Because wastewater treatment plants are not designed to remove PFAS, these persistent chemicals accumulate in sewage sludge—a byproduct of the treatment process.**

THE IMPACT OF SPREADING PFAS ON FARM FIELDS: When sewage sludge is applied to farmland as a fertilizer it presents a significant public health risk as PFOS and PFOA can contaminate soil, crops, drinking water wells, downstream waterways and fish, and wildlife. **PFAS are highly mobile in the environment and can leach into groundwater** – contaminating on-farm and nearby drinking water wells, as well as irrigation water used to water neighboring farms' crops. **PFAS can be taken up by crops grown in contaminated soil,** leading to human ingestion through the food chain. Additionally, as seen in Maine, Michigan, New Hampshire, and Wisconsin wildlife (deer, geese and turkey) and livestock consuming forage grown on affected land can accumulate PFAS in their bodies, further exposing consumers. And **PFAS are known as "forever chemicals" because they do not break down naturally and can persist for decades in soil and groundwater**, making remediation extremely difficult and costly.

THE DATA: Data on the concentration of PFOS and PFOS in sewage sludge and the impact it has when applied to farm fields is surfacing every day and even right here in Maryland:

- The Maryland Department of the Environment (MDE) conducted an initial round of sewage sludge testing at wastewater treatment facilities and found elevated levels of PFOS and PFOA in nearly all of the 55 facilities tested. Below is the statistical analysis of the sample results, highlighting the observed PFOS and PFOA levels from the survey. According to the EPA's Draft Sewage Sludge Risk Assessment for PFOA and PFOS, **sewage sludge containing 1 part per billion (ppb) of PFOA or 4–5 ppb of PFOS**

ShoreRivers
Isabel Hardesty, Executive Director
Annie Richards, Chester Riverkeeper | Matt Pluta, Choptank Riverkeeper
Ben Ford, Miles Wye Riverkeeper | Zack Kelleher, Sassafras Riverkeeper

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poses a human health risk due to potential contamination of groundwater used for drinking. [1]

Statistical Value	PFOA	PFOS
Maximum	37	174
75th Percentile	10.82	25.38
Median	4.98	12.7
25th Percentile	2.38	5.74

Table 4: Observed PFOS & PFOA level from the Survey – Biosolids. Unit: Parts Per Billion (PPB). Source: September 9, 2023 Joint Chairmen's Report: PFAS Monitoring in Publicly Owned Treatment Woks, Maryland Department of Environment (Attached).

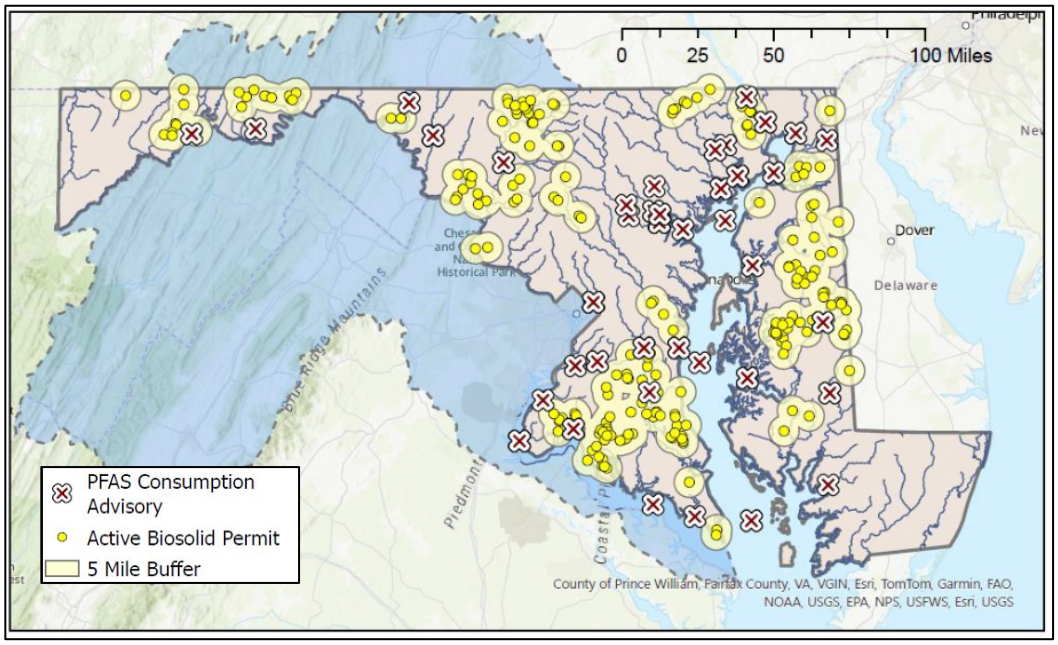
- **MDE has issued a new fish consumption advisory for certain locations due to elevated PFAS levels detected in 15 fish species found in Maryland waterways, many in rural areas around the State like the Eastern Shore.** These species include blue catfish, channel catfish, largemouth and smallmouth bass, northern snakehead, silver perch, spot, striped bass (rockfish), sunfish, and white and yellow perch.[2]

  Meanwhile, an increasing body of research indicates that the use of sewage sludge as fertilizer is a likely source of PFAS contamination in fish (attached). [3] When mapping the locations of fish consumption advisories alongside sewage sludge use permits, a clear overlap emerges. **Contaminated fish are frequently found in close proximity to upstream sewage sludge application sites, particularly on the Eastern Shore**. This correlation underscores the urgent need for stricter regulations to prevent further contamination (see attached map of sewage sludge permits and PFAS-related fish consumption advisories).

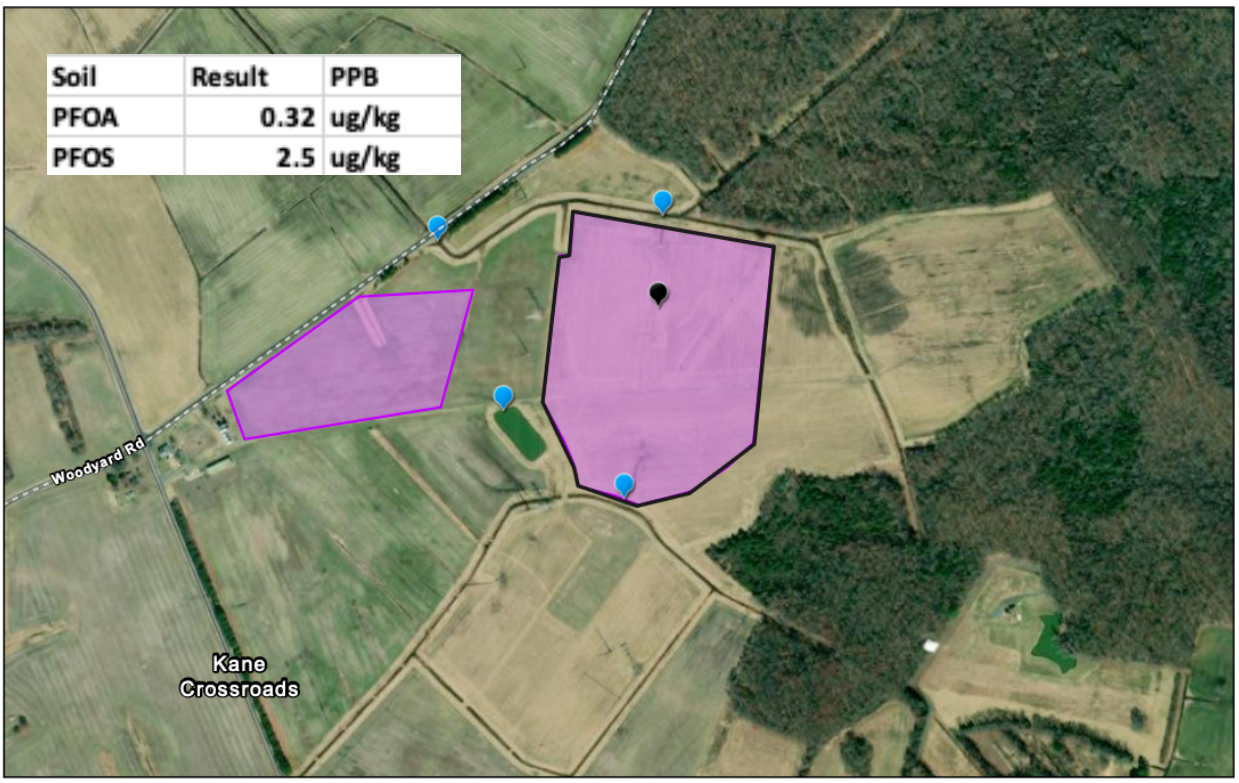
[1] US EPA Draft Sewage Sludge Risk Assessment for Perfluoro-octanoic Acid (PFOA) and Perfluoro-octane Sulfonic Acid (PFOS). January 2025. Website: https://www.epa.gov/biosolids/draft-sewage-sludge-risk-assessment-perfluorooctanoic-acid-pfoa-and-perfluorooctane

[2] MDE News Release: MDE Issues New Fish Consumption Advisory and Guidelines. December 8, 2023. Website: https://news.maryland.gov/mde/2023/12/08/maryland-department-of-the-environment-issues-new-fish-consumption-advisory-and-guidelines/

[3] Bay Journal: Study points to farmland as possible source of PFAS in fish. December 11, 2024. Website: https://www.bayjournal.com/news/fisheries/study-points-to-farmland-as-possible-source-of-pfas-in-fish/article_cb87b2f4-b176-11ef-a7d3-2b8dfd351560.html



- ShoreRivers conducted soil sampling in 2023 on a farm field on the Eastern Shore that has a history of applying sewage sludge as fertilizer, with the last application occuring in 2021. The results of the soil sample showed elevated levels of PFOS (2.5 ppb) and PFOA (0.32 ppb) in the soil.



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<u>WHY TESTING PRIOR TO LAND APPLICATION IS NECESSARY:</u> Testing within 14 days of land application is essential because **sewage sludge that has been stored off-site or mixed with other materials may experience degradation and changes over time where longer chain PFAS chemicals can form new PFOS and PFOA chemicals.** When biosolids are mixed from different wastewater treatment plants (WWTPs) and stored for extended periods—especially between December 16 and February 28 when nutrient application on farms is prohibited per COMAR 15.20.07.02, Supplement No. 7 (May 2012, amended and effective January 2, 2017) — contaminant levels can fluctuate. **Testing closer to the time of application ensures that the final material being applied to agricultural land meets safety standards and reflects its most recent composition, preventing outdated or inaccurate data from being used in regulatory compliance.**

Protecting Maryland's water, food, and agricultural land from PFAS contamination **must be a top priority**, as it is essential for safeguarding public health, preserving farmland, and preventing irreversible environmental damage. Proactive measures can also help avoid the significant financial burden of future remediation efforts for contaminated fields.

Increasing evidence continues to reveal the harmful impacts of PFAS exposure on public health, particularly from the land application of sewage sludge. I strongly urge committee members to support SB732, which mandates testing and enforces strict PFAS limits in sewage sludge, ensuring the safety and well-being of all Marylanders.

Sincerely,

Matt Pluta,
Choptank Riverkeeper on behalf of ShoreRivers.

2023 Joint Chairmen's Report: PFAS Monitoring in Publicly Owned Treatment Works

September 29, 2023

Prepared for:
The Honorable Bill Ferguson, President
Maryland Senate

The Honorable Adrienne Jones, Speaker
Maryland House of Delegates

The Honorable Guy Guzzone, Chair
Senate Budget and Taxation Committee

The Honorable Ben Barnes, Chair
House Appropriations Committee

MARYLAND DEPARTMENT OF THE ENVIRONMENT
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Introduction:

Pursuant to the 2023 Joint Chairman's Report (JCR), the Maryland Department of the Environment (MDE or the Department) presents the following report. During FY23, the Senate Budget & Taxation Committee and the House Appropriations Committee requested the Department submit a report on the actions and associated timeline needed to expand efforts to include monitoring of Per- and Polyfluoroalkyl substances (PFAS) levels in the effluent, influent, and biosolids at publicly owned treatment works.

Departmental Overview:

The Budget Committees have expressed interest in the PFAS levels associated with publicly owned wastewater treatment works and requested the Department to provide a summary of the actions taken by the Department. Municipal Wastewater Treatment Plants (WWTPs) are vital in managing wastewater from urban areas' residential, commercial, and industrial sources. These facilities are designed to eliminate contaminants, pollutants, and pathogens from wastewater before it is safely discharged into the environment through surface water or groundwater outlets. The effectiveness of WWTPs depends on the community size they serve and the technology they employ.

Background:

The potential risk of PFAS contamination in wastewater will arise if these chemicals are found in the effluent discharged by WWTPs. PFAS can enter WWTPs and the environment through several pathways:

- Industrial Discharge: Industries engaged in manufacturing, firefighting, electronics, and textiles can release PFAS into wastewater through their processes.
- Domestic and Commercial Sources: PFAS can also enter wastewater from households and businesses through consumer products such as nonstick cookware, food packaging, stain-resistant fabrics, and firefighting foams.
- Stormwater Runoff: PFAS from various land sources can enter stormwater runoff, which may eventually mix with wastewater directed to WWTPs, a scenario expected to increase due to climate change.

Conventional treatment processes utilized by WWTPs may not effectively remove PFAS, potentially leading to their release into the environment through treated wastewater discharges or the disposal of sludge/biosolids. This poses a challenge for managing PFAS contamination, underscoring the need for improved treatment technologies and regulatory measures.

PFAS contamination from WWTPs can result in several environmental and public health risks:

- Environmental Contamination: If not effectively treated, PFAS can contaminate surface water bodies, groundwater, and soil near discharge points, potentially affecting aquatic ecosystems and surrounding wildlife.
- Bioaccumulation: PFAS can accumulate in the tissues of aquatic organisms over time, leading to higher concentrations in the food chain and potentially impacting aquatic life and human health through contaminated seafood consumption.
- Drinking Water Source Contamination: In areas where surface waters are used for drinking water, WWTP discharges can contaminate drinking water supplies, posing health risks to residents.
- Human Exposure: Direct contact with contaminated water or soil, ingesting contaminated food or water, or inhaling PFAS-containing particles/aerosols can lead to human exposure.

In early 2020, the Department started conducting outreach with municipal utilities throughout the state to collaborate on sampling municipal wastewater treatment plants for PFAS data collections. Through voluntary sampling or surveys, the Department has collected and analyzed samples from more than 100 municipal wastewater facilities (Table 1). Samples were collected from several locations of the wastewater facilities to represent the influent, biosolids, and effluent waste. The locations are described below:

- The collection system's influent location, commonly considered the “raw” wastewater, is the primary location for wastewater collection from homes, businesses, and industries through a network of sewer pipes.
- The biosolids are generated from the sludge treatment process. The sludge collected during the primary and secondary treatment stages contains organic and inorganic materials. The sludge needs further treatment to stabilize and reduce the volume, usually handled by anaerobic digestion, aerobic digestion, and dewatering processes, resulting in the end product - biosolids.
- The effluent is the final treated wastewater discharged into a receiving stream or land after undergoing the required treatment.
- The recycled flow is a portion of the wastewater flow in the later stage of the wastewater treatment facility that is recycled back into an earlier stage of the treatment process. This is typically done by diverting a fraction of the partially treated wastewater generated by sludge dewatering/filter backwashing and combining it with the influent wastewater.

PFAS Data Collection:

Collected data has been meticulously gathered and subjected to statistical analysis to establish tiered baseline levels for each of the 40 PFAS chemicals scrutinized in the survey. (Table 2) These baseline tiers include Maximum, 75th percentile, Median, and 25th percentile values.

Facilities with PFAS chemicals exceeding the median tier level will be prioritized for further monitoring and source tracking/minimization efforts (Tables 3 & 4). This prioritization approach aims to effectively address and manage facilities with higher PFAS concentrations, ensuring a proactive approach to safeguarding the environment from potential contamination risks.

To identify potential “hot spots” in the state's waterways and communities that may depend on them, the Department will compare and evaluate monitoring results from WWTPs with data from ambient water quality and fish tissue surveys. This comprehensive approach proactively addresses PFAS contamination risks, ensuring the environment's and affected communities' well-being.

The survey results for each facility will be accessible to the public on the Wastewater Pollution Prevention and Reclamation Program’s website by Spring 2024, promoting transparency and public awareness. Additionally, the Department will publish tentative determinations and PFAS-specific requirements for proposed discharge permits in local newspapers to encourage public comments and requests for public hearings, fostering public engagement and allowing stakeholders to contribute valuable input to the permitting process.

Delegated Authority:

As the regulatory authority, the Department addresses PFAS contamination in WWTP discharges through the National Pollutant Discharge Elimination System (NPDES) permit program. This program, established under the Clean Water Act (CWA), regulates pollutants released into U.S. waters. The Department is granted delegation by the EPA to issue NPDES permits governing the discharge from Maryland's WWTPs. Given that PFAS is classified as a pollutant within the CWA, the NPDES permit program effectively manages PFAS discharges.

Facilities with effluent containing elevated PFAS levels will be required to conduct additional monitoring of their influent, effluent, and biosolids. The Maryland Department of Health Laboratory Administration is EPA-approved to run Method 1633[1] for quantifying 40 PFAS in wastewater. Additionally, facilities must submit comprehensive PFAS source tracking and minimization plans, potentially in coordination with the industrial pretreatment program. Additional requirements will be incorporated through the permit modifications once the EPA and the Department have finalized the ambient water quality standards and biosolid application restrictions for PFAS substances.

The Department has successfully issued 13 NPDES municipal discharge permits with PFAS monitoring and source tracking requirements (Table 5), with more in progress. These permits

[1] Method 1633 for PFAS is a document currently under development by the EPA Office of Water, Engineering and Analysis Division (EAD), in collaboration with the Department of Defense (DoD), and includes the aqueous matrices results of the multi-laboratory validation study.

include specific PFAS monitoring requirements for influent, effluent, and biosolids and mandates for comprehensive PFAS source tracking and minimization plans. This proactive approach underscores the Department's commitment to minimizing PFAS contamination through municipal wastewater facilities, ensuring water quality and public health protection. These requirements align with EPA guidance published in December 2022.

