



Comment to New Jersey Clean Water Council
January 26, 2023

Re: Public testimony focused on how to address the presence of PFAS in residuals and its potential impact on management alternatives.

Delaware Riverkeeper Network (DRN) is a nonprofit organization with more than 25,000 members that was established in 1988 to protect and restore the Delaware River, its associated watershed, tributaries, and habitats. This area includes 13,539 square miles, draining parts of New Jersey, New York, Pennsylvania, and Delaware. Delaware Riverkeeper Network works to defend the Delaware River and its Watershed from pollution and environmental degradation for the benefit of its communities, both human and nonhuman, and its habitats for those who live, work, and recreate here now and for future generations.

DRN has been involved for more than 12 years in addressing PFAS in New Jersey. We also are actively involved in PFAS issues in the other four watershed states. We are focusing our comment on the land application of sewage sludge – biosolids – in New Jersey.

Our watershed work includes sewage and wastewater issues that impact water quality and health. In this regard, we have been engaged in various land use and sewage sludge issues, particularly in Pennsylvania communities. This has required extensive nationwide research into regulations, scientific studies and reports, and health issues related to PFAS. This has informed our advocacy and legal work on PFAS.

DRN advocates that the Clean Water Council (CWC) recommend a ban of the application to land of biosolids that contain PFAS. We also advocate that monitoring for all PFAS compounds that the U.S. Environmental Protection Agency (EPA) recommends in its memorandum cited in the CWC presentation. The use of EPA's Draft Method 1633 is available to analyze biosolids, as well as discharges from NPDES permitted facilities, for 40 PFAS compounds.

The facilities that need to monitor for PFAS include those that produce and/or manage sludge that is planned to be applied to land from: municipal wastewater; industrial wastewater and solid waste; slaughterhouses; confined animal feeding operations (CAFOs); landfill leachate; and food processing facilities. We point out that only monitoring at a POTW or other type of facility with a discharge to water or land is not sufficient because PFAS are emitted by air from contaminated sites including manufacturing sites and sites that now or in the past use firefighting foam, called aqueous film forming foam (AFFF), thermal processing facilities, and processing units such as incinerators. Air dispersal of PFAS is a pathway of pollution that is largely uncontrolled by air permitting.

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As reported, the state of Maine has banned the “beneficial use” of biosolids land application as well as use of biosolids in compost or soil amendments with the adoption of legislative bill (L.D. 1911) in April 2022, subsequently signed into law. This law came about because of investigations that revealed the source of PFAS at farms in Maine was the application of biosolids.

In 2019, the Maine Department of Environmental Protection (ME DEP) started requiring testing for PFAS in all biosolids land application programs after finding very high levels of PFOS in soils where biosolids had been applied at a farming operation.¹ They discovered residential wells supplying drinking water near some Maine farms had PFOS levels greater than 1,000 parts/trillion (ppt). The farm operations were varied – including dairy farms and vegetable farms - but they all had one thing in common – they had applied biosolids over the years, some historically.²

The land application of biosolids in Maine is reported to have been more prevalent than the percentage of sewage sludge applied as biosolids here in New Jersey but it is important to note that there is no analysis available, to DRN’s knowledge, of the locations, volumes, and the length of time the biosolids were and still are applied here. This must be mapped and analyzed to show the intensity and length of applications before any assumptions are made in a comparison of these activities in Maine and New Jersey. Were New Jersey’s biosolids applications more intensely concentrated in smaller areas than in Maine? Are regions and populations disproportionately exposed, such as in agricultural areas in South Jersey and Northwestern New Jersey where biosolids may have been repeatedly used? Are more people exposed in New Jersey due to density and proximity of populations? Any of these considerations should inform the level of action needed from DEP. DRN advises that the action required is a ban on the application to land of biosolids containing PFAS compounds, similar to Maine’s.

One of the PFAS contamination incidents in Maine involved a dairy farm where cows’ milk contained alarmingly high levels of PFAS. The Maine Department of Environmental Protection (MDEP) tested the milk tank at the farm, which showed PFAS at 690 ppt, nearly 10 times higher than the EPA guideline for drinking water at the time - 70 ppt.³ Twelve soil samples were also taken at the farm and PFAS readings ranged from 1,800 ppt to 896,200 ppt.⁴ MDEP concluded that the source of the contamination was use of biosolids on the fields where the farmer grew hay to feed his cows. Remarkably, the farmer had not applied biosolids for 12 years, yet the chemicals were still showing up in his cows’ milk.⁵ Today, the PFAS are still in the milk and he had to stop selling it. It was reported in 2019 that the MDEP tested 44 samples from other farms and compost facilities, as [reported](#) in the Intercept. “The agency [detected](#) at least one PFAS compound in every sample”.⁶

Since 2019 through to today, there is incontrovertible evidence of the transfer of PFAS from biosolids and soils to food products based on testing and scientific studies. In 2019, the Food and Drug Association tested

¹ <https://www.biocycle.net/connections-biosolids-ban-pfas/> Last visited 1.25.2023

² *Id.*

³ <https://kkw.org/wp-content/uploads/2018/02/DEP-Phase-2-study.pdf>; and <https://www.seacoastonline.com/news/20180201/dairy-farm-contaminated-kkw-wds-kimball-lane-well>

⁴ *Id.*

⁵ <https://www.ehn.org/how-toxic-pfas-chemicals-could-be-making-their-way-into-food-from-pennsylvania-farms-2639142267.html?rebelltitem=6#rebelltitem6>

⁶ <https://theintercept.com/2019/06/07/pfas-chemicals-maine-sludge/>

91 food items for PFAS; 14 products tested positive including pineapple and leafy greens. It was reported that nearly half the meat and fish tested “had PFAS levels were two or more times over the current federal advisory level for the chemicals”.⁷