The Department's issuance of NPDES municipal discharge permits places a strategic emphasis on facilities carrying a higher risk potential for the presence of PFAS compounds in their influent, effluent, and biosolids. This prioritization is complemented by a multifaceted approach encompassing source tracking and minimization measures. This holistic approach effectively addresses PFAS-related concerns and serves as a robust safeguard for designated water usage and the overall well-being of public health.

Permit Requirements:

As part of the discharge permit renewal process, facilities identified as having an elevated risk of PFAS contamination will be required to publish a notice of tentative determination. This notice will outline the proposed PFAS-specific requirements, promoting widespread awareness among stakeholders and fostering active public participation.

Additionally, the Department is committed to assisting utilities that may encounter financial challenges in meeting these requirements. MDE will provide guidance and support to these utilities, assisting them with access to financial assistance from the Clean Water and Drinking Water State Revolving Funds and utilizing the Federal funding from the Bipartisan Infrastructure Law. This financial support is intended to help cover the costs associated with mitigating PFAS risks, ensuring that these essential measures can be implemented effectively.

Conclusion:

The Department’s preliminary POTW PFAS survey conducted between 2022 and 2023 has yielded valuable insights for the NPDES municipal permit division. This information has enabled them to identify facilities with elevated PFAS levels in their effluent/biosolids and impose additional permit requirements, including monitoring and source tracking.

In 2022, the Maryland General Assembly passed the George “Walter” Taylor Act, requiring the Department to create a comprehensive State action plan to identify strategies, actions, and funding alternatives to minimize environmental exposure to PFAS chemicals. This report is due by December 31, 2023, and will also have a section on WWTPs.

Appendix:

Table 1: Survey Samples Collected and Analyzed *(as of 9/25/2023)*

Sampling Rounds	No. of Sampling Events	No. of facilities	Comments
Volunteer *(01/2020-)*	35	21	1. Samples were collected by Utilities at the request of MDE for self-evaluation or during the permit renewal process. Most samples were collected at effluent and biosolids. 2. Analytical Methods used: EPA 533, 537.1 or 537M.
MDE Round 1 *(10/2022-)*	16	12	1. Focus on facilities receiving flow from IU with activities related to PFAS chemicals. 2. Samples were collected at influent, effluent, flow recycle, and biosolids. 3. Some facilities were sampled twice due to higher PFAS results observed in the first sampling event. 4. Analytical Method used: EPA 537M.
MDE Round 2 *(04/2023-08/31/2023)*	69	69	1. Focus on facilities that generate Class B biosolids or practice spray irrigation for effluent disposal. 2. Samples were collected at influent, effluent, and biosolids 3. Analytical Method used: EPA 1633.
Total	**120**	**102**	

Table 2: Observed Median Baseline Level (MBL) in the Survey

Unit: Parts Per Trillion (PPT)

	Influent			Effluent			Biosolid			Recycle		
	Min	**Max**	**Median**	**Min**	**Max**	**Median**	**Min**	**Max**	**Median**	**Min**	**Max**	**Median**
PFBA	0.66	78.9	5.49	1.18	59.6	5.61	900	13500	2390	ND	ND	ND
PFPeA	1.54	460.0	8.16	1.71	315.0	19.6	600	33600	3445	ND	ND	ND
PFHxA	0.83	320.0	5.39	1.55	163.0	14.0	33	21100	2740	1.97	110	6.04
PFHpA	0.68	99.0	5.06	0.60	210.0	5.46	20	104000	3735	9.47	2400	35.5
PFOA	0.80	160.0	5.40	0.81	42.5	8.53	116	37000	4980	5.36	210	16.5
PFNA	0.45	20.7	1.49	0.75	10.0	1.48	249	17000	4190	0.98	11	2.91
PFDA	0.86	10.6	1.30	0.47	9.77	1.37	70	30800	5570	1.00	170	1.96
PFUnA	0.83	5.14	1.97	0.72	2.55	1.00	40	5570	840	298.0	298	298.0
PFDOA	0.51	10.2	1.36	0.58	1.83	0.82	30	31100	3110	2.81	11.1	6.96
PFTrDA	1.49	1.49	1.49	ND	ND	ND	29	2880	342	2.56	80.6	2.78
PFTeDA	0.59	1.25	0.83	0.58	1.77	1.38	57	5970	970	3.27	3.27	3.27
PFBS	0.67	100.0	5.06	0.52	62.3	5.71	38	69200	2260	3.60	610	12.0
PFPeS	1.77	86.3	5.46	5.19	63.0	7.19	150	67100	849	ND	ND	ND
PFHxS	0.80	319.0	2.39	0.93	319.0	2.28	585	5960	1105	5.40	5.40	5.40
PFHpS	0.52	180.0	3.35	0.81	76.0	2.80	66	8400	516	2.20	14.	4.37
PFOS	1.60	1670.0	6.79	1.06	694.0	3.68	120	174000	12700	1.05	55.0	9.90
PFNS	0.33	0.62	0.48	0.35	3.19	1.77	219	3729	730	ND	ND	ND
PFDS	0.81	13.6	0.98	2.15	6.74	4.45	400	16090	795	ND	ND	ND
PFDoS	ND	ND	ND	ND	ND	ND	1650	1650	1650	ND	ND	ND
4-2 FTS	3.08	3.21	3.15	ND	ND	ND	ND	ND	ND	1.23	1.23	1.23
6-2 FTS	0.33	355.0	4.10	1.23	58.20	3.88	69	8640	228	1.77	177.0	4.89

8-2 FTS	6.30	75.1	10.32	2.18	2.18	2.18	1540	1740	1640	ND	ND	ND
PFOSA	0.26	4.05	0.53	0.26	4.55	0.42	381	21930	1741	ND	ND	ND
NMeFOSAA	0.23	6.98	0.84	0.25	5.36	0.96	37	40290	6527	1.04	2.72	1.27
NEtFOSAA	0.56	6.20	0.83	0.56	5.39	0.96	112	26310	3310	6.78	6.78	6.78
	Influent			**Effluent**			**Biosolid**			**Recycle**		
	Min	**Max**	**Median**	**Min**	**Max**	**Median**	**Min**	**Max**	**Median**	**Min**	**Max**	**Median**
NMeFOSA	0.43	1.23	0.57	0.47	0.47	0.47	554	847	714	ND	ND	ND
NEtFOSA	0.21	1.19	0.30	0.28	0.84	0.56	1680	1680	1680	ND	ND	ND
NMeFOSE	10.0	10.0	10.0	11.0	11.0	11.0	1970	31930	13950	ND	ND	ND
NEtFOSE	10.7	173.0	30.9	9.49	9.49	9.49	1320	13140	7230	ND	ND	ND
HFPO-DA	4.37	23.8	14.09	7.45	11.1	9.28	ND	ND	ND	10.6	10.6	10.6
ADONA	5.51	5.51	5.51	ND	ND	ND	42	2340	1191	1.56	1.56	1.56
9Cl-PF3ONS	4.67	4.67	4.67	ND	ND	ND	54	54	54	ND	ND	ND
11Cl-PF3OUdS	5.48	5.48	5.48	ND	ND	ND	50	50	50	ND	ND	ND
PFEESA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PFMPA	1.12	3.24	1.69	3.96	3.96	3.96	ND	ND	ND	2700	2700	2700
PFMBA	1.04	23.3	1.21	1.16	3.09	1.16	626	2560	1350	ND	ND	ND
NFDHA	10.7	744	18.3	11.0	16.8	15.3	1626	8720	1920	ND	ND	ND
3-3FTCA-FPrPA	ND	ND	ND	ND	ND	ND	1290	1540	1415	ND	ND	ND
5-3FTCA-FPePA	22.8	144	68.2	218	218	218	5500	212710	49016	1200	1200	1200
7-3FTCA-FHpPA	655	655	655	64.1	64.1	64.1	14700	44500	39000	ND	ND	ND

* Multiple samples/sampling events were conducted at several facilities.

115 Influent samples were collected from 80 facilities.

127 Effluent samples were collected from 81 facilities.

83 Biosolid samples were collected from 51 facilities.

25 Recycle samples were collected from 16 facilities.

Overall, 120 sampling events were conducted at 82 facilities.

Table 3: Observed PFOS & PFOA levels from the Survey -Effluents

Unit: Parts Per Trillion (PPT)

Statistical Value	PFOA	PFOS
Maximum	42.5	694
75th percentile	11.5	5.74
Median	8.53	3.68
25th percentile	5.6	2.61

Table 4: Observed PFOS & PFOA levels from the Survey - Biosolids

Unit: Parts Per Billion (µg/kg or PPB)

Statistical Value	PFOA	PFOS
Maximum	37	174
75th percentile	10.82	25.38
Median	4.98	12.7

25th percentile	2.38	5.74

Table 5: Permits with PFAS Monitoring Requirements
(As of 9/25/2023)

Facility Name	Ownership	County	Receiving Water	Issuance Date
Naval Support Facility Indian Head WWTP	Naval Support Facility Indian Head, Department of the Navy	Charles	Potomac River	**09/01/2021**
Piscataway WWTP	Washington Suburban Sanitary Commission	Prince George's	Potomac River	**11/01/2022**
Sod Run WWTP	Harford County DPW	Harford	Bush River	**11/01/2022**
Western Branch WRRF	Washington Suburban Sanitary Commission	Prince George's	Western Branch	**04/01/2023**
Salisbury WWTP	City of Salisbury DPW	Wicomico	Wicomico River	**06/01/2023**
Maryland City WRF	Anne Arundel County DPW	Anne Arundel	Patuxent River	**07/01/2023**
Patuxent WRF	Anne Arundel County DPW	Anne Arundel	Little Patuxent River	**07/01/2023**
La Plata WWTF	Town of La Plata	Charles	Unnamed Tributary of Port Tobacco Creek	**09/01/2023**
Naval Support Activity Annapolis WWTP	Naval Support Activity Annapolis	Anne Arundel	Carr Creek	**09/01/2023**
Parkway WRRF	Washington Suburban Sanitary Commission	Prince George's	Patuxent River	**10/01/2023**

Bowie WWTP	City of Bowie	Prince George's	Patuxent River	**11/01/2023**
Damascus WRRF	Washington Suburban Sanitary Commission	Montgomery	Magruder Branch (a tributary of Great Seneca Creek)	**11/01/2023**
Meadowview WWTP	Cecil County DPW	Cecil	West Branch Christina River	**12/01/2023**

Maryland Department of the Environment Issues New Fish Consumption Advisory and Guidelines

Recommended meal limits issued based on testing results as part of Maryland's comprehensive response to PFAS risks; testing shows blue crabs and oysters do not appear to be affected, vast majority of fish may still be eaten in moderation

BALTIMORE (Dec. 8, 2023) – The Maryland Department of the Environment has issued a new fish consumption advisory for certain locations based on levels of a chemical compound in a class known as PFAS (per- and polyfluoroalkyl substances) for 15 fish species found in Maryland waterways.

"Fish is an important part of a healthy diet, but it is important to share what we've learned to help people—including subsistence anglers in underserved communities— make informed decisions about what they and their families eat," said Maryland Department of the Environment Secretary Serena McIlwain. "Maryland is committed to informing the public, following the science, and providing data as part of our comprehensive response to PFAS as an emerging national concern."

Though the vast majority of fish from Maryland waters may be eaten in moderation, the advisory provides updated guidelines for recommended consumption for certain recreationally-caught fish species in Maryland's fresh, estuarine, and marine waters.

PFAS refers to a group of more than 4,000 human-made chemicals that have been used since the 1940s in a range of products, including stain- and water-resistant fabrics and carpeting, cleaning products, paints, cookware, food packaging and fire-fighting foams. The uses have led to PFAS entering the environment, where they have been measured in soil, surface water, groundwater and seafood. Most people have been exposed to PFAS because of its use in so many common consumer goods.

Fish consumption advisories provide recommended limits on how often certain fish may be eaten to help minimize health risks. Consumption guidelines offer recommendations on the number of meals per month by species for the general population, women of childbearing age, and children. If a person were to eat more than the recommended meals every month for 30 years, then they have an increased risk of 1 in 10,000 of having a health outcome due to that level of consumption.

Of the species with a new PFAS-based advisory, large and smallmouth bass (13 advisories), sunfish, including bluegill (12 advisories) and white perch (11 advisories) had the highest numbers of advisories based on location and accounting for more conservative recommendations for women of childbearing age and children. None of the results from this round of PFAS sampling led to an advisory for all populations to completely avoid any fish from any Maryland waterway. Testing revealed no PFAS levels of concern or need to recommend meal limits for blue crabs or oysters.

A previous round of testing and resulting advisories for meal limits based on PFAS were issued in 2021 for three species of fish caught in Piscataway Creek in Prince George's County.

Maryland has monitored levels of certain chemicals, including polychlorinated biphenyl and mercury, in the state's recreational fishing for decades. Findings from such monitoring are the basis for the department's fish consumption advisories.

Surveillance will continue as needed.

More information:

Fish consumption advisories

Guidance for Fish Consumption: Monitoring PFAS Levels in Maryland (video)

PFAS in Maryland: Monitoring and Mitigation is a Priority for Maryland (story map)

Maryland and PFAS

# # #

Wes Moore
Governor

Aruna Miller
Lt. Governor

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More Information

1800 Washington Blvd., Baltimore, MD 21230
Phone: 410-537-3000
Maryland Relay TTY (711): 800-735-2258
Human Resources Fax: 410-537-3966

https://www.bayjournal.com/news/fisheries/study-points-to-farmland-as-possible-source-of-pfas-in-fish/article_cb87b2f4-b176-11ef-a7d3-2b8dfd351560.html

Study points to farmland as possible source of PFAS in fish

Ad Crable

Dec 11, 2024

Biologist Vicki Blazer of the U.S. Geological Survey extracts tissue from a smallmouth bass to determine if a buildup of "forever chemicals" makes the fish unsafe to eat.

USGS

A mostly Pennsylvania-based study of smallmouth bass, a popular gamefish, found that the family of chemicals known PFAS — officially called per– and polyfluoroalkyl substances — do build up in parts of the fish. Those parts are not normally eaten, though, making them safe for the dinner plate.

But the examination of 380 adult smallmouth bass also found significant levels of PFAS in those collected from waters that flow through farmland.

Researchers had expected to find the chemicals near military bases, airports and in industrial and urban areas. And they did. But they did not expect to find significant contamination in undeveloped areas, especially agricultural areas.

Though researchers stress that follow-up research is necessary, they suspect PFAS are running off farm fields and into waterways from the use of pesticides and the application of biosolids from sewage treatment plants that are used as fertilizer.

The use of livestock manure as fertilizer may also be sending PFAS into creeks and rivers if the livestock are eating forage grown on contaminated soil, said Vicki Blazer, the USGS fishery biologist with the U.S. Geological Survey who led the study.

The buildup of PFAS in the environment, wildlife and humans is an increasing concern and relatively new discovery. Because the chemicals are resistant to grease, stains and water, they are widely used in such products as firefighting foams, nonstick cookware, cosmetics, and carpet and clothing treatments.

Among the potential health risks to humans are kidney and testicular cancer, thyroid disease, liver damage, slow developmental growth in children, high cholesterol and immune system dysfunction.

The chief goal of the USGS study, recently published in the journal *Environmental Science and Pollution Research*, was to determine where PFAS accumulate in smallmouth bass and whether it makes them unsafe to eat.

As luck would have it, the plasma of adult bass collected from 2014–2019 had been stored from a USGS study of, among other concerns, population declines, skin lesions and fish that were exhibiting both male and female characteristics.

The bass were collected from 10 sites. Five are in Pennsylvania: Pine Creek, Chillisquaque Creek, West Branch Mahantango Creek, Swatara Creek, Little Neshaminy Creek, and the West Branch Susquehanna River. They also came from Antietam Creek in Maryland and three sites in West Virginia. All but Little Neshaminy Creek are in the Chesapeake Bay watershed.

Researchers found that PFAS build up mostly in a fish's blood and liver, and not in the fillets that people generally consume.

Follow-up testing is underway with lab-raised bass to see if exposing them to PFAS at the levels found in the wild bass affects their health over time.

To date, the Pennsylvania Fish and Boat Commission has only issued one fish consumption advisory based on PFAS contamination. That is in the Neshaminy Creek basin in Bucks and Montgomery counties, where several military bases are known to have used firefighting foam high in PFAS. No fish of any species in the Neshaminy watershed should be consumed, the commission advised.

The agency noted that PFAS are "emerging" contaminants, meaning that their risks to the environment and human health are not yet completely understood. Examination of fish tissues in waters found to have high PFAS levels has been conducted since 2019.

But the USGS study raised red flags when at least four PFAS compounds were found in every bass. Two of the sites had 28 compounds.

"This suggests that PFAS may be widespread in Chesapeake Bay waters and in smallmouth bass," the USGS concluded.

Moreover, the study says that agricultural land may be associated with PFAS.

"There are certain pesticides that are considered PFAS-containing and also that can be precursors for certain of the PFAS we measure," Blazer of the USGS said in an interview.

"There is a lot of concern about municipal biosolids and their levels of PFAS. It also makes sense that animal manure could also contain PFAS as plants they may be eating can certainly absorb PFAS from the soil. Just like with humans, diet can certainly be a major exposure pathway."

Biosolids, also called sewage sludge, come mainly from municipal sewage treatment plants or private firms that process septic tank and industrial sewage. In Pennsylvania, nearly 40% of biosolids end up spread on farmland as a soil nutrient booster.

The state Department of Environmental Protection prohibits the spreading of biosolids containing high levels of nutrients, PCBs and such heavy metals as arsenic, cadmium, copper, lead and mercury.

But neither the state agency nor the U.S. Environmental Protection Agency yet requires testing for PFAS in biosolids.

The Pennsylvania-based Stroud Water Research Center and the Center for PFAS Solutions in Delaware have been studying how much biosolids are contaminating farmland and adjacent waters since 2021.

Researcher Diana Oviedo Vargas of the Stroud Water Research Center collects samples of biosolids from a Pennsylvania farm to test the fertilizer booster for the presence of PFAS or “forever chemicals.”

Courtesy of the Stroud Water Research Center

"It’s very clear that biosolids do bring PFAS contamination to the soils,” said Diana Oviedo Vargas, assistant research scientist at Stroud.

Scientists reached this conclusion after studying the soil at 10 farms in Berks, Adams, Bedford and Chester counties. Each farm had areas where biosolids were spread and areas where they were not.

“We know very little about the dangers to crops,” Vargas said. “You cannot use biosolids on plants for direct human consumption, such as tomato plants. But does that mean they won’t end up in animals and our food as well, and at what point is it a concern? We don’t know any of those things.”

That concerns Matt Ehrhart, Stroud’s director of watershed restoration. “There are wastewater treatment plants with very low PFAS-related compounds and treatment plants with high loads,” he said.

“It would not be logistically challenging to understand which [wastewater] plants have low loads and only [use] those for land application. This would also create pressure on the other plants to require pretreatment from their load sources,” he said.

“The regulatory system is obviously still trying to catch up with the science, but it seems like some simple steps could make a significant impact.”

The E.P.A. Promotes Toxic Fertilizer. 3M Told It of Risks Years Ago.

The agency obtained research from 3M in 2003 revealing that sewage sludge, the raw material for the fertilizer, carried toxic “forever chemicals.”

Credit...Tim Gruber for The New York Times

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By Hiroko Tabuchi

Hiroko Tabuchi reviewed thousands of pages of decades-old documents to report this article.

- Dec. 27, 2024Updated 12:09 p.m. ET

In early 2000, scientists at 3M, the chemicals giant, made a startling discovery: High levels of PFAS, the virtually indestructible “forever chemicals” used in nonstick pans, stain-resistant carpets and many other products were turning up in the nation’s sewage.

The researchers were concerned. The data suggested that the toxic chemicals, made by 3M, were fast becoming ubiquitous in the environment. The company’s research had already linked exposure to birth defects, cancer and more.

That sewage was being used as fertilizer on farmland nationwide, a practice encouraged by the Environmental Protection Agency. The presence of PFAS in the sewage meant those chemicals were being unwittingly spread on fields across the country.

3M didn't publish the research, but the company did share its findings with the E.P.A. at a 2003 meeting, according to 3M documents reviewed by the The New York Times. The research and the E.P.A.'s knowledge of it has not been previously reported.

Today, the E.P.A. continues to promote sewage sludge as fertilizer and doesn't require testing for PFAS, despite the fact that whistle-blowers, academics, state officials and the agency's internal studies over the years have also raised contamination concerns.

"These are highly complex mixtures of chemicals," said David Lewis, a former E.P.A. microbiologist who in the late 1990s issued early warnings of the risks in spreading sludge on farmland. The soil "becomes essentially permanently contaminated," he said in a recent interview from his home in Georgia.

The concerns raised by Dr. Lewis and others went unheeded at the time.

The country is starting to wake up to the consequences. PFAS, which stands for per- and polyfluoroalkyl substances, has been detected in sewage sludge, on land treated with sludge fertilizer across the country, and in milk and crops produced on contaminated soil. Only one state, Maine, has started to systematically test its farms for PFAS. Maine has also banned the use of sludge on its fields.

David Lewis, a former E.P.A. microbiologist, issued early warnings.Credit...Will Crooks for The New York Times

In a statement, 3M said that the sewage study had been shared with the E.P.A., and was therefore available to anyone who searched for it in the agency's archives. The agency had sought 3M's research into the chemicals as part of an investigation in the early 2000s into their health effects.

3M also said it had invested in "state-of-the-art water treatment technologies" at its manufacturing operations. The company is on track to stop PFAS manufacturing globally by the end of 2025, it said.

The E.P.A. did not respond to detailed questions for this article, including about the 3M research. It said in an earlier statement that it "recognizes that biosolids may sometimes contain PFAS and other contaminants" and that it was working with other agencies to "better understand the scope of farms that may have applied contaminated biosolids" and to "support farmers and protect the food supply."

Farmland contamination has become a contentious environmental issue in both red and blue states.

In Oklahoma, Republican voters ousted a longtime incumbent in a state house primary in August after the lawmaker drew criticism for the use of sewage sludge fertilizer on his fields. The victor, Jim Shaw, said he planned to introduce legislation to ban sludge fertilizer across the state.

"There are other ways to dispose of excess waste from the cities," Mr. Shaw said in an email. "Contaminating our farmland, livestock, food and water sources is not an option and has to stop."

A New York Times Investigation

This year the E.P.A. designated two kinds of PFAS as hazardous substances under the Superfund law, and it mandated that water utilities reduce levels in drinking water to near zero and said there is no safe level of exposure to PFAS. It also designated PFAS as "an urgent public health and environmental issue" in 2021, and has said it will issue a report on the risks of PFAS contamination in sludge fertilizer by the end of the year.

The decades-old research by 3M and the record of the company's interaction with the E.P.A. were found by The Times in a cache of tens of thousands of pages of internal documents that the company released as part of settlements in the early 2000s between the federal government and 3M over health risks of the chemicals.

Reusing human waste to fertilize farmland, a practice that dates back centuries, keeps the waste from needing other ways of disposing of it, such as incineration or landfill dumping, both of which have their own environmental risks.

But the problem, experts say, is that sewage today contains a host of chemicals, including PFAS, generated by businesses, factories and homes. The federal government regulates certain heavy metals and pathogens in sludge that is reused as fertilizer; it has no limits on PFAS.

“There’s absolutely enough evidence, with the high levels of contaminants that we see in the sludge, for the E.P.A. to regulate,” said Arjun K. Venkatesan, director of the Emerging Contaminants Research Laboratory at the New Jersey Institute of Technology.

A step in the process of separating sludge from wastewater at a facility in Fort Worth, Texas.Credit...Jordan Vonderhaar for The New York Times

‘It’s Insidious’

The turn of the century was a turbulent time for 3M. After decades of hiding the dangers of PFAS — a history outlined in lawsuits and peer-reviewed studies based on previously secret industry documents — in 1998 it alerted the E.P.A. about the potential hazards.

The company had already found high levels of PFAS in the blood of its employees, and was starting to detect the chemicals in the wider population. It had also long tracked PFAS in wastewater from its factories.

Then in a 2000 study, 3M researchers noticed something alarming. While testing for PFAS in cities with “no known significant industrial use” of the chemicals, including Cleveland, Tenn., and Port St. Lucie, Fla., they found surprisingly high concentrations in sewage sludge.

A question weighed on the researchers’ minds: If there were no PFAS manufacturers present, where were the chemicals coming from?

Hints lay in 3M’s other research. The company had been studying how the chemicals could be released by PFAS-treated carpets during washing. And they were also studying how PFAS could leach from food packaging and other products.

In an interview, Kris Hansen, a former chemist at 3M who was involved in the research, said the presence in sludge “meant this contamination was probably occurring at any city” that was using 3M’s products.

The study showed, moreover, that PFAS was not getting broken down at wastewater treatment plants. “It was ending up in the sludge, and that was becoming biosolids, being mixed into soil,” Dr. Hansen said. “From there it can run into the groundwater, go back into people. It’s insidious.”

In September 2003, 3M officials met with the E.P.A. to discuss the company’s study of sludge contamination and other research, according to the internal records. At the end of the meeting, the E.P.A. requested “additional background information supporting this monitoring data,” the records show.

Sewage sludge has now been spread on millions of acres across the country. It’s difficult to know exactly how much, and E.P.A. data is incomplete. The fertilizer industry says more than 2 million dry tons were used on 4.6 million acres of farmland in 2018. And it estimates that farmers have obtained permits to use sewage sludge on nearly 70 million acres, or about a fifth of all U.S. agricultural land.

“If we really wanted to figure this problem out because we believe it’s in the interest of public health, we really needed to share that data widely,” said Dr. Hansen, who has become a whistle-blower against 3M. “But my memory is that the corporation was kind of caught up in the, ‘Oh my gosh, what do we do about this?’”
Image

Kris Hansen, a former 3M chemist who became a whistle-blower.Credit...Tim Gruber for The New York Times

Early Warning, Unheeded

Dr. Lewis was a rising star in the late 1990s as a microbiologist at the E.P.A. He discovered how dental equipment could harbor H.I.V., winning him kudos within the scientific community.

Then he turned his attention to sewage sludge.

The E.P.A. was encouraging farmers to use sludge as fertilizer. Human beings had used waste to fertilize the land for millenniums, after all. But, as Dr. Lewis pointed out with his research, modern-day sewage most likely contained a slew of chemicals, including PFAS, that made it a very dangerous fertilizer.

He collected and examined sewage samples. He investigated illnesses and deaths he said could be linked to sludge. He started presenting his findings at scientific conferences.

“The chances that serious adverse effects will occur from a complex and unpredictable mixture of tens of thousands of chemical pollutants is a virtual certainty,” he said at the time. His research prompted the Centers for Disease Control and Prevention to issue guidelines protecting workers handling processed sewage sludge.

The E.P.A. eliminated his job in 2003.

He was a prominent voice on the issue at the time, but not the only one.

Rolf Halden, a professor at the School of Sustainable Engineering at Arizona State University and an early researcher of contamination in biosolids, met with E.P.A. officials at least nine times since 2005 to warn about his own research, according to his records.

“The history of biosolids is that it was a toxic waste,” he said. For decades, he noted, sludge from New York City “was loaded on trains and shipped to the back corners of the country,” he said. Farmers often took the sludge without knowledge of its possible contamination.

In 2006, an E.P.A. contractor offered him samples of municipal sewage sludge left over from earlier agency testing. The E.P.A. had been about to throw them out.

Those samples led to a study that confirmed elevated PFAS levels in sludge nationwide. (The early research into sewage samples eventually led to wastewater testing that has helped researchers track the virus that causes Covid.)

Another researcher, Christopher Higgins, was starting his academic career in the early 2000s when he began looking at sludge. He presented his work to E.P.A. officials, he said, and was left with the impression that it wasn't a priority. "I was really surprised by how few people were working for E.P.A. on the topic," said Dr. Higgins, who is now a professor at the Colorado School of Mines.

Image

Signs at a lake near Dr. Hansen's Minnesota home warn of PFAS contamination in fish.Credit...Tim Gruber for The New York Times

Betsy Southerland, a former director of science and technology in the E.P.A. Office of Water, which oversees biosolids, said the program had been hurt by staffing shortages as well as an arduous process for setting new restrictions. Action has been slow, she said, even though E.P.A.'s surveys of sludge had shown "all kinds of pollutants — flame retardants, pharmaceuticals, steroids, hormones," she said. "It's the most horrible story," she said.

A 2018 report by the E.P.A.'s inspector accused the agency of failing to properly regulate biosolids, saying it had "reduced staff and resources in the biosolids program over time, creating barriers."

The Biden administration has said it would publish a risk assessment of PFAS in biosolids by the end of 2024. That would be a first step toward setting limits on PFAS in sewage sludge used as fertilizer.

There is another solution, experts say. Under the Clean Water Act, wastewater treatment plants have a legal authority to limit PFAS pollution from local factories. It's known as the Clean Water Act "pretreatment program," preventing chemicals from reaching sewage in the first place.

In the past two years, two cities — Burlington, N.C., and Calhoun, Ga. — have ordered industries to clean up the effluent they send to wastewater treatment plants. In one instance, a textile producer decided to stop using PFAS entirely.

Those actions came after a local environmental group sued the cities. "Industry is in the best position to control their own pollution, rather than treating wastewater treatment plants like industrial, toxic dumping grounds," said Kelly Moser, an attorney at the Southern Environmental Law Center, which filed the lawsuits.

The National Association of Clean Water Agencies, which represents wastewater treatment plants, said more than 1,600 utilities already had pretreatment programs in place, though not necessarily for PFAS. (The group also said research showed that the chemicals were coming from household waste, including human waste, not just factories.)

Adam Krantz, the group's chief executive, said many utilities were waiting for the E.P.A. to set standards. That would strengthen treatment plants' ability to hold the ultimate polluters responsible, he said. "If these chemical companies were aware of PFAS' potential dangers and kept it quiet," he said, "then these polluters have to pay."

Hiroko Tabuchi covers pollution and the environment for The Times. She has been a journalist for more than 20 years in Tokyo and New York. More about Hiroko Tabuchi

SB 732 - CBF- FAV.pdf
Uploaded by: Matt Stegman
Position: FAV

CHESAPEAKE BAY FOUNDATION

Environmental Protection and Restoration
Environmental Education

Senate Bill 732

Sewage Sludge Utilization Permits – Per– and Polyfluoroalkyl Substances – Concentration Limits

Date:	February 18, 2025	Position:	**FAVORABLE**
To:	Education, Energy, and the Environment Committee	From:	Gussie Maguire, MD Staff Scientist

Chesapeake Bay Foundation (CBF) **SUPPORTS** SB 732, which sets limits on the concentration of perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) in sewage sludge (also known as biosolids) to be applied to agricultural fields, not to exceed 1 part per billion (ppb). SB 732 draws from the latest research and guidance on PFAS chemicals to protect Maryland's farmers and their customers from forever chemicals, and limits the probability of harmful runoff reaching Maryland's rivers, streams, and the Chesapeake Bay.

PFOS and PFOA are members of the per- and polyfluoroalkyl substances family, also known as "forever chemicals". These persistent chemicals accumulate in soil, groundwater, and living organisms; they are known to have short- and long-term harmful effects on humans and animals at very low concentrations. Ordinary wastewater treatment technologies cannot remove PFAS chemicals, so they become concentrated in biosolids. Once applied to agricultural fields, the chemicals can be taken up by crops, bioaccumulated in grazing animals, percolated into groundwater, or carried by runoff into nearby streams and rivers. Many of Maryland's waterways already have some level of fish consumption advisory due to PFOS and PFOA contamination- limiting their concentration in biosolids reduces another pathway by which these harmful chemicals enter the environment and pose a risk to human health.

SB 732 also sets a time frame for testing, which responds to the potential for comingling of different sources of biosolids and their contaminants. PFAS chemicals, including PFOS and PFOA, have "precursors", or related chemicals that can recombine and transform into PFOS and PFOA, which would increase the concentration of those chemicals in the comingled biosolids batches. Requiring that biosolids be tested 14 days prior to application helps ensure that the measured concentration is close to what will actually be present during application.

Farms throughout the United States have already paid the price for under-regulation of PFAS chemicals in biosolids, experiencing poisoned dairy herds and soil so thoroughly contaminated that vegetables grown on site cannot be safely consumed for generations to come. SB 732 sets a scientifically-informed limit on these dangerous chemicals and will help protect the Chesapeake Bay from polluted runoff.

CBF urges the Committee's FAVORABLE report on SB 732.

For more information, please contact Matt Stegman, Maryland Staff Attorney, at mstegman@cbf.org.

Maryland Office ▪ Philip Merrill Environmental Center ▪ 6 Herndon Avenue ▪ Annapolis ▪ Maryland ▪ 21403

Testimony in Support of SB0732.pdf
Uploaded by: Ray Earnest
Position: FAV

Testimony in Support of SB0732

Education, Energy, and the environment Committee, Hearing 2/18/25

Submitted on 2/14/25

To All Committee Members,

My name is Ray Earnest; I live in Caroline County on Maryland's Eastern Shore, and I urge a favorable report on SB0732.

This bill will protect Marylanders from PFAS —persistent and harmful "forever chemicals." Currently, Maryland applies nearly 90% of the biosolids from wastewater treatment plants to agricultural land, but biosolids containing PFAS pose a serious risk to public health and the environment. The known health risks, according to the federal EPA, include:

- Reproductive effects such as decreased fertility or increased high blood pressure in pregnant women.
- Developmental effects or delays in children, including low birth weight, accelerated puberty, bone variations, or behavioral changes.
- Increased risk of some cancers, including prostate, kidney, and testicular cancers.
- Reduced ability of the body's immune system to fight infections, including reduced vaccine response.
- Interference with the body's natural hormones.
- Increased cholesterol levels and/or risk of obesity.

When spread on farmland, these chemicals pollute soil, groundwater, crops, and wildlife, endangering communities, especially in rural areas likethe Eastern Shore. This legislation will:

1. Help prevent the spread of harmful PFAS chemicals into Maryland's soil, water, and food supply by requiring testing of biosolids for PFAS contamination at least 14 days before land application; and
2. Protect public health and the environment by requiring the Maryland Department of the Environment to set health-based concentration limits for PFOS and PFOA in biosolids applied to agricultural land.

I support this bill because I care about the health of my family, my neighbors and all Marylanders. Thank you for your consideration, and I look to this committee to give SB0732 a favorable report.

Sincerely,
Ray Earnest
20375 Hog Island Rd
Preston, MD 21655
Rayearnest1@gmail.com

FAV_SB0732 Sewage Sludge & PFAS Limits.pdf
Uploaded by: Robin Broder
Position: FAV

SB0732 - Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits
Hearing date: Tuesday, February 18, 2025

Position: FAVORABLE

Dear Chair Feldman and members of the Education, Energy, and the Environment Committee:

Waterkeepers Chesapeake and the below signed organizations and farmers respectfully request a FAVORABLE report on SB0732 which establishes a long-overdue limit on toxic PFAS found in biosolids (sewage sludge) that is used as fertilizer and spread on Maryland's farm fields.

The Problem

Biosolids are the solid waste, or sludge, produced during the treatment of municipal, human, and industrial wastewater. In Maryland, biosolids — including some from out-of-state facilities — are used as fertilizer on farms. However, these biosolids often contain pathogens and toxic substances, including PFAS chemicals, also known as "forever chemicals." While existing Maryland regulations prohibit immediate grazing, raw crop consumption, and public access to treated fields, these measures fall short when biosolids contain PFOS and PFOA, two highly toxic PFAS compounds that persist in the environment and pose significant risks to human and ecological health.

During treatment, these chemicals concentrate in biosolids, which are then spread on agricultural fields. Alarmingly, Maryland's biosolid permits allow waste from multiple facilities to be applied to single fields, heightening the risk of contamination.

Biosolids containing PFAS run off farm fields into rivers and streams and filter into groundwater, contaminating drinking water sources. PFAS also bioaccumulates in fish[1] and wildlife, and is stored in milk, as well as certain fruits and vegetables.