As we know here in New Jersey, New Jersey Department of Environmental Protection (DEP) and the New Jersey Department of Health (DOH) have issued fish consumption guides that advise limiting eating fish from New Jersey waters due to dangerously high levels of PFAS.⁸ The advisories were based on DEP studies of fish flesh, sediment and surface water.⁹ The state’s report documenting the presence of PFAS in these media included preliminary fish consumption advisories for three PFAS – PFNA, PFOA and PFOS, which were considered in DEP setting the fish consumption advisories.¹⁰ The report stated, “Based on the preliminary advisories, all of the 11 sites would have some level of fish consumption guidance ranging from “one meal per week” to ‘do not eat’.”¹¹ While there is no evidence, to DRN’s knowledge, of how much the application of biosolids to land contributes to the presence of PFAS in these environmental mediums, we do know that PFAS are finding their way into fish, soil and sediment. We also know from other studies and reports that biosolids application is a pathway of pollution that is poorly monitored and controlled.

Other research has exposed the PFAS problem, as far back as 2011. A study published in 2011 analyzed PFAS in land-applied biosolids coming from the Decatur Utilities Dry Creek WWTP in Decatur, Alabama. Between 1995 and 2008, Decatur Utilities supplied over 34,000 dry metric tons of fluorochemical industry impacted biosolids to local farmers who used this material as a soil amendment on approximately 2,000 hectares of agricultural fields in Lawrence, Morgan, and Limestone counties in Alabama.¹²

The research team collected 51 field samples and measured ten target PFCs in surface and groundwater samples. Of the 51 unique field samples collected, PFOA was detected in 29 (57%) of the samples at concentrations as high as 11,000 ng/L, with 11 samples (22%) above the EPA Provisional Health Advisory (PHA) level at the time of 400 ng/L.¹³ Two additional samples (389 and 397 ng/L) were very close to the PHA. PFOA occurred in two drinking water samples: one at 2,070 ng/L and another at 594 ng/L.¹⁴ PFOS was measured in 15 samples (29%) at concentrations as high as 151 ng/L. PFOS was measured in two drinking water samples: one at 12.0 ng/L and another at 14.1 ng/L.¹⁵

Because these chemicals do not break down in the environment, they persist in the soil and water essentially forever, increasing the risk of developing adverse health effects from water, air, and food contaminated by

⁷ <https://grist.org/article/pfas-fda-chocolate-cake-chemical-food-safety/>

⁸ New Jersey Department of Environmental Protection, New Jersey Department of Health, “A Guide to Health Advisories for Eating Fish and Crabs Caught in New Jersey Waters”, 2018.

⁹ New Jersey Department of Environmental Protection, Division of Science, Research, and Environmental Health, “Investigation of Levels of Perfluorinated Compounds in New Jersey Fish, Surface Water, and Sediment”, SR15-010, June 18, 2018, Updated April 9, 2019.

¹⁰ *Id.*

¹¹ *Id.*

¹² Lindstrom, A.B. Strynar, M.J., Delinsky, A.D., Nakayama, S.F., McMillan, L., Lieblo, E.L., Neill, M., & Thomas, L. (2011). Application of WWTP Biosolids and Resulting Perfluorinated Compound Contamination of Surface and Well Water in Decatur, Alabama, USA. *Environ. Sci. Technol.*, 2011, 45 (19), pp 8015–8021. Retrieved from <https://pubs.acs.org/doi/abs/10.1021/es1039425>

¹³ *Id.* at 8019.

¹⁴ *Id.*

¹⁵ *Id.*

the compounds.¹⁶ The studies examining this problem have found that once released, the PFAS persist, can migrate with water, build up in the environment and the human body, and can be transferred to available environmental media, compounding the pollution problem. There is simply no excuse to have this information and evidence and to still allow land application of biosolids contaminating PFAS to continue in New Jersey.

We are the nation's most densely populated state with more people impacted by PFAS contamination than other states, which is why NJDEP has adopted safe drinking water standards, or maximum contaminant levels (MCLs) for PFOA, PFOS, and PFNA and taken numerous other regulatory actions, conducted rigorous and groundbreaking scientific inquiries, published nationally recognized studies and reports, and is going to great lengths through the courts and administrative measures to make those corporate entities that caused the PFAS pollution problem accountable.

Delaware Riverkeeper Network advocates that the CWC vigorously pursue urging that action be taken to monitor, identify and stop this method of PFAS contamination by banning the application of any and all biosolids on land in New Jersey, using the Maine action model as a guide. After all, New Jersey is suing polluters for releasing these highly toxic "forever chemicals" into the environment, contaminating our water, air, and these other media.¹⁷ How can New Jersey continue to allow the land application of biosolids that contain PFAS? Doesn't that make New Jersey part of the PFAS contamination problem?

Delaware Riverkeeper Network requests that this ban be implemented as soon as possible, preventing another growing season that spreads PFAS contamination further and more intensely here, endangering the health of New Jerseyans and adversely impacting the environment and natural ecosystems.

Thank you for the opportunity to comment.

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¹⁶ Lindstrom, A.B. Strynar, M.J., Delinsky, A.D., Nakayama, S.F., McMillan, L., Lieblo, E.L., Neill, M., & Thomas, L. (2011). Application of WWTP Biosolids and Resulting Perfluorinated Compound Contamination of Surface and Well Water in Decatur, Alabama, USA. *Environ. Sci. Technol.*, 2011, 45 (19), pp 8015–8021. Retrieved from <https://pubs.acs.org/doi/abs/10.1021/es1039425>

¹⁷ <https://stateimpact.npr.org/pennsylvania/2019/05/14/new-jersey-sues-companies-over-pfas-contamination/>