[1] Land Use Associations and Sources of PFAS in Smallmouth Bass in Chesapeake Bay Watershed, Vicki Blazer, USGS, presentation at Maryland Pesticide Education Network conference, December 2024 https://mdpestnet.org/wp-content/uploads/2025/01/Blazer_Assoc.-PFAS-in-Smallmouth-Bass.pdf

States across the country are working to pass policies that protect human and environmental health from toxic PFAS in biosolids. Following their lead, Maryland began testing biosolids and found significant PFAS levels. While the state has recommended guidance on PFOS and PFAS levels in biosolids, the recommendations are not strong enough and they lack necessary enforcement authority.

Since 2003, EPA has known that biosolids can contain alarming levels of PFAS. In a 2018 report, the Environmental Protection Agency's (EPA) Inspector General accused the agency of failing to properly regulate biosolids.[2] However, it wasn't until January 2025 that the EPA's draft Sewage Sludge Risk Assessment was released[3]. It highlights the severe risks posed by PFOS and PFOA levels as low as 1–5 parts per billion, linking exposure to contaminated water, wildlife, and crops to serious health issues, including immune dysfunction, thyroid disease, and cancer.

What the Bill Does

- Requires biosolids originating from multiple plants and are commingled be tested 14 days prior to being applied to farm land.
- Establishes a limit for PFOS and PFOA in biosolids.

Farmers and watermen are sounding the alarm[4] and filing lawsuits[5]. We should act now. Maryland can't wait for the EPA and must take stronger action to safeguard its drinking water sources, environment and the health of our farmers and communities. Waterkeepers Chesapeake and the below signed organizations and farmers urge this committee to issue a favorable report on SB0732.

Respectfully,
Robin Broder, Acting Executive Director
Waterkeepers Chesapeake
robin@waterkeeperschesapeake.org

Betsy Nicholas, VP of Programs & Litigation
Brent Walls, Upper Potomac Riverkeeper
Dean Naujoks, Potomac Riverkeeper
Potomac Riverkeeper Network

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[2] The EPA Promotes Toxic Fertilizer. 3M Told It of Risks Years Ago, New York Times, Hiroko Tabuchi, December 27, 2024
[3] EPA's Draft Sewage Sludge Risk Assessment for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS), January 2025
https://www.epa.gov/biosolids/draft-sewage-sludge-risk-assessment-perfluorooctanoic-acid-pfoa-and-perfluorooctane
[4] Beware of Biosolids: Lack of Testing for Forever Chemicals Heightens Risk [Opinion], Tom Venesky, Lancaster Farming, February 7, 2025
[5] EPA Sued to Remove PFAS from Biosolid Fertilizers, PEER, June 6, 2024,
https://peer.org/epa-sued-to-remove-pfas-from-biosolid-fertilizers/

Matt Pluta, Choptank Riverkeeper & Director of Riverkeeper Programs
ShoreRivers

Evan Isaacson, Senior Attorney, Director of Research
Chesapeake Legal Alliance

Elle Bassett, West, Rhode & South Riverkeeper
Arundel Rivers Federation

Alice Volpitta, Baltimore Harbor Waterkeeper
Blue Water Baltimore

Taylor Swanson, Executive Director & Assateague Coastkeeper
Asstateague Coastal Trust

Theaux LeGardeur, Executive Director & Riverkeeper
Gunpowder Riverkeeper

Tim Whitehouse, Executive Director
Public Employees for Environmental Responsibility

Matt Stegman, Maryland Staff Attorney
Chesapeake Bay Foundation

Marisa Olszewski, Environmental Policy Manager
Maryland League of Conservation Voters

Emily Ranson, Chesapeake Regional Director
Clean Water Action

Peter Alexander, Co-Facilitator
Indivisible HoCoMD Environmental Action

Bonnie Raindrop, Program Director
Ma Pesticide Education Network

Liz Whitehurtz
Owl's Nest Farm
Upper Marlboro, MD

Randy Lyon, Legislative Chair
Sierra Club Maryland Chapter

Tom Taylor, Co-Chair
Beaverdam Creek Watershed Watch Group

Liz Lamb, Community Farming Program Manager
The 6th Branch

Caroline Taylor, Executive Director
Montgomery Countryside Alliance

Wendy Maria Sheppard, farm owner
Mongomery County, MD

HB732_MPEN-SOPC_FAV.pdf
Uploaded by: Ruth Berlin
Position: FAV

February 18, 2025
Senate Education, Energy, Environment Committee
SB 732: Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits
Favorable

The Maryland Pesticide Education Network and its Smart on Pesticides Coalition (SOPC), comprised of 112 organizations and businesses, urges a favorable report on SB 732 establishing needed testing requirements to identify PFAS concentrations in biosolids and setting enforceable limits to prevent further contamination. Our organization and SOPCoalition are well-versed on the issue of PFAS-pesticides which is the focus of another current Maryland bill.

We are very concerned about the use of PFAS-pesticides and PFAS-containing biosolids that are widely used on farms and in land care – both exacerbating a serious long-term health crisis related to the persistence of PFAS in people and our environment that may also result from their exposure to PFAS in their food grown on farms using PFAS-laden biosolids and PFAS-pesticides. PFAS exposure leads to a number of health effects, including causing certain cancers including prostate, breast, and reproductive cancer, is linked to developmental damage in infants and children, fertility and pregnancy problems, endocrine disruption, increased cholesterol, immune system problems, and, interference with liver, thyroid, and pancreatic function. One thing PFAS toxicity does is to target the immune system, which means it can cause decreased antibody response to vaccines and exacerbates autoimmune disorders including asthma and ulcerative colitis.

PFAS-laden biosolids originate from wastewater treatment plants that do NOT breakdown or destroy PFAS compounds. They are retained in "wastewater residuals" and solids known as "sludge." Sludge containing PFAS from wastewater treatment plants is sent to disposal sites or other uses including application to land and use in gardening products. Applying biosolids to land creates hazards at farms and from farm and garden products. Some farms have been forced to discard food products or even cease farming when they found that their land was contaminated by PFAS from biosolids used on their land, as happened for over 60 farms in Maine.

The U.S. EPA warns that especially two kinds of PFAS chemicals can harm human health when found in biosolids at concentrations as low as 1 part per billion after the material has been disposed of or used as fertilizer. The agency determined the chemicals could leach from sewage sludge when land applied.

The EPA released its draft risk assessment in January 2025. It's the first comprehensive look at contamination from PFOA and PFOS in biosolids performed by the agency. The assessment finds that "there can be human health risks exceeding EPA's acceptable thresholds, sometimes by several orders of magnitude" from living near sites that have land applied contaminated biosolids or from using groundwater or products impacted by such a site.

PFAS contamination can for generations, even after biosolids are no longer used. For example, according to the Maine Organic Farmers and Gardeners Association, an organic farm in Maine was found to be contaminated because a previous owner had spread biosolids with PFAS. This happened even though organic farms are not allowed to use biosolids to become certified.

SB 732 is essential to protect Maryland farms and gardens from PFAS contamination; please deliver a favorable report.

Bonnie Raindrop, Program Director, Maryland Pesticide Education Network & Smart on Pesticides Coalition
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SB 732 PFAS in Biosolids -- Love Testimony.pdf
Uploaded by: Sara Love
Position: FAV

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THE SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401

SB 732 – Sewage Sludge Utilization Permits – Per- and Polyfluoroalkyl Substances – Concentration Limits

Chair Feldman, Vice Chair Kagan, members of EEE:

SB 732 builds on the great work this Committee has done on PFAS, a class of toxic chemicals, which causes significant health risks including higher cholesterol, impacts on liver enzymes, decreased vaccine effectiveness in children, increased risk of high blood pressure, increased risk of many cancers, and decreased infant birth weight.

As a body we have:

- banned the use of PFAS in cosmetics[1], firefighting foam, food packaging, rugs and carpets[2];
- required the Maryland Department of the Environment (MDE) to prepare a PFAS Action Plan, including minimizing Marylander's exposure to PFAS and identifying, assessing, and cleaning up historical PFAS in the environment[3]; and,
- required MDE to identify significant industrial users of PFAS, develop monitoring and testing protocols for those significant industrial users, develop PFAS action levels for addressing PFAS contamination from industrial discharge for pretreatment permits, and develop mitigation plans for reducing the presence of PFAS in industrial discharge.[4]

In short, we have banned the use of these chemicals in consumer products and firefighting items to stop them from making us sick and from getting into the environment and gone upstream to determine who is using these chemicals and discharging them into our wastewater treatment plants. SB 732 takes the next step by looking at what is coming out of the wastewater treatment plants and protecting our livestock and agriculture from the land application of high levels of these toxic chemicals.

SB 732 would require testing prior to the biosolids from wastewater treatment plants being land applied and sets a limit of what level of PFOS and PFOA (two of the PFAS class that are widely known to be the most toxic) can be in the biosolids that are land applied.

For the foregoing reasons, I respectfully request your favorable report on SB 732.

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[1] HB 643 (2021)
[2] SB 273/HB 275 (2022)
[3] *Id.*
[4] SB 956/HB 1153 (2024)

EPA Promotes Fertilizer Carrying PFAS - NYTr.pdf
Uploaded by: Steve Masterman
Position: FAV

The New York Times https://www.nytimes.com/2024/12/27/climate/epa-pfas-fertilizer-3m-forever-chemicals.html

The agency obtained research from 3M in 2003 revealing that sewage sludge, the raw material for the fertilizer, carried toxic “forever chemicals.”

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By Hiroko Tabuchi
Hiroko Tabuchi reviewed thousands of pages of decades-old documents to report this article.

Published Dec. 27, 2024 Updated Jan. 2, 2025

In early 2000, scientists at 3M, the chemicals giant, made a startling discovery: High levels of PFAS, the virtually indestructible “forever chemicals” used in nonstick pans, stain-resistant carpets and many other products were turning up in the nation’s sewage.

The researchers were concerned. The data suggested that the toxic chemicals, made by 3M, were fast becoming ubiquitous in the environment. The company’s research had already linked exposure to birth defects, cancer and more.

That sewage was being used as fertilizer on farmland nationwide, a practice encouraged by the Environmental Protection Agency. The presence of PFAS in the sewage meant those chemicals were being unwittingly spread on fields across the country.

3M didn’t publish the research, but the company did share its findings with the E.P.A. at a 2003 meeting, according to 3M documents reviewed by the The New York Times. The research and the E.P.A.’s knowledge of it has not been previously reported.

Today, the E.P.A. continues to promote sewage sludge as fertilizer and doesn’t require testing for PFAS, despite the fact that whistle-blowers, academics, state officials and the agency’s internal studies over the years have also raised contamination concerns.

“These are highly complex mixtures of chemicals,” said David Lewis, a former E.P.A. microbiologist who in the late 1990s issued early warnings of the risks in spreading sludge on farmland. The soil “becomes essentially permanently contaminated,” he said in a recent interview from his home in Georgia.

The concerns raised by Dr. Lewis and others went unheeded at the time.

The country is starting to wake up to the consequences. PFAS, which stands for per- and polyfluoroalkyl substances, has been detected in sewage sludge, on land treated with sludge fertilizer across the country, and in milk and crops produced on contaminated soil. Only one state, Maine, has started to systematically test its farms for PFAS. Maine has also banned the use of sludge on its fields.

David Lewis, a former E.P.A. microbiologist, issued early warnings. Will Crooks for The New York Times

In a statement, 3M said that the sewage study had been shared with the E.P.A., and was therefore available to anyone who searched for it in the agency's archives. The agency had sought 3M's research into the chemicals as part of an investigation in the early 2000s into their health effects.

3M also said it had invested in "state-of-the-art water treatment technologies" at its manufacturing operations. The company is on track to stop PFAS manufacturing globally by the end of 2025, it said.

The E.P.A. did not respond to detailed questions for this article, including about the 3M research. It said in an earlier statement that it "recognizes that biosolids may sometimes contain PFAS and other contaminants" and that it was working with other agencies to "better understand the scope of farms that may have applied contaminated biosolids" and to "support farmers and protect the food supply."

Farmland contamination has become a contentious environmental issue in both red and blue states.

In Oklahoma, Republican voters ousted a longtime incumbent in a state house primary in August after the lawmaker drew criticism for the use of sewage sludge fertilizer on his fields. The victor, Jim Shaw, said he planned to introduce legislation to ban sludge fertilizer across the state.

"There are other ways to dispose of excess waste from the cities," Mr. Shaw said in an email. "Contaminating our farmland, livestock, food and water sources is not an option and has to stop."

This year the E.P.A. designated two kinds of PFAS as hazardous substances under the Superfund law and mandated that water utilities reduce levels in drinking water to near zero. The agency said there is no safe level of exposure to those two chemicals. It also designated PFAS as "an urgent public health and environmental issue" in 2021 and has said it will issue a report on the risks of PFAS contamination in sludge fertilizer by the end of the year.

The decades-old research by 3M and the record of the company's interaction with the E.P.A. were found by The Times in a cache of tens of thousands of pages of internal documents that the company released as part of settlements in the early 2000s between the federal government and 3M over health risks of the chemicals.

Reusing human waste to fertilize farmland, a practice that dates back centuries, keeps the waste from needing other ways of disposing of it, such as incineration or landfill dumping, both of which have their own environmental risks. It also reduces the need to use synthetic fertilizer made from fossil fuels.

But the problem, experts say, is that sewage today contains a host of chemicals, including PFAS, generated by businesses, factories and homes. The federal government regulates certain heavy metals and pathogens in sludge that is reused as fertilizer; it has no limits on PFAS.

"There's absolutely enough evidence, with the high levels of contaminants that we see in the sludge, for the E.P.A. to regulate," said Arjun K. Venkatesan, director of the Emerging Contaminants Research Laboratory at the New Jersey Institute of Technology.

A step in the process of separating sludge from wastewater at a facility in Fort Worth, Texas. Jordan Vonderhaar for The New York Times

‘It’s Insidious’

The turn of the century was a turbulent time for 3M. After decades of hiding the dangers of PFAS — a history outlined in lawsuits and peer-reviewed studies based on previously secret industry documents — in 1998 it alerted the E.P.A. about the potential hazards.

The company had already found high levels of PFAS in the blood of its employees, and was starting to detect the chemicals in the wider population. It had also long tracked PFAS in wastewater from its factories.

Then in a 2000 study, 3M researchers noticed something alarming. While testing for PFAS in cities with “no known significant industrial use” of the chemicals, including Cleveland, Tenn., and Port St. Lucie, Fla., they found surprisingly high

concentrations in sewage sludge.

A question weighed on the researchers' minds: If there were no PFAS manufacturers present, where were the chemicals coming from?

Hints lay in 3M's other research. The company had been studying how the chemicals could be released by PFAS-treated carpets during washing. And they were also studying how PFAS could leach from food packaging and other products.

In an interview, Kris Hansen, a former chemist at 3M who was involved in the research, said the presence in sludge "meant this contamination was probably occurring at any city" that was using 3M's products.

The study showed, moreover, that PFAS was not getting broken down at wastewater treatment plants. "It was ending up in the sludge, and that was becoming biosolids, being mixed into soil," Dr. Hansen said. "From there it can run into the groundwater, go back into people. It's insidious."

In September 2003, 3M officials met with the E.P.A. to discuss the company's study of sludge contamination and other research, according to the internal records. At the end of the meeting, the E.P.A. requested "additional background information supporting this monitoring data," the records show.

Sewage sludge has now been spread on millions of acres across the country. It's difficult to know exactly how much, and E.P.A. data is incomplete. The fertilizer industry says more than 2 million dry tons were used on 4.6 million acres of farmland in 2018. And it estimates that farmers have obtained permits to use sewage sludge on nearly 70 million acres, or about a fifth of all U.S. agricultural land.

"If we really wanted to figure this problem out because we believe it's in the interest of public health, we really needed to share that data widely," said Dr. Hansen, who has become a whistle-blower against 3M. "But my memory is that the corporation was kind of caught up in the, 'Oh my gosh, what do we do about this?'"

Kris Hansen, a former 3M chemist who became a whistle-blower. Tim Gruber for The New York Times

Early Warning, Unheeded

Dr. Lewis was a rising star in the late 1990s as a microbiologist at the E.P.A. He discovered how dental equipment could harbor H.I.V., winning him kudos within the scientific community.

Then he turned his attention to sewage sludge.

The E.P.A. was encouraging farmers to use sludge as fertilizer. Human beings had used waste to fertilize the land for millenniums, after all. But, as Dr. Lewis pointed out with his research, modern-day sewage most likely contained a slew of chemicals, including PFAS, that made it a very dangerous fertilizer.

He collected and examined sewage samples. He investigated illnesses and deaths he said could be linked to sludge. He started presenting his findings at scientific conferences.

“The chances that serious adverse effects will occur from a complex and unpredictable mixture of tens of thousands of chemical pollutants is a virtual certainty,” he said at the time. His research prompted the Centers for Disease Control and Prevention to issue guidelines protecting workers handling processed sewage sludge.

The E.P.A. eliminated his job in 2003.

He was a prominent voice on the issue at the time, but not the only one.

Rolf Halden, a professor at the School of Sustainable Engineering at Arizona State University and an early researcher of contamination in biosolids, met with E.P.A. officials at least nine times since 2005 to warn about his own research, according to his records.

“The history of biosolids is that it was a toxic waste,” he said. For decades, he noted, sludge from New York City “was loaded on trains and shipped to the back corners of the country,” he said. Farmers often took the sludge without knowledge of its possible contamination.

In 2006, an E.P.A. contractor offered him samples of municipal sewage sludge left over from earlier agency testing. The E.P.A. had been about to throw them out.

Those samples led to a study that confirmed elevated PFAS levels in sludge nationwide. (The early research into sewage samples eventually led to wastewater testing that has helped researchers track the virus that causes Covid.)

Another researcher, Christopher Higgins, was starting his academic career in the early 2000s when he began looking at sludge. He presented his work to E.P.A. officials, he said, and was left with the impression that it wasn't a priority. "I was really surprised by how few people were working for E.P.A. on the topic," said Dr. Higgins, who is now a professor at the Colorado School of Mines.

Signs at a lake near Dr. Hansen's Minnesota home warn of PFAS contamination in fish. Tim Gruber for The New York Times

Betsy Southerland, a former director of science and technology in the E.P.A. Office of Water, which oversees biosolids, said the program had been hurt by staffing shortages as well as an arduous process for setting new restrictions. Action has been slow, she said, even though E.P.A.'s surveys of sludge had shown "all kinds of pollutants — flame retardants, pharmaceuticals, steroids, hormones," she said. "It's the most horrible story," she said.

Researchers at E.P.A. later found elevated levels of PFAS in sludge fertilizer. In its most recent survey of biosolids, the agency discovered 23 pollutants that its scientists identified as PFAS. A 2018 report by the E.P.A.'s inspector accused the agency of failing to properly regulate biosolids, saying it had "reduced staff and resources in the biosolids program over time, creating barriers."

The Biden administration has said it would publish a risk assessment of PFAS in biosolids by the end of 2024. That would be a first step toward setting limits on PFAS in sewage sludge used as fertilizer.

There is another solution, experts say. Under the Clean Water Act, wastewater treatment plants have a legal authority to limit PFAS pollution from local factories. It's known as the Clean Water Act "pretreatment program," preventing chemicals from reaching sewage in the first place.

In the past two years, two cities — Burlington, N.C., and Calhoun, Ga. — have ordered industries to clean up the effluent they send to wastewater treatment plants. In one instance, a textile producer decided to stop using PFAS entirely.

Those actions came after a local environmental group sued the cities. "Industry is in the best position to control their own pollution, rather than treating wastewater treatment plants like industrial, toxic dumping grounds," said Kelly Moser, an attorney at the Southern Environmental Law Center, which filed the lawsuits.

The National Association of Clean Water Agencies, which represents wastewater treatment plants, said more than 1,600 utilities already had pretreatment programs in place, though not necessarily for PFAS. (The group also said research showed

that the chemicals were coming from household waste, including human waste, not just factories.)

Adam Krantz, the group's chief executive, said many utilities were waiting for the E.P.A. to set standards. That would strengthen treatment plants' ability to hold the ultimate polluters responsible, he said. "If these chemical companies were aware of PFAS' potential dangers and kept it quiet," he said, "then these polluters have to pay."

Hiroko Tabuchi covers pollution and the environment for The Times. She has been a journalist for more than 20 years in Tokyo and New York. More about Hiroko Tabuchi

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A version of this article appears in print on , Section A, Page 1 of the New York edition with the headline: Despite Risks, E.P.A. Backs Toxic Fertilizer

SB0732 TEstimony - S. Masterman 2-14-2025.pdf
Uploaded by: Steve Masterman
Position: FAV

Testimony in Support/Opposition of SB0732

Senate Energy, Education, and Environment Committee February 18, 2025
Submitted on February 14, 2025 at approximately 9:00 am.

To Chair Feldman and Committee Members,

My name is Steven Masterman. I live in St. Michaels, Maryland , on Broad Creek , and I urge a favorable report on SB0732.

I support this bill because we are alarmed by the recent EPA findings regarding sewage sludge and the high incidence of dangerous PFAS & PFOS releases to our waterways, and our fish and shellfish. This issue is basic to protection of Maryland's two greatest assets; it's people and the Chesapeake Bay.

Thank you for your consideration, and I look to this committee to give SB0732 a favorable report.

Sincerely,

Steve & Pamela Masterman
703-915-0613

Assateague Coastal Trust - SB 0732 - Favorable.pdf
Uploaded by: Taylor Swanson
Position: FAV

SENATE BILL 0732 - Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration LimitsPesticides - PFAS Chemicals - Prohibitions

POSITION: FAVORABLE

February 14, 2025

Dear Chair Feldman and Honorable Members of this Committee,

Assateague Coastal Trust writes in **SUPPORT** of **Senate Bill 0732**, which would establish concentration limits for per- and polyfluoroalkyl substances (PFAS) in sewage sludge utilization permits issued or renewed by the Maryland Department of the Environment (MDE). This bill is a crucial step in protecting the health of Maryland's residents, our natural environment, and the integrity of our public health systems.

Assateague Coastal Trust serves more than 800 square miles of Maryland's Lower Eastern Shore, including Worcester and portions of Wicomico and Somerset Counties, in its mission to safeguard clean water rights for residents and visitors to the region. We speak on behalf of our membership, residents and visitors alike, who share a common interest in the health of the Coastal Bays located behind Assateague Island, and the southern tributaries of the Chesapeake Bay.

PFAS, often referred to as "forever chemicals," are a class of human-made substances that have been linked to a range of serious health issues, including cancer, liver damage, developmental harm, and immune system disruptions. These chemicals are persistent in the environment, bioaccumulate in wildlife and humans, and do not break down over time. As such, the contamination of soil, water, and food sources with PFAS poses an escalating threat to public health.

Sewage sludge, a byproduct of wastewater treatment, is often used in agriculture as a fertilizer or soil amendment. **However, without stringent limits on PFAS concentrations, these chemicals can enter the food chain through crops, livestock, and water sources.** The inclusion of PFAS in sewage sludge raises serious concerns about the safety of food grown in contaminated soil and the water supplies that may be affected by runoff or infiltration.

Senate Bill 0732 will address this threat by requiring the MDE to limit the concentration of PFAS in sewage sludge utilized in Maryland. The bill stipulates that these limits will be set at 1 microgram per kilogram (µg/kg), in line with health-based standards or any stricter limits that may be developed by the Department. This will ensure that sewage sludge used for agricultural

purposes does not introduce unsafe levels of PFAS into the environment. Additionally, the bill establishes requirements for demonstrating compliance with these concentration limits, promoting transparency and accountability within the process.

The bill also empowers MDE to establish further limits through regulation, allowing the department to respond to emerging scientific research and public health concerns related to PFAS. This flexibility ensures that Maryland remains responsive and proactive in safeguarding its communities from potential PFAS contamination.

We urge this committee to adopt a **FAVORABLE** stance on **Senate Bill 0732**, which will ensure that Maryland's agricultural practices and wastewater management systems do not contribute to the spread of toxic PFAS. By setting clear and enforceable limits on PFAS concentrations in sewage sludge, this bill will help protect our environment, support sustainable agriculture, and promote the health and safety of Maryland's citizens for generations to come.

Thank you for your consideration.

Sincerely,

Taylor Swanson
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www.ACTforBays.org

SB 732
Uploaded by: Jeff Tosi
Position: FWA

Maryland ENVIRONMENTAL SERVICE

Wes Moore **GOVERNOR**
Aruna Miller **LT. GOVERNOR**
Charles Glass, Ph.D., P.E. **EXECUTIVE DIRECTOR**

February 18, 2025

The Honorable Brian Feldman, Chair
Education, Energy, and the Environment Committee
2 West Miller Senate Office Building
Annapolis, Maryland 21401

Re: MES Support with Amendments

Senate Bill 732 – Sewage Sludge Utilization Permits – Per- and Polyfluoroalkyl Substances – Concentration Limits

Dear Chair Feldman and Members of the Committee,

The Maryland Environmental Service (MES) supports SB 732, with amendments offered by the Maryland Department of the Environment (MDE). The amendments allow MDE to establish a phased approach to set PFAS limits via regulation and also authorize MDE to establish testing requirements.

As introduced, this bill proposes to limit the amount of Perfluorooctane Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) (collectively, PFAS) present in sewage sludge for the purposes of agricultural land application to amounts not exceeding 1 microgram per kilogram (effectively, 1 part per billion or "1 PPB") or the levels established by either U.S. Environmental Protection Agency (EPA) or MDE. Analysis would need to be completed by an independent laboratory and within 14 days of the land application (with some exceptions). MDE may adopt regulations that have stricter concentration limits or if there are other types of substances that need to be added.

With over five decades of experience operating various types of wastewater treatment plants across the State, MES is the State's foremost expert in handling biosolids and wastewater sludge. We applaud the bill sponsors for starting this important conversation because we recognize the seriousness eliminating PFAS from our ecosystem. While there are existing methods of removing PFAS – such as pyrolysis, gasification, hydrothermal liquefaction, and supercritical water oxidation, some of which MES has expressed a desire to explore – these processes are currently cost prohibitive and can take years to bring online. Therefore, a secondary biosolids treatment facility system to reduce PFAS concentrations or eliminate PFAS entirely is not monetarily feasible in the short term.

With that said, reducing PFAS to 1 PPB in biosolids treatment is not attainable with current wastewater treatment processes. Establishing this threshold will bring several orders of impact.

First order impacts: the 1 PPB threshold would implement a *de facto* ban on land application of sewage sludge. In FY 24, MES managed approximately 2,700 dry tons of sewage sludge. Approximately 1,450 dry tons (or, 53% of MES's total for FY 24) were land applied from the three MES-operated facilities with a sewage sludge utilization permit for Class B biosolids treatment using lime stabilization. Since not all wastewater treatment plants (WWTPs) have dewatering infrastructure, the smaller systems that do not will transport this material to larger facilities with dewatering processes and further treatment. With the 1 PPB threshold, it is likely that larger WWTPs will require testing before sludge being hauled from smaller WWTPs can be accepted at larger WWTPs for further treatment. If sludge from smaller facilities has PFAS levels exceeding 1 PPB, then it is likely that the larger facilities will choose not to accept that material. This will force smaller WWTPs to absorb exponentially increased costs of hauling out of State.

The second order impact: landfill operations. Land application, landfilling and out of State transport are the only currently available options for handling sewage sludge and biosolids after treatment and dewatering. Out of State transport is severely cost prohibitive and is not currently a consideration. If land application is effectively banned, landfilling or out of State transport become the only remaining feasible options. Due to slope stability concerns landfills are limited in the amount of biosolids/sludge that can be accepted daily and is hugely dependent upon commercial solid waste inflow and space – no more than approximately 20 percent of the daily solid waste volume can be biosolids/sludge. Without land application, this results in a steep increase in volume of material needing to be landfilled without any net new landfill space. Therefore, biosolids/sludge tipping (acceptance) fees would likely increase significantly.

A third order impact: smaller WWTP systems that do not have the systems in place now to dewater, so they haul the sewage sludge to larger WWTP systems for further treatment. This will increase costs on smaller systems to (1) test for PFAS on a daily basis and (2) in the likely event PFAS levels would exceed the threshold established in the bill, increase costs on where to haul (both in-State and out of State) and dump the untreated sewage sludge, as most small systems rely on bigger facilities to accept and treat their sludge.

With this, MES urges the Committee to incorporate the proposed MDE amendments to SB 732 and grant the amended bill a favorable report.

Contact: Jeff Tosi, Director of Government Affairs
Phone/Email: 410-729-8504 (w) | jtosi@menv.com

MDE SB732 SWA.pdf
Uploaded by: Jeremy D. Baker
Position: FWA

The Maryland Department of the Environment
Secretary Serena McIlwain

SB 732
Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits

Position: Support with Amendments
Committee: Education, Energy, and the Environment
Date: February 18, 2025
From: Leslie Gray, Government Relations Officer

The Maryland Department of the Environment (MDE) **SUPPORTS** SB 732 **WITH AMENDMENTS**.

Bill Summary

This legislation would require certain sewage sludge utilization permits issued or renewed by the Department to limit the concentration of certain PFAS substances in biosolids being applied to agricultural lands.

Position Rationale

Managing PFAS levels in biosolids is an important strategy in protecting the public health and environment. Additionally, the land application of biosolids is an important tool for Maryland to meet its Chesapeake Bay water quality and climate goals. Not only does the land application of biosolids add bacteria and organic matter to soil, but land application of biosolids also improves the tillability and moisture retention capability of soil. Thereby reducing nutrient runoff, and helping to sequester carbon into the soil. If farmers had to use commercial fertilizer, this may inadvertently increase nutrient runoff and increase carbon emissions.

The sewage sludge utilization permit limit on the total concentration of PFOS and PFOA proposed in SB 732, effectively restricts the land application of any Class B biosolids on agricultural land. Given a cursory review of Maryland wastewater treatment plant PFAS data, MDE expects that no biosolids in Maryland are meeting the 1 ppb limit in this legislation. This will result in MDE needing to permit the remaining 17 landfills (10 currently permitted), to account for the significant volume of biosolids that would need to be disposed of. Moreover, biosolids may have to be disposed of out of state, increasing costs on wastewater treatment plants. Additionally, 250 farmers will no longer be able to utilize biosolids as a nutrient source, forcing them to procure more expensive nutrient sources.

Proposed Amendments

MDE proposes that the legislation provides for an immediate ban on the land application of sewage sludge containing a mixture of PFOA and PFOS at or above 100 ppb. The legislation should direct MDE within 3 years to develop a technologically and economically feasible standard for mixtures of PFOA and PFOS, using 1ppb as a presumptive baseline and require such standard to be incorporated within all

sewage sludge utilization permits within a reasonable timeframe after promulgation. Further, the legislation should be amended to codify MDE's current guidance as interim guidance during the period preceding incorporation of a final standard. This is consistent with land application guidelines and established limits in other states. Additionally, the Department recommends amendments to authorize MDE to establish workable sampling and testing protocols through evaluating the capacity, costs, and feasibility of a sampling testing program. The Department could issue guidance, within 180 days of enactment, on monitoring for PFOA and PFOS prior to land application while the Department develops formal regulations, to include sampling and testing protocols. Further, the Department could be instructed to revise such standards periodically to incorporate additional PFAS, as appropriate.

For the reasons detailed above MDE asks for a **FAVORABLE WITH AMENDMENTS** report for SB 732.

Senate Bill 732 opposed testimony from DC Water.pd
Uploaded by: Chris Peot
Position: UNF

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David L. Gadis, Chief Executive Officer

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY | 1385 CANAL STREET, SE | WASHINGTON, DC 20003

February 14, 2025

The Honorable Brian J. Feldman
Chair, Senate Education, Energy, and the Environment Committee
2 West Miller Senate Office Building
Annapolis, MD 21401

Re: OPPOSE -- SB 732 (Sewage Sludge Utilization Permits – Per-and Polyfluoroalkyl Substances – Concentration Limits)

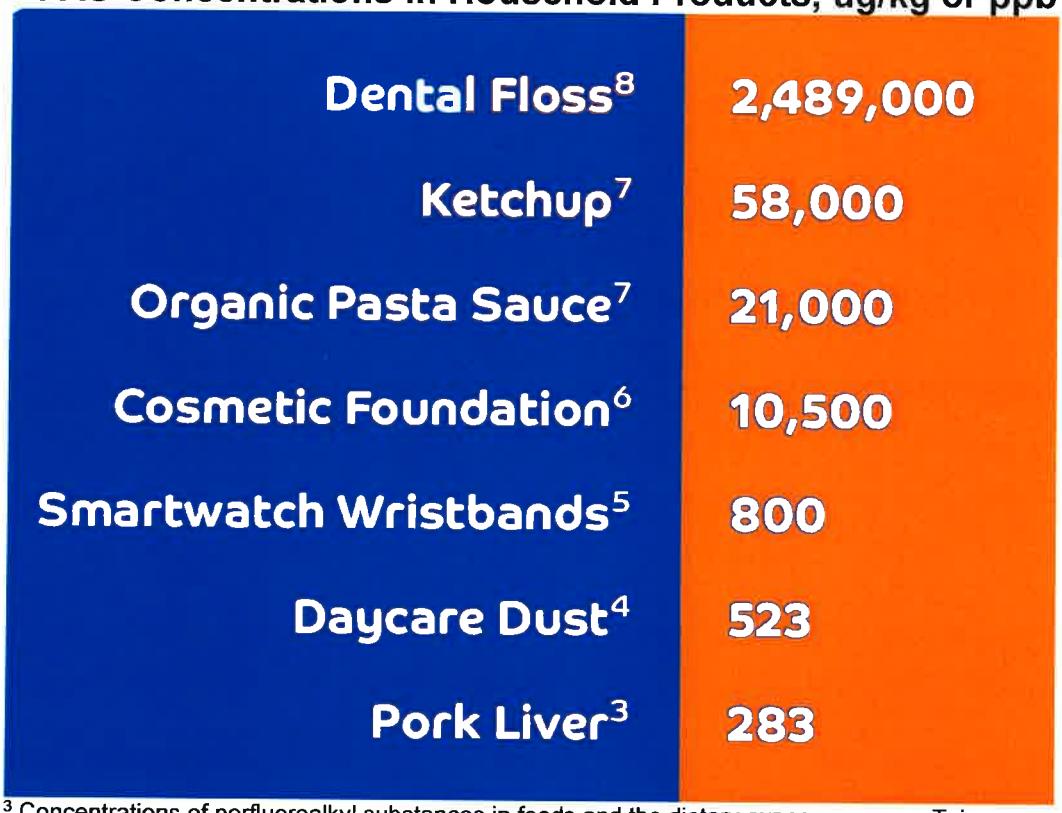
Dear Chairman Feldman:

The District of Columbia Water and Sewer Authority (DC Water) shares the concern over ubiquitous PFAS use in our society, and welcomes the opportunity to assist the Maryland Department of the Environment (MDE) in their existing program to limit PFAS release. On behalf of DC Water, I am writing to share concerns with SB 732, which would direct MDE to issue sewage sludge (biosolids) utilization permits for agricultural land application with a limit of 1 microgram per kilogram (equivalent to 1 part per billion, or ppb) for PFOS or PFOA. DC Water operates the Blue Plains Advanced Wastewater Treatment Plant with the mission of removing nutrients and carbon and keeping them out of the Chesapeake Bay. SB 732 would impact nearly every wastewater plant in the State including Blue Plains, which is geographically out of state but receives 40% of its substantial flow from Montgomery and Prince George's Counties. Maryland residents pay 40% of the capital and operating expenses for this regional facility. DC Water is not a for-profit utility, but rather an autonomous authority, and Blue Plains is funded entirely by its wastewater bills (including 40% by residents in MD). Ten years ago DC Water invested in thermal hydrolysis, digestion, and combined heat and power equipment ($470M, 40% from MD) to recover the nutrients and generate green energy in the form of heat and electricity (7 MW continuous electricity production and an equal amount of thermal energy). The high heat, high pressure system produces a Class A exceptional quality soil amendment product which we branded and trademarked as Bloom. DC Water is proud of the Bloom program, as we return Maryland carbon and nutrients back to the land from which it came, completing the natural cycle. In addition, the digester and Bloom program reduced our carbon footprint by a third, or approximately 50,000 MT CO_2e annually.

Because products containing PFAS compounds are ubiquitous, very small, background societal concentrations of PFOS and PFOA end up in municipal biosolids. These compounds are in products we use in our home every day at thousands of times higher concentrations than Bloom (see graphic below) and as a result, the average household dust has 10 times the PFAS in Bloom. To illustrate how low the concentrations are in Bloom, the PFOS and PFOA in Bloom are roughly at the same level as in the average American's blood serum. A farm field in MD receives as much PFOS from annual rainfall as from applying Bloom for corn growth. The proposed 1 ppb limit in this bill is lower than blood serum and is unachievable for any municipal biosolids.

Other states, with Maryland following suit this past August, set guidelines for biosolids reuse to ensure industrially impacted biosolids are prohibited but allow for municipal agencies to continue recycling biosolids with low concentrations of PFOS and PFOA. Along with the application rate recommendations, MDE requires municipalities to investigate and limit discharge from industrial facilities within their service area. This approach allows for continual improvement toward reducing the circulation of PFAS compounds in our society while still reaping the benefits of biosolids recycling.

PFAS Concentrations in Household Products, ug/kg or ppb



[3] Concentrations of perfluoroalkyl substances in foods and the dietary exposure among Taiwan general population and pregnant women, ScienceDirect
[4] Per- and polyfluoroalkyl substances in paired dust and carpets from childcare centers, PubMed (nih.gov)
[5] Smartwatch Wristbands, University of Notre Dame study as published in Environmental Science & Technology Letters
[6] Fluorinated Compounds in North American Cosmetics, Environmental Science & Technology Letters (acs.org)
[7] Toxic PFAS, the "Everywhere Chemicals," Are in Organic Pasta Sauce and Ketchup, Drugs, Pesticides, and Foodware, Sierra Club
[8] Dental Floss, Environmental Health News/Mamavation study
[9] PFAS in Biosolids: A Southern Arizona Case Study, The University of Arizona, 2020

This bill would drive up costs significantly for our Maryland residents whose sewage is routed to Blue Plains, and negatively affect affordability. If biosolids land application is de facto banned, local wastewater managers will need to find alternative options at much higher costs. At DC Water, we currently spend $5.7M annually on our biosolids program, but if land application is no longer available, DC Water will need to find landfill space (the only viable option), at an estimated $33M/yr, losing all the well-documented benefits of land application. Maryland residents will share 40% of this additional cost (an $11M annual increase for MD), without a significant reduction in their risk of

PFAS exposure. DC Water objects to asking MD residents to pay more for biosolids management when the private industrial companies that make or use PFAS and profit from PFAS are paying nothing. Additionally, University of Arizona studies found PFAS at levels higher than 1 ppb on farms that never received biosolids. If applied evenly to all farms, this bill would jeopardize all agriculture practices.

DC Water shares the concerns over PFAS in our lives. The solution to our societal PFAS issue is source control, both at the industrial and residential points of entry. DC Water would welcome the opportunity to assist MDE in a campaign to educate residents on products they use that contain PFAS and alternatives to their use. A campaign such as this could have a significant impact on PFAS exposure levels and risk of contact. DC Water urges the Committee to consider the impacts on the State's wastewater plants and their customers and **Vote NO** on SB 732.

Please feel free to contact me with any questions at cpeot@dcwater.com or 202-787-4329.

Sincerely,

Chris Peot, PE, BCEE, WEF Fellow
Director of Resource Recovery
DC Water

cc: Education, Energy, and the Environment Members
SB 732 Sponsor

MD SB732 Submitted NACWA Testimony.pdf
Uploaded by: Danielle Cloutier
Position: UNF

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February 14, 2025

The Honorable Brian Feldman
Senate Education, Energy, and Environment Committee
Miller Senate Office Building, 2 West Wing
11 Bladen Street
Annapolis, MD 21401

Re: Submission of Written Testimony for the Record in Opposition to SB 732 "An Act concerning Sewage Sludge Utilization Permits – Per-and-Polyfluoroalkyl Substances – Concentration Limits" Before the State of Maryland's Senate Education, Energy, and Environment Committee

Dear Chairman Feldman and Members of the Senate Education, Energy, and Environment Committee:

The National Association of Clean Water Agencies (NACWA) appreciates the opportunity to provide written testimony pertaining to the Committee's February 18th hearing on SB 732. NACWA has significant concerns with the legislation in its current form, especially its flawed reliance on the U.S. Environmental Protection Agency's (EPA) recent Draft Risk Assessment for PFOA and PFOS in Biosolids and its incorrect application of a 1 part per billion (ppb) PFAS limit as a regulatory standard.

NACWA is the national advocacy voice for more than 360 public wastewater and stormwater utilities around the country – including the Anne Arundel County Department of Public Works, the Baltimore City Department of Public Works, the Howard County Department of Public Works, and WSSC Water.

NACWA and its public utility members recognize the critical importance of addressing PFAS contamination concerns and support policies that promote effective, science-based solutions to protect public health and the environment. NACWA member agencies in Maryland and across the country are facing significant challenges associated with PFAS related to their role as passive receivers of these chemicals via municipal wastewater influent.

PFAS are ubiquitous in our society and in our bodies because they are found in many of the products we use every day like cookware, clothes and cosmetics. By the time PFAS reach a clean water utility, they have flowed out of homes, businesses, and communities. This underscores that to meaningfully protect our water bodies and ourselves from PFAS risks, source control must be the first step.

Written Testimony for the Record in Response to SB 732
February 14, 2025

Maryland Senate Bill 732 attempts to address concerns around PFAS in biosolids, and NACWA believes there are appropriate ways to address these concerns via state legislation. Unfortunately, SB 732 in its current form attempts to address these concerns in an inappropriate manner based on its flawed understanding of what EPA's Draft Risk Assessment found and a misunderstanding of the 1 ppb number used in the Draft Risk Assessment. The legislation misapplies EPA's scientific and human health protection data and could ultimately create greater environmental harm than it seeks to prevent.

As EPA made clear in its communication materials released as part of the Draft Risk Assessment, the assessment only found an increased health risk from PFAS in biosolids for a very narrow, specific segment of the population – namely the hypothetical "farm family" that EPA used in its risk models that assumed a family living on a farm that eats all of its food and drinks all of its water from that farm where biosolids are applied. However, this hypothetical family does not actually exist in the real world. EPA's materials further clarify that the Draft Risk Assessment does not indicate any increased health risk from PFAS in biosolids to the general public or to the general food supply.[1]

SB 732's use of the 1 ppb number for PFAS in biosolids also misunderstands and misapplies how that level was used in EPA's Draft Risk Assessment. The 1 ppb number is simply the number EPA picked for modeling purposes – it could have instead picked any other number it wanted to run the models. The 1 ppb number is not, and was never intended to be, a regulatory standard for PFAS in biosolids. As EPA's own Fact Sheet for State Water Agencies makes clear, the Draft Risk Assessment and its 1 ppb number is not a regulation and does not compel any action from states.[2]

If EPA wants to ultimate set a regulatory standard for PFAS in biosolids, it will have to first finalize the Draft Risk Assessment and then go through a comprehensive rulemaking process with public notice and comment to determine what regulatory standard would be most appropriate. NACWA believes that states should allow this federal rulemaking process to play out before setting their own standards.

SB 732 also places an impossible compliance burden on public wastewater utilities that are not the source of PFAS contamination. As currently written, the legislation will effectively ban the land application of biosolids in Maryland due to its impractical compliance timeline and testing requirements. This will leave municipal clean water utilities with no other option but a direct-to-landfill requirement that will be more burdensome logistically, less environmentally-friendly, and exponentially more costly – costs that are ultimately passed onto Maryland residents. Instead of mitigating PFAS contamination, the bill will shift the problem elsewhere, potentially worsening Maryland's environmental footprint.

As an alternative, NACWA urges legislation that considers codifying or building upon the existing, science-based initiatives led by the Maryland Department of the Environment (MDE). MDE has implemented a tiered strategy for managing PFAS concentrations in biosolids, setting specific guidelines based on measured levels of PFOS and PFOA. This approach allows a pathway for land application to continue while protecting public

[1] See EPA Press Release on Draft Risk Assessment (Jan. 14. 2025); EPA FAQs on Draft Risk Assessment; EPA Fact Sheet on Draft Risk Assessment.
[2] See EPA Fact Sheet for State Water Agencies.

health and the environment. This approach helps preserve the environmental benefits offered by beneficial reuse of biosolids and the green energy generation that can take place as part of the biosolids processing.

NACWA believes more balanced, science-driven approach is needed—one that aligns with ongoing state regulatory efforts, ensures practical implementation and prevents unintended consequences that could leave Maryland facing greater environmental challenges than the status quo.

Rather than work from an incomplete federal risk assessment with a modeling value that was never intended to be used as a regulatory threshold, it is critical that policymakers allow the appropriate scientific processes to take place to determine what the appropriate risk-based regulatory approaches are most appropriate and protective of public health.

NACWA appreciates the opportunity to provide written testimony on SB 732. If members of the state legislature have questions, please don't hesitate to contact me or Nathan Gardner-Andrews, NACWA's Chief Advocacy & Policy Officer, at ngardner-andrews@nacwa.org.

Sincerely,

Adam Kranz
CEO

SB0732_UNF_Syagro WWT_Sewage Sludge Utilization Pe

Uploaded by: Drew Vetter

Position: UNF

Senate Education, Energy, and the Environment Committee
February 18, 2025
Senate Bill 732 – *Sewage Sludge Utilization Permits – Per- and Polyfluoroalkyl Substances – Concentration Limits*
POSITION: OPPOSE

Synagro WWT, Inc. (Synagro) is the largest recycler of organic by-products in the United States. Providing essential environmental solutions to over 600 public and private water and wastewater treatment facilities in the municipal and industrial sectors, the Company operates in every part of the nation, including Maryland, and employs more than 750 people. Synagro's direct land application and reclamation program is a proven, time-tested management approach, ensuring the beneficial use of biosolids and other suitable residuals. Synagro wishes to register its strong opposition for Senate Bill 732.

This bill limits sewage sludge utilization permits issued or renewed by the Maryland Department of the Environment (MDE) for applying sewage sludge to agricultural land to 1 microgram per kilogram or lesser levels adopted by the U.S. Environmental Protection Agency (EPA) or MDE. A limit at the one microgram per kilogram level – equivalent to 1 part per billion (ppb) – is an extraordinarily low level and represents a sudden and *de facto* ban on the land application of biosolids. A 1 ppb limit is overly restrictive, lacks scientific justification, and threatens the beneficial reuse of biosolids in agriculture.

Biosolids recycling is a well-established and regulated practice that provides essential nutrients to soils, reduces reliance on chemical fertilizers, and supports healthy crop production. Existing federal and state regulations, including those established by the EPA under 40 CFR Part 503, already set stringent safety standards for the treatment and application of biosolids. These standards have been developed through extensive scientific research and risk assessments to ensure the protection of human health and the environment.

The proposed 1 ppb limit is technically unfeasible, given current analytical detection limits and naturally occurring background levels of certain substances in organic material. Implementing such an extreme standard would effectively eliminate biosolids recycling, increase municipal disposal costs, and place unnecessary strain on landfills and incineration facilities – all without measurable environmental benefits.

Synagro acknowledges that the 1 ppb limit proposed in this legislation was most likely adopted from the draft risk assessment recently released by the EPA on January 14, 2025. However, we caution against adopting this limit into Maryland State law when the risk assessment is still in draft form and not fully scrutinized by the scientific and stakeholder communities. Nor does it express any impact to the general public. Synagro has been working closely with MDE on this issue for several years. In response, MDE released a PFAS in Biosolids Regulatory Update on August 20, 2024. This document is based on a comprehensive sampling of influent, effluent, and sewage sludge at wastewater treatment plants (WWTPs) in Maryland. Based on that data, MDE has provided the following guidance:

- If the level of PFOS or PFOA is 100 µg/kg or above, land application of the biosolids is recommended to be stopped.
- If PFOS or PFOA is at or above 50 µg/kg, but less than 100 µg/kg, the recommended

application rate for land application of biosolids must be lowered to 1.5 dry tons per acre or less.

- If PFOS or PFOA is at or above 20 µg/kg, but less than 50 µg/kg, the recommended application rate for land application of biosolids must be lowered to 3 dry tons per acre or less.
- Biosolids with a PFOS concentration below 20 µg/kg and a PFOA concentration below 20 µg/kg may be land applied with no additional requirements after submission of results.

The legislation unnecessarily goes well beyond the scientific sampling-based guidance developed by MDE. Additionally, the effective ban on land application of biosolids in Maryland creates a different enormous environmental challenge – the disposal of sewage sludge. Synagro understands that landfills or incinerators in Maryland currently do not accept sewage sludge. The only remaining option is transporting the sludge out-of-state, a costly and environmentally burdensome endeavor. If WWTPs suddenly need to dispose of all sewage sludge out-of-state, sewage costs will increase dramatically.

Lastly, the legislation does not consider the environmental impacts to the alternatives. Alternative disposal will result in release of PFAS into the environment, will lack any beneficial component, and will result in significantly higher greenhouse gas emissions and energy consumption.

Synagro is committed to ensuring that Maryland's biosolids program remains sustainable, practical, and protective of public health. We encourage the General Assembly to consider the broader economic impacts of this legislation and thoroughly consider alternatives and the consequences of the legislation as drafted. We respectfully request an **unfavorable** report.

For more information call:
Andrew G. Vetter
J. Steven Wise
Danna L. Kauffman
(410) 244-7000

SB 732 - Sewage Sludge Utilization Permits Opposit

Uploaded by: Karen Henry

Position: UNF

Karen Henry, Director
2662 Riva Road, Annapolis, MD 21401
410-222-7042
pwhenr00@aacounty.org
www.dpwandyou.com

February 7, 2025

Education, Energy, and the Environment Committee
2 West Miller
Senate Office Building
Annapolis, Maryland 21401

Dear Chair Feldman,

The Anne Arundel County Department of Public Works (DPW) strongly opposes Senate Bill 732 - Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits. This legislation, as currently drafted, creates an unfunded mandate that will impose significant and undue financial burdens on Anne Arundel County and its residents.

SB 732's concentration limits for PFOS and PFOA will necessitate a drastic change in our biosolids management strategy. If biosolids land application is effectively banned, we will be forced to find alternatives out-of-state. If out-of-state options are available, which may not be the case, we anticipate that this will double our biosolids handling costs, increasing them from the current $700 per dry ton to an estimated $1,400 per dry ton. This translates to an approximate annual increase of **$12 million** for Anne Arundel County. As a local utility, we have no choice but to pass those costs on to our ratepayers, which we do not want to do, especially when they are facing ongoing inflationary pressure on essentials like food, housing, transportation, and energy costs.

Beyond the immediate cost increase, SB 732 fails to provide sufficient time for the County to explore and implement more cost-effective disposal methods. It does not allow adequate time to plan, design, and construct treatment facilities capable of achieving the stringent PFOS and PFOA concentration limits of less than 1 microgram per kilogram. This lack of a reasonable timeframe places an unreasonable burden on local governments.

We understand and appreciate the General Assembly's efforts to address the important issue of PFAS contamination. However, we believe SB 732, in its current form, creates a crippling financial burden on our department and the residents of Anne Arundel County. We urge the Senate to reconsider the bill and explore alternative approaches that are both effective in addressing PFAS contamination and feasible for local governments to implement.

Thank you for considering our concerns. We respectfully request that you oppose Senate Bill 732.

Sincerely,

Karen Henry

Karen Henry
Director

cc: Members of the Senate Education, Energy, and the Environment Committee

SB732 - Easton Utilities - UNF.pdf
Uploaded by: Kurt Fuchs
Position: UNF

EASTON UTILITIES

Life. Made better.™

February 18, 2025

To: Senate Education, Energy, and the Environment Committee
From: Easton Utilities Commission
Bill: SB 732 – Sewage Sludge Utilization Permits – Per-and Polyfluoroalkyl Substances – Concentration Limits
Position: Oppose

On behalf of Easton Utilities Commission (EUC), a small municipally-owned utility and telecommunications company operating the electric, natural gas, water, wastewater, cable TV, and internet services for the Town of Easton and portions of the surrounding area, I am writing to share our concerns with **SB 732.**

SB 732 would direct the Maryland Department of the Environment (MDE) to issue sewage sludge utilization permits for agricultural land application with a limit of one microgram per kilogram for PFOS or PFOA.

EUC relies on a viable biosolids land application program to manage the residuals that remain after the treatment process. **SB 732** would drive up costs for our ratepayers. If biosolids land application is effectively banned, we will be forced to find alternatives either out-of-state or at landfills. Our estimates show our current annual biosolids management budget would increase by approximately $80,000. That may seem like a small number, but for EUC it represents a doubling of that expense. As a local utility, we have no choice but to pass those costs on to our ratepayers, at a time when they are already facing increased cost for essentials like food, housing, and transportation.

We also believe **SB 732** is unnecessary. The State's wastewater treatment plants are currently working with MDE on implementing last year's Protecting State Waters from PFAS Pollution Control Act. This important work is focused on PFAS sources—which are not local wastewater plants—to reduce the level of PFAS loadings from those industries into local plants. In addition, MDE has a new policy in place that recommends that additional steps be taken if biosolids with more than 20 ppb will be land applied. In short, there is good work underway to address PFOS and PFOA levels in biosolids, and this bill would disrupt those efforts.

As a member of the MD Association of Municipal Wastewater Agencies we also support MAMWA's comments on this bill and encourage Committee members to review them carefully.

For the reasons state above and in concert with MAMWA, we respectfully urge an **Unfavorable Report** for **SB 732**.

Please contact Kurt Fuchs with any questions at kfuchs@eucmail.com or 443-786-0855.

201 N. Washington Street | Easton, Maryland 21601
Telephone: 410-822-6110 | Fax: 410-822-0743 | eastonutilities.com

MAMWA Ltr SB 732 2.14.2025.pdf
Uploaded by: Lisa Ochsenhirt
Position: UNF

Maryland Association of Municipal Wastewater Agencies, Inc.
Washington Suburban Sanitary Commission
14501 Sweitzer Lane, 7th Floor
Laurel, MD 20707
Tel: 301-206-7008

February 14, 2025

The Honorable Brian J. Feldman
Chair, Senate Education, Energy, and the Environment Committee
2 West Miller Senate Office Building
Annapolis, MD 21401

Re: OPPOSE – SB 732 (Sewage Sludge Utilization Permits – Per-and Polyfluoroalkyl Substances – Concentration Limits)

Dear Chairman Feldman:

On behalf of the Maryland Association of Municipal Wastewater Agencies (MAMWA), I am writing to share **serious concerns with SB 732**, which would direct the Maryland Department of the Environment (MDE) to issue sewage sludge (biosolids) utilization permits for agricultural land application with a limit of 1 microgram per kilogram for PFOS or PFOA. MAMWA is a statewide association of local governments and wastewater treatment agencies that serve approximately 95% of the State's sewered population. Many members rely on biosolids land application to manage the residuals that remain after treatment at their wastewater plants.

SB 732 would be **damaging for the State's citizens**. The bill would impact nearly every wastewater plant in the State and would **drive up costs significantly for our ratepayers**. If biosolids land application is de facto banned, local wastewater managers will scramble to find alternative options at higher costs.

MAMWA objects to asking our ratepayers to pay more for biosolids management when the private industrial companies that make or use PFAS and profit from PFAS are paying nothing. MAMWA's members take affordability very seriously. We do not want to pass along costs especially when citizens are facing on-going inflationary issues for essentials like food, housing, transportation, and energy costs.

We surveyed our members to ask them how much more their biosolids programs would cost under SB 732. Here are the estimated impacts for just a few of the State's wastewater treatment plants:

- **Utility #1:** Currently land applies in Maryland. Current annual cost is $120,000. **SB 732 would increase costs to $211,000 (76% Increase)**.

- **Utility #2:** Currently land applies in Maryland. **SB 732 would increase costs by approximately $12,000,000 annually**.

- **Utility #3:** Current land applies in Maryland. Current annual cost is $5,700,000. **SB 732 would increase these costs 6 times, to $33,000,000.**

- **Utility #4:** Currently land applies in Maryland. Current annual cost is $727,000. **SB 732 would increase costs to approximately $3,452,000 or an increase of approximately 4.8 times current cost**.

- **Utility #5:** Currently land applies in Maryland. Current annual cost is $3,100,000. **SB 732 would increase costs to $4,600,000 annually (48% Increase)**.

- **Utility #6:** Current land applies in Maryland. Current annual cost is $3,000,000. **SB 732 would increase costs to $3,500,000 annually**.

Another member who did not provide financial impacts shared that landfilling biosolids would increase costs significantly because of their location, limited access to landfills, and the landfill's capacity for their biosolids as more and more plants are pushed to landfill the material.

MAMWA urges the Committee to consider the catastrophic impacts on the State's wastewater plants and their customers and **Vote NO** on SB 732.

Please feel free to contact me with any questions at Lisa@AquaLaw.com or 804-716-9021.

Sincerely,

Lisa M. Ochsenhirt
MAMWA Deputy General Counsel

cc: Education, Energy, and the Environment Members
SB 732 Sponsor

OPPOSE SB 732 SSU Permits - PFAS - Concentration
Uploaded by: Mark Schweitzer
Position: UNF

FREDERICK COUNTY GOVERNMENT

Jessica Fitzwater
County Executive

DIVISION OF WATER AND SEWER UTILITIES

Mark A. Schweitzer, Director

February 14, 2025

The Honorable Brian J. Feldman
Chair, Senate Education, Energy, and the Environment Committee
2 West Miller Senate Office Building
Annapolis, MD 21401

Re: OPPOSE -- SB 732 (Sewage Sludge Utilization Permits – Per-and Polyfluoroalkyl Substances – Concentration Limits)

Dear Chairman Feldman:

On behalf of **Frederick County**, I am writing to share serious concerns with SB 732, which would direct the Maryland Department of the Environment (MDE) to issue sewage sludge utilization permits for agricultural land application with a limit of 1 microgram per kilogram for PFOS or PFOA. **Frederick County** is a MAMWA Member and we rely on a viable biosolids land application program to manage the residuals that remain after the treatment process at our plant(s). We support MAMWA's comments on this bill and encourage Committee members to review them carefully.

SB 732 would impact our plants and would **drive up costs significantly for our ratepayers**. If biosolids land application is effectively banned, we will be forced to find alternatives either out-of-state or at landfills. We fully anticipate that, if there are even options available (which may not be the case), our current annual biosolids management budget of **$3.1 million** will increase to approximately **$4.6 million**. As a local utility, we have no choice but to pass those costs on to our ratepayers, which we do not want to do, especially when they are facing on-going inflationary pressure on essentials like food, housing, transportation, and energy costs.

SB 732 is also **unnecessary**. The State's wastewater treatment plants are working right now with MDE on implementing last year's Protecting State Waters from PFAS Pollution Control Act. This important work is focused on PFAS sources—which are unequivocally not local wastewater plants—to reduce the level of PFAS loadings from those industries into local plants. In addition, MDE has a new policy in place that recommends that additional steps be taken if biosolids with more than 20 ppb will be land applied. In short, there is good work underway to address PFOS and PFOA levels in biosolids, and this work will be disrupted by SB 732.

Please feel free to contact me with any questions at MSchweitzer@FrederickCountyMD.com or 301-600-2296.

Sincerely,

Mark A. Schweitzer
Director

cc: Education, Energy, and the Environment Committee Members
SB 732 Sponsor

HB909.SB732- Cumberland Letter (OPPOSED)(2025).pdf
Uploaded by: Richard Reinhardt
Position: UNF

CITY OF
CUMBERLAND
MARYLAND

DEPARTMENT OF ENGINEERING

Delegate Marc Korman, Chair
Delegate Regina T. Boyce, Vice-Chair
House Environment & Transportation Committee
250 Taylor House Office Building
Annapolis, Maryland 21401

Re: ***House Bill 909/Senate Bill 732: Sewer Sludge Utilization Permits – PFOS & PFOA - OPPOSED***

February 6, 2025

Dear Chairman Korman and Committee Members:

I'm writing to you to request your support in rejecting the proposed legislation under HB 909 and SB 732 which proposes to restrict land applications of biosolids (or sewage sludge) on agricultural lands produced at treatment plants.

Perfluorooctane Sulfonic Acid (PFOS) and Perfluorooctanic Acid (PFOA) are "forever chemicals" linked to health concerns across the country, most notably in Maine. These compounds are found in sewage but originate in the consumer goods we utilize every day such as dental floss, nonstick coatings and moisture wicking clothing.

The City of Cumberland ("the City") operates a regional water reclamation facility that treats sewage from roughly 44,000 citizens in our region. If the bill is passed as written, the City can expect to raise our sewer rates by nearly double in order to afford the trucking fees to dispose of our sludge at an approved landfill which we have not yet identified. Many landfills are already restrictive of the volume of biosolids they can accept and their existing capacity may already be reserved under existing agreements.

Currently, Maryland Department of Environment (MDE) has offered the following guidance on PFOS/PFOA in relation to land application:

- If the level of PFOS or PFOA is 100 µg/kg (ppb) or above, land application of the biosolids is recommended to be stopped.
- If PFOS or PFOA is at or above 50 µg/kg (ppb), but less than 100 µg/kg (ppb), the recommended application rate for land application of biosolids must be lowered to 1.5 dry tons per acre or less.

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- If PFOS or PFOA is at or above 20 µg/kg (ppb), but less than 50 µg/kg (ppb), the recommended application rate for land application of biosolids must be lowered to 3 dry tons per acre or less.
- Biosolids with a PFOS concentration below 20 µg/kg (ppb) and a PFOA concentration below 20 µg/kg (ppb) may be land applied with no additional requirements after submission of results.

As currently written, treatment plants will not be permitted to facilitate land application of biosolids with PFOS or PFOA concentration higher than 1 µg/kg (ppb) unless the U.S. Environmental Protection Agency or MDE sets a more restrictive level.

Water Reclamation Facility Biosolids data (2022) for PFOS and PFOA concentrations showed that PFOS levels between 4.8 and 6.4 µg/kg (ppb) and PFOA levels measured between 0.31 µg/kg (ppb) to 0.37 µg/kg (ppb). As of January 1, 2025, MDE requires a sampling schedule based on tons of biosolids produced annually. The City is required to sample quarterly under this schedule.

The bill also states that land application can occur if the sludge is tested within 14 days of application. PFOS and PFOA testing is tremendously expensive ($1,000 per test) and typically takes 14 days (or more) to get the results. Orchestrating the testing and hauling in a 14-day period is not a feasible option for the City. The concessions to allow sludge to be applied after the 14-day window include factors that are outside of the sludge generators control once they leave the respective facility, such as the potential for the receiver to mix the sludge with other materials.

I implore you object to this bill and seek revisions to the legislation. While the City supports efforts to reduce exposure to PFOS and PFOA, we do not believe the current bill reflects a reasonable approach by grossly exceeding MDE's own guidance. The language shifts the burden of treating these chemicals from the industries manufacturing them to your constituents.

If this bill is passed, the City will have to store our biosolids on site until a location can be determined for disposal as our local landfills (Allegany County and Somerset, PA) will not be able to accept all of it due to restrictive capacity. If a new location is not identified within 60 days, we will need to shut down our wastewater facility. I assure you that this is not hyperbole.

The City requests that the bill be revised to comply with existing MDE guidance which I outlined in this letter. Until there is an alternative method for addressing PFOS and PFOA that is readily available to the City and other regions of the State, the General Assembly should be looking to address the areas with highest concentrations of these chemicals based on the required MDE testing instead addressing them in one fell swoop across the State.

Should you have any questions or concerns, please don't hesitate to contact me back at any time by email at robert.smith@cumberlandmd.gov or by phone at 301-759-6601.

Respectfully,

Robert Smith, PE
Director of Engineering and Utilities

cc:

Delegate Dana Stein, House Bill Sponsor
Senator Sara Love, Senate Bill Sponsor
Senator Brian Feldman, Chair, Senate E3 Committee
Senator Cherly Kagan, Vice-Chair, Senate E3 Committee
Allegany County Delegation
Mayor Raymond Morriss, City of Cumberland
Jeffrey Silka, City Administrator, City of Cumberland

Land Application of sludge PFAS PFOA Letter - EDIT

Uploaded by: Richard Reinhardt

Position: UNF

City of Frostburg

Delegate Marc Korman, Chair
Delegate Regina T. Boyce, Vice-Chair
House Environment & Transportation Committee
250 Taylor House Office Building

Annapolis, MD 21401

RE: HB909/SB732 (Sewer Sludge Utilization Permits – PF0S & PFOA)

Delegate Korman:

I'm writing to you to request your support in rejecting the proposed legislation under HB 909 and SB 732 which proposes to restrict land applications of biosolids (or sewage sludge) on agricultural land produced at treatment plants. Perfluoro octane Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) are "forever chemicals." These compounds are found in sewage and originate from everyday items.

The City of Cumberland operates a regional water treatment plant that treats sewage for a majority of Allegany County, Frostburg included. If the bill is passed as written, Frostburg's sewerage costs will increase drastically, over double, due to the changes Cumberland will have to make to their treatment process. Cumberland land applies a large portion of its' solids post treatment. If not allowed to land-apply, Cumberland's costs will increase dramatically due to trucking and disposal fees. These increases will be passed on to Frostburg residents.

I strongly recommend you object to this bill and seek revisions to the legislation. While Frostburg supports efforts to reduce exposure to PFOS and PFOA, we do not believe the current bill reflects a reasonable approach by grossly exceeding MDE's own guidance. The language shifts the burden of treating these chemicals from the industries manufacturing them to your constituents.

If this bill is passed, Cumberland will have to store biosolids on site until a location can be determined for disposal. Our local landfills (Allegany County and Somerset, PA) will not be able to accept all of it due to restrictive capacity. If a new location is not identified within 60 days, Cumberland will need to shut down their wastewater facility. This would be disastrous for not only Frostburg but the entire county.

Frostburg requests that the bill be revised to comply with existing MDE guidance.

Respectfully

Todd J. Logsdon
Mayor
City of Frostburg

cc:

Delegate Dana Stein, House Bill Sponsor
Senator Sara Love, Senate Bill Sponsor
Senator Brian Feldman, Chair, Senate E3 Committee
Senator Cherly Kagan, Vice-Chair, Senate E3 Committee
Allegany County Delegation
Mayor Raymond Morriss, City of Cumberland
Jeffrey Silka, City Administrator, City of Cumberland

HB909.SB732- Cumberland Letter (OPPOSED)(2025).pdf
Uploaded by: Robert Smith
Position: UNF

CITY OF
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MARYLAND

DEPARTMENT OF ENGINEERING

Delegate Marc Korman, Chair
Delegate Regina T. Boyce, Vice-Chair
House Environment & Transportation Committee
250 Taylor House Office Building
Annapolis, Maryland 21401

Re: ***House Bill 909/Senate Bill 732: Sewer Sludge Utilization Permits – PFOS & PFOA - OPPOSED***

February 6, 2025

Dear Chairman Korman and Committee Members:

I'm writing to you to request your support in rejecting the proposed legislation under HB 909 and SB 732 which proposes to restrict land applications of biosolids (or sewage sludge) on agricultural lands produced at treatment plants.

Perfluorooctane Sulfonic Acid (PFOS) and Perfluorooctanic Acid (PFOA) are "forever chemicals" linked to health concerns across the country, most notably in Maine. These compounds are found in sewage but originate in the consumer goods we utilize every day such as dental floss, nonstick coatings and moisture wicking clothing.

The City of Cumberland ("the City") operates a regional water reclamation facility that treats sewage from roughly 44,000 citizens in our region. If the bill is passed as written, the City can expect to raise our sewer rates by nearly double in order to afford the trucking fees to dispose of our sludge at an approved landfill which we have not yet identified. Many landfills are already restrictive of the volume of biosolids they can accept and their existing capacity may already be reserved under existing agreements.

Currently, Maryland Department of Environment (MDE) has offered the following guidance on PFOS/PFOA in relation to land application:

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- If PFOS or PFOA is at or above 20 µg/kg (ppb), but less than 50 µg/kg (ppb), the recommended application rate for land application of biosolids must be lowered to 3 dry tons per acre or less.
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As currently written, treatment plants will not be permitted to facilitate land application of biosolids with PFOS or PFOA concentration higher than 1 µg/kg (ppb) unless the U.S. Environmental Protection Agency or MDE sets a more restrictive level.

Water Reclamation Facility Biosolids data (2022) for PFOS and PFOA concentrations showed that PFOS levels between 4.8 and 6.4 µg/kg (ppb) and PFOA levels measured between 0.31 µg/kg (ppb) to 0.37 µg/kg (ppb). As of January 1, 2025, MDE requires a sampling schedule based on tons of biosolids produced annually. The City is required to sample quarterly under this schedule.

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I implore you object to this bill and seek revisions to the legislation. While the City supports efforts to reduce exposure to PFOS and PFOA, we do not believe the current bill reflects a reasonable approach by grossly exceeding MDE's own guidance. The language shifts the burden of treating these chemicals from the industries manufacturing them to your constituents.

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The City requests that the bill be revised to comply with existing MDE guidance which I outlined in this letter. Until there is an alternative method for addressing PFOS and PFOA that is readily available to the City and other regions of the State, the General Assembly should be looking to address the areas with highest concentrations of these chemicals based on the required MDE testing instead addressing them in one fell swoop across the State.

Should you have any questions or concerns, please don't hesitate to contact me back at any time by email at robert.smith@cumberlandmd.gov or by phone at 301-759-6601.

Respectfully,

Robert Smith, PE
Director of Engineering and Utilities

cc:

Delegate Dana Stein, House Bill Sponsor
Senator Sara Love, Senate Bill Sponsor
Senator Brian Feldman, Chair, Senate E3 Committee
Senator Cherly Kagan, Vice-Chair, Senate E3 Committee
Allegany County Delegation
Mayor Raymond Morriss, City of Cumberland
Jeffrey Silka, City Administrator, City of Cumberland

2025-MML-SB 732-Unfavorable.pdf
Uploaded by: Tyler Brice
Position: UNF

Maryland Municipal League
The Association of Maryland's Cities and Towns

TESTIMONY

February 18, 2025

Committee: Senate – Education, Energy, and the Environment

Bill: SB 732 - Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits

Position: ***Unfavorable***

Reason for Position:

On behalf of the Maryland Municipal League (MML), representing 161 local governments across the state, we respectfully submit this testimony expressing our opposition to Senate Bill 732. While we fully support efforts to reduce exposure to harmful chemicals such as PFOS and PFOA, the proposed restrictions on the land application of biosolids (sewage sludge) in SB 732 impose significant challenges on local governments, particularly those managing wastewater treatment facilities.

The bill's strict limitations on PFOS and PFOA concentrations in biosolids would require municipalities to invest heavily in alternative disposal methods, such as transporting biosolids to landfills. This shift could significantly increase disposal costs, with some municipalities potentially seeing their sewer rates double. These increases would place a substantial financial burden on local governments and ultimately result in higher costs for Maryland residents. The bill's testing and reporting requirements, particularly the need to test biosolids for PFOS and PFOA within a 14-day window, are both impractical and costly. Testing fees for PFOS and PFOA can reach up to $1,000 per test, with results typically taking more than 14 days to receive. The 14-day testing window, combined with the challenge of arranging timely disposal, presents a logistical and financial burden that is unfeasible for many municipalities, especially smaller or resource-constrained communities.

The language of the bill also imposes requirements that exceed the Maryland Department of the Environment's (MDE) current guidance, which already provides a reasonable framework for regulating PFOS and PFOA concentrations in biosolids. By raising the threshold for PFOS and PFOA concentration to levels as low as 1 μg/kg, this bill places an unfair burden on municipalities to comply with regulations that go far beyond the existing, scientifically-supported guidelines. Many municipalities, such as the City of Cumberland and the City of Frostburg, rely on land application for the disposal of biosolids. The restrictions in this bill would force these municipalities to store biosolids on-site or seek out new disposal sites, which may not have the capacity to handle the increased volume. If alternative disposal methods are not found in a timely manner, wastewater treatment facilities could face serious operational disruptions, including potential shutdowns.

For these reasons, the Maryland Municipal League respectfully ***opposes*** SB 732 in its current form. We urge the committee to revise the bill to align with MDE's existing guidance and provide municipalities with more feasible and financially responsible solutions. The Maryland Municipal League (MML) shares the mutual goal of protecting public health and the environment and believes that working together with local governments to address these concerns could help achieve a balanced approach that supports these objectives while minimizing potential burdens on municipalities and residents.

For more information, please contact Tyler Alexis Brice, Manager of Advocacy and Public Affairs, at tylerb@mdmunicipal.org or 254-652-8110.

Thank you for your consideration.

MD SB 732_Testimony_02 14 2024(final).pdf
Uploaded by: Ata Adeel
Position: INFO

Metropolitan Washington
Council of Governments

February 14, 2025

The Honorable Brian Feldman and
Members of the Senate Education,
Energy, and Environment Committee
Miller Senate Office Building, 2 West Wing
11 Bladen Street
Annapolis, MD 21401

Re: Letter of Information SB732 Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits

Dear Chair Feldman and Members of the Education, Energy, and Environment Committee:

On behalf of the Metropolitan Washington Council of Governments (COG) and the Blue Plains Inter Municipal Agreement (IMA) Partners, we wish to express concerns we have with SB 732, Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits.

COG is a nonprofit association with 300 members, including elected officials from 24 local governments, the Maryland and Virginia state legislatures, and U.S. Congress. Each month, over 1,500 officials and experts participate through COG to address significant regional challenges and plan for the future. COG and our member jurisdictions have a long history of partnership with local, state, and federal government in addressing important water resource issues.

The Blue Plains 2012 Intermunicipal Agreement (2012 IMA) is the regional agreement between the IMA Parties that share in the wastewater treatment services provided by the Blue Plains Advanced Wastewater Treatment Plant (Blue Plains). The 2012 IMA was formally adopted on April 3, 2013, by the District of Columbia, DC Water, Fairfax County (VA), Montgomery County (MD), Prince George's County (MD), and WSSC Water.

We support the bill's intent to address PFAS contamination, but COG and the Blue Plains IMA Partners are concerned about the feasibility of implementation, compliance requirements, and the potential for additional limits. Achieving the proposed limit of 1 microgram per kilogram for PFAS in sewage sludge will be technologically and economically challenging and is not possible with treatment processes in place today. The necessary treatment upgrades will likely cost billions of dollars, will take several years to construct, and will have a significant impact on affordability for residents, businesses, and communities at a time when many people are struggling to afford basic necessities. Likewise, farmers in Maryland and elsewhere may be deprived of an important source of inexpensive and effective fertilizer for their operations, further increasing their operational costs and the costs of goods they produce.

The requirements for demonstrating compliance with the proposed limits will also be burdensome, complex, and expensive. We are concerned that authorizing MDE to establish additional limits by regulation without clear criteria may further increase costs and create uncertainty about the implementation of costly new treatment technologies, as mentioned previously. The bill should ensure that any new standards are based on the latest scientific research and consider the practical implications for wastewater treatment operations.

As mentioned previously, we support the bill's intent of reducing PFAS pollution. Wastewater treatment facilities in Maryland and the metropolitan Washington region are leaders in adopting some of the most advanced treatment technologies in the world and have led the way in cleaning up the Chesapeake Bay, the Potomac River, the Anacostia River, and other local waterways. Similar to the Bay restoration efforts, wastewater and drinking water utilities are taking aggressive steps to address PFAS in drinking source water, treated drinking water, and wastewater treatment. For example, wastewater utilities in the COG region, including WSSC Water and DC Water, are national leaders in PFAS research and innovation. This includes supporting ongoing National research on fate and transport of PFAS in biosolids, variability of PFAS compounds in the environment, and innovative wastewater treatment approaches to significantly reduce the amount of PFAS compounds in biosolids and effluent.

We also support the steps taken by the Maryland General Assembly and the Department of the Environment (MDE) to protect citizens from PFAS, including the passage of SB 956 in 2024. The rule requires MDE to identify significant industrial users of PFAS chemicals by October 1, 2024, develop monitoring and testing criteria by January 1, 2025, establish action levels for pretreatment permits by June 1, 2025, and create mitigation plans by September 1, 2025. This includes mandatory PFAS monitoring and testing for significant industrial users and wastewater utilities. Wastewater treatment facilities are "passive receivers" of PFAS compounds through the raw influent that arrives at the treatment plant and were not designed or intended with PFAS treatment capabilities in mind. Efforts to eliminate PFAS pollution at the source are the most effective way to reduce PFAS pollution.

In conclusion, the Council of Governments (COG) values the opportunity to provide testimony on SB 732. Addressing PFAS pollution is a multifaceted challenge that demands thorough scientific analysis to develop effective policies, ensuring minimal impact on ratepayers, agricultural practices, and the environment. We are committed to collaborating with the Maryland General Assembly, the Maryland Department of the Environment, and other stakeholders to devise and implement solutions grounded in scientific evidence. Should you have any questions or concerns, please feel free to contact me at (202) 222-5226 or via email at sbieber@mwcog.org.

Sincerely,

Steve Bieber

Steve Bieber
Water Resources Program Director

SB0732-EEE_MACo_LOI.pdf
Uploaded by: Dominic Butchko
Position: INFO

MARYLAND Association of COUNTIES

Senate Bill 732

Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits

MACo Position:
LETTER OF INFORMATION

To: Education, Energy, and the Environment Committee

Date: February 18, 2025

From: Dominic J. Butchko

The Maryland Association of Counties (MACo) offers a **Letter of Information** on SB 732. This bill places new limitations on the use of certain byproducts from wastewater treatment processing that meet certain per- and polyfluoroalkyl substances (PFAS) thresholds.

Sewage sludge from wastewater treatment facilities is commonly repurposed for various beneficial uses, primarily in agriculture and land reclamation. Rich in organic matter and nutrients like nitrogen and phosphorus, treated sludge—often referred to as biosolids—can be applied as fertilizer to improve soil health and crop yields. Currently, in Maryland, approximately fifty percent of the biosolids from wastewater treatment facilities are used in agriculture.

SB 732 would limit the use of biosolids based on certain PFAS thresholds. As the primary operators of nearly all public infrastructure in Maryland, counties stand on the front line in mitigating the growing number of health threats resulting from PFAS contamination. One of the growing challenges with mitigation is deciding who will ultimately bear the financial responsibility: at-large taxpayers or culpable polluters. Counties are concerned as SB 732 would, whether intentionally or not, place a significant financial burden on local taxpayers, one coming at the same time as counties struggle to meet growing Blueprint obligations and grapple with a shrinking level of support from the federal government. For context, when Maine implemented similar restrictions on biosolids, costs for disposal of this material nearly doubled.

Additionally, counties echo the same concerns voiced by the Maryland Association of Municipal Wastewater Agencies (MAMWA),

> ***SB 732 is based on a narrowly tailored draft risk assessment.*** *MAMWA believes that the 1 microgram per kilogram in the bill is borrowed from EPA's recent draft risk assessment for PFOA and PFOS in biosolids. It is important to note that EPA did not identify any risk from PFOA and PFOS in biosolids to the public or any direct impact of risk to the general food supply. It is also important to note that PFAS chemicals are ubiquitous in our environment. In fact,*

dental floss has an average of 2.5 million ppb, food packaging has an average of 876,000 ppb, ketchup 58,000 ppb, organic pasta sauce 21,000 ppb, cosmetic foundation 10,500 ppb, daycare dust 523 ppb, and even human blood serum contains 7 ppb. The pervasive presence of PFAS in consumer products is the reason MAMWA is working with MDE to reduce PFAS at the source.

SB 732 would be damaging for the State's citizens**. The bill would impact nearly every wastewater plant in the State and would **drive up costs significantly for our ratepayers**. If biosolids land application is effectively banned, local wastewater managers will scramble to find alternative out-of-state (there is not enough landfilling capacity in Maryland to make it an option). **Best case scenario, local wastewater plant owners will see a significant cost increase (e.g., for trucking materials out-of-state, for paying additional permit fees, for paying out-of-state landfilling tipping fees). Worst case scenario, plants may not have anywhere to send these materials for land application or landfilling either in the State or elsewhere.

MACo is currently in discussions with the sponsor, advocates, and the Department of the Environment on amendments to address local concerns and ease the pressures on local taxpayers. Counties stand ready to partner with the committee and others to address the challenges of PFAS, without unduly burdening local ratepayers and taxpayers.

SB732-EEE-LOC.pdf
Uploaded by: Nina Themelis
Position: INFO

BRANDON M. SCOTT
MAYOR

Office of Government Relations
88 State Circle
Annapolis, Maryland 21401

SB 732

February 18, 2025

TO: Members of the Education, Energy, and the Environment Committee

FROM: Nina Themelis, Director of Mayor's Office of Government Relations

RE: **Senate Bill 732 - Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits**

POSITION: Letter of Concern

Chair Feldman, Vice Chair Kagan and Members of the Committee, please be advised that the Baltimore City Administration (BCA) wishes to express concerns with Senate Bill (SB732).

SB732 proposes new amendments to the Maryland Environment Article, focusing on regulating per- and polyfluoroalkyl substances (PFAS) in sewage sludge applied to agricultural land. Under this bill, any sewage sludge utilization permit issued or renewed by the Department of the Environment must limit the concentration of perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) to the lowest of three possible thresholds: one microgram per kilogram (µg/kg), the level established by health-based standards adopted by the U.S. Environmental Protection Agency, or more stringent limits set by the Department through regulations. Compliance requires independent lab testing within 14 days before land application unless the sludge is delivered directly to the site without storage or mixing. The Department may set stricter PFAS limits or regulate additional substances.

Baltimore City's water and wastewater treatment plants, operated by the Department of Public Works (DPW), treat approximately 200 million gallons of wastewater daily, serving 1.6 million residents. Currently, the Back River and Patapsco plants manage sludge byproducts in compliance with Maryland Department of the Environment (MDE) standards, which establish a tiered approach to PFAS monitoring and biosolid land application, with a maximum allowable limit for PFOS and PFOA of 100 µg/kg, beyond which land application must be discontinued. The proposed threshold of 1 µg/kg for PFOS and PFOA poses a far stricter limit, creating significant financial and operational burdens. Given the 2–4 week turnaround for third-party lab results, the proposed two-week standard creates an unachievable compliance timeline, requiring significant investment in testing infrastructure.

Additionally, the proposed legislation would substantially increase operational costs for public utilities, ultimately leading to higher rates for consumers. By imposing an unfunded mandate on utilities, it shifts the financial burden to ratepayers rather than addressing PFAS contamination at its source. Without a clear implementation plan, wastewater operators will be forced to consider costly alternative treatment processes, such as pyrolysis or gasification, which are not yet commercially available in Maryland and have seen limited use nationwide.

While we recognize the need for regulating PFAS to protect public health and the environment, we respectfully ask the committee to **consider these concerns** and their potential impact on public utilities and ratepayers when addressing this bill.

WSSC Water_Testimony_SB_732_Sewage_Sludge_2.14.25.
Uploaded by: Priscilla To
Position: INFO

February 14, 2025

The Honorable Brian Feldman and
Members of the Senate Education,
Energy, and Environment Committee
Miller Senate Office Building, 2 West Wing
11 Bladen Street
Annapolis, MD 21401

Re: Letter of Information SB732 Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits

Dear Chair Feldman and Members of the Education, Energy, and Environment Committee:

The Washington Suburban Sanitary Commission (WSSC Water) appreciates the opportunity to provide information regarding **SB732 Sewage Sludge Utilization Permits - Per- and Polyfluoroalkyl Substances - Concentration Limits**. WSSC Water is a bi-county state agency and self-sustaining public utility currently among the largest water and wastewater utilities in the nation, with nearly 11,000 miles of water and sewer pipeline. Our service area currently spans nearly 1,000 square miles in Prince George's and Montgomery counties, and we serve 1.9 million residents, comprising 473,879 customer accounts, in addition to being a wholesale service provider. For more than 106 years, WSSC Water has maintained an exceptional track record of zero drinking water quality violations, consistently meeting strict federal standards and safeguarding the health of our customers. As an anchor institution, WSSC Water's success is directly linked to the prosperity of our communities and customer satisfaction.

WSSC Water collects 185,000,000 gallons of wastewater from our community per day, and generates 96,000 tons of sewage sludge, or biosolids, each year at our six (6) Water Resource Recovery Facilities. WSSC Water also recently commissioned our Piscataway Bioenergy Facility located in Accokeek, Maryland. The innovative $271 million facility is turning "Poop to Power" by transforming how WSSC Water handles biosolids. Once fully operational in 2025, the facility will convert almost half of the biosolids into renewable natural gas and will produce a significantly cleaner (Class A) nutrient-rich organic material. The renewable energy will be used to power Ride On buses in Montgomery County, and the Class A biosolids can be used and distributed as a soil amendment. This vital project creates green energy, green jobs and a green future, and exemplifies WSSC Water's investment and commitment to serving as an environmental steward in the communities we serve and beyond, as well as our focus on balancing investments with affordability.

14501 Sweitzer Lane
Laurel, MD 20707
www.wsscwater.com

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Toll Free 800.828.6439

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BACKGROUND

Stopping PFAS at the source

WSSC Water, like many community water systems, are passive receivers of PFAS. It is ubiquitous in the environment due to the manufacture and continued use of PFAS-containing materials. WSSC Water has advocated for stopping PFAS at the source as a comprehensive approach to addressing PFAS contamination and to in part alleviate the significant costs associated with PFAS mitigation. Banning biosolids land application in the State of Maryland does not alone achieve the environmental and public health protection desired. Tackling PFAS contamination meaningfully and sustainably would require directing resources where the greatest risk reductions can be accomplished, which is by PFAS elimination at production and use, to stop PFAS from entering the environmental cycle in the first place and accomplish the biggest strides in reducing PFAS in biosolids.

What WSSC Water is doing to reduce PFAS from the source

PFAS ends up in wastewater and eventually in biosolids because of the use of PFAS in consumer and industrial products. WSSC Water shares the concern about the PFAS contamination we receive and affirms our commitment to tackling PFAS contamination meaningfully through research and source elimination to reduce harm to public health and the environment. For this reason, we have significantly increased efforts to reduce PFAS sources in our systems by expanding PFAS monitoring, enhancing source tracking, and developing in-house PFAS analytical capabilities. WSSC Water is also actively leading and participating in nationally recognized research focused on understanding the effect of PFAS on fields receiving municipal sources of biosolids, and reducing and eliminating PFAS concentrations in wastewater and biosolids. We also engage in public outreach and education around limiting PFAS exposure.

What MDE is doing to reduce PFAS from the source

WSSC Water is committed to continue working with the State to implement sustainable solutions for holistic PFAS reduction in biosolids. In August 2024, the Maryland Department of the Environment (MDE) released risk-based tiered recommendations for PFAS in biosolids that prioritize actions based on the level of PFAS risk and ultimately promote risk reduction by source reduction. This approach has demonstrated success in pioneering states like Michigan in keeping high levels of PFAS off agricultural land, reducing industrial sources of PFAS to biosolids, while preserving the renewable resource in biosolids. We support this risk-based policy approach that directs resources to the greatest risk and places the responsibility and cost of PFAS reduction on producers.

IMPACTS OF SB732

Impacts to ratepayers

The proposed bill as written could potentially have the reverse effect, putting the cost on PFAS receivers and ratepayers. MDE has determined that the median level of PFOA and PFOS in biosolids is 4.98 parts per billion (ppb) and 12.7 ppb. SB732 would direct MDE to issue sewage sludge (biosolids) utilization permits for agricultural land application with a limit of 1 microgram per kilogram (equivalent to 1 ppb)

for PFOS or PFOA, effectively banning biosolids land application in the State of Maryland. Landfilling would increase biosolids management costs to our ratepayers by as much as 200 to 250%. Due to the limited capacity of landfills in Maryland, we also expect that as more biosolids are pushed out of Maryland, it will become more difficult and costly to find landfills to accept our biosolids.

Absence of alternatives

Biosolids can be managed by land application, landfilling or incineration, and each method comes with its own environmental considerations. Land application is the only method that returns valuable nutrients and organic materials to the soil. The US Environmental Protection Agency Part 503 Rule sets specific requirements to ensure land application is done safely to protect public health. Landfilling is a final disposal approach, but it is not a preferred approach. Every community has a finite landfill capacity, and landfilling biosolids permanently uses limited landfill space. Biosolids also contribute to landfill methane emissions, and since landfilling does not deal with contaminants at the source, landfill leachate can deliver contaminants back into the environment. Incineration is an energy-intensive process that turns biosolids into ash, carbon dioxide (a greenhouse gas), and regulated air pollutants, but the environmental impacts of polluted air emissions often outweigh the benefits of incineration. For this reason, WSSC Water decommissioned two incinerators, last operated in 2012, as upgrades became prohibitively expensive to continue to meet more stringent air quality standards.

WSSC Water is not currently equipped to destroy the PFAS we receive. The very same properties that make this "forever" chemical resistant to water, oil, grease, and heat are the same properties that make it extremely challenging and expensive to treat. It resists capture and destruction by our existing processes. Building new technologies like pyrolysis or gasification comes at a cost estimate of $175 million. Not only would these technologies destroy the nutrients in biosolids, they are also not proven for long-term or large-scale use. There are no established monitoring methods or policies yet in place to manage PFAS in the resulting air emissions or ash products. If PFAS is not destroyed, it is potentially converted into air pollution over parts of our service area. Consequently, it then becomes a water issue as air emissions travel and rain falls, with no ability to track it.

In closing, WSSC Water appreciates this opportunity to provide testimony on SB732. We continue to advocate for the protection of public health and the environment by stopping PFAS at the source as we seek to manage biosolids responsibly and balance affordability for our ratepayers. If you have any questions, please do not hesitate to contact me at 301-206-8028 or Priscilla.To@wsscwater.com.

Sincerely,

DocuSigned by:
Priscilla To
B3225BC6990E4E8...

Priscilla To, PhD, PE
Director
Department of Operational Reliability and Resilience