



Cayuga Lake Watershed Network  
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**RE: Comments on Draft DMM7**

Attn: Sally Rowland  
NYS DEC - Division of Materials Management,  
625 Broadway,  
Albany, NY 12233-7250  
OrganicRecycling@dec.ny.gov

Dear Dr. Rowland,

The Cayuga Lake Watershed Network (the ‘Network’) is a grassroots nonprofit organization founded in 1998. Our mission is to advocate for the health of Cayuga Lake and its 870 square mile watershed in a rapidly changing world, and our programs promote science backed community education and engagement. We recognize that the challenges our watershed faces come in many forms including but not limited to climate change, land use change, and pollution.

The standards and procedures proposed in “DMM-DRAFT 7/ Biosolids Recycling in New York State – Interim Strategy” that are meant to control land application of biosolids will not adequately protect us and offer only an appearance of control of ubiquitous substances that have already contaminated farmland soils and waterways in our watershed and beyond.

**We request that the state establish PFAS tolerances for biosolids and testing frequencies at sources and points of application of biosolids that will truly protect New York farmers, residents, consumers and all who enjoy the waters of the state. The proposed regulations should be strengthened in the following ways:**

**A model and data to relate Water Quality outcomes to PFAS inputs in biosolids.**

The Section II policy does not quantify and effectively admits that it is not known how to quantify what levels of PFAS in biosolids will eventually produce unsafe levels of those substances in soil or ground water. How then is it possible to attain the recently proposed 4 ppt water quality standards while at the same time allowing the land spreading of PFAS-contaminated biosolids? What are the numeric values for “background (domestic) levels”?

**Improve testing specifications.**

The testing provisions are deficient in several ways.

1. They are not frequent enough and should also specify that there be random test intervals so illegal dumping [in periods between regular tests] can be prevented.
2. The proposed 20 ppb thresholds at the bottom of “Section V. Procedure” are nearly as lax as those to be used in Michigan and not nearly as protective as the 2.5 ppb for PFOS and 5.2 ppb for PFOA that Maine has adopted after finding PFAS can build up to exceed 70 ppt in groundwater near where biosolids were applied to farmland over many years. With so much uncertainty it is better to err on the side of caution in policy affecting the health of people and environment. New

Yorkers deserve that DEC adopt the precautionary principle when it comes to Forever Chemicals.

3. Following Michigan's lead, DEC is proposing that testing be limited to the most common PFAS chemicals at a time when some manufacturers are shifting production to less-regulated PFAS compounds. Here again, this approach is too limited. The people of New York deserve better. Their ubiquity justifies testing for the two best studied and most common PFAS compounds but after the biosolids leave WWTP and biosolid recycling facilities for spreading, PFAS precursors not tested for can undergo chemical reactions in soil and water to produce more toxic PFAS varieties.
4. Registration of recipient fields and testing of both soil and runoff from fields where these biosolids are spread should be required. Michigan will not require such testing. Maine is struggling to discover the biosolids application history of some farms that changed owners and record keeping is essential for that purpose.
5. The testing obligations will have a serious financial impact for smaller WWTP and municipalities in cases where DEC does not fund the testing done for research objectives. This hardship may cause some cutting of corners.

### **Unaddressed Biosolids Uses**

In 2018, the state permitted about 51 facilities to process biosolids, and several large farming businesses were on that list. Altogether however, of the 25,252 dry-weight tons of biosolids handled under permits, only 2171 tons were field spread, while 10,772 tons were listed as composted and the remaining 12,309 tons, the majority of the biosolids total, were neither composted nor field spread.

Will the proposed regulations protect purchasers of composted or "stabilized" biosolids, which may wind up as a component of bagged compost products sold in gardening stores? The field spreading per se appears to be the fate of less than one tenth of the biosolids processed under permit and it is not clear how the regulation addresses the safety of the balance of processed biosolids.

The Bioaset process [alkaline stabilization] is reported in the Journal of Hazardous Materials Advances (V6, 2022) to increase PFAS mass in biosolids which means the Cassella "Grasslands" product sold as fertilizer may be no better than regular biosolid spreading in regard to PFAS contamination.

### **Unfunded and Unprotective Remedy for WWTPs going out of compliance.**

The enforcement provision implied in the Section V. Table, "DEC interim guidelines for PFOA and PFOS in biosolids" may avoid inconvenience to the biosolid recycler but at a definite cost to farmers and public health by enabling up to a year of dumping disallowed levels of toxins on farmland. Hopefully, the funding that your division will be providing to researchers at SUNY ESF will soon establish for a broad and representative sampling of WWTPs/WRRFs both a comprehensive inventory of PFAS compounds present in biosolids being produced at each facility as well as the range of concentrations of these compounds. Such inventories have been performed in other states and they enable the assessment of risk that each pose.

Slide 11 of a 2020 EPA webinar on PFAS found in biosolids of surveyed Michigan WWTPs lists 24 PFAS compounds tested for and only one of which was not found at any of the 40 facilities where biosolids were tested. The more complete 2021 survey of MI WWTPs finds a similar fraction that

produces borderline concentrations of PFAS biosolids vis a vis the limits of this proposed regulation. If a similar distribution exists among NY WWTPs, then the section V. stipulation of re-testing and inspection when over 20 ppb are detected implies about one quarter of the WWTPs will be operating in jeopardy of producing biosolids unfit for land spreading, creating a need to maintain a standby means of disposal for rejected biosolids. That standby would have to be landfill but entails on-site storage to support the transfer, both of which are costly. Will the state invest in the necessary expansion of landfill capacity or development of safe and complete destruction of PFAS that could handle rejected biosolids?

The cost of necessary upgrades for the WWTP of smaller towns and cities may impact the build-out of wastewater infrastructure to support population growth.

**Michigan strategy is flawed, may not match NY conditions.**

Our reading of section V. **Procedure** is that DEC policy will be based more or less on Michigan's evaluation of PFAS in biosolids. But, it is not clear that Michigan findings are actually in accord with available research on this topic. Several characteristics of the Michigan plan reported in *LAND APPLICATION OF BIOSOLIDS CONTAINING PFAS: Interim Strategy* are noteworthy.

1. The improvements in PFAS concentrations were only reported for their very worst "industrially impacted" WWTPs and were primarily achieved by finding other places to dump the worst sources of PFAS.
2. The rejection standard was 150 ppb which means many less contaminated biosolid sources were not examined for ways to reduce inputs of PFAS though many of them, as seen in Slide 11 from the 2020 EPA presentation webinar "*PFAS Treatment in Biosolids, State of the Science*", fall only a little under that 150 ppb limit which is 20 times higher than the limit Maine has established.
3. If New York DEC hopes to divert PFAS from the waste stream "at the source" in the manner Michigan reports but also sets a safer limit, then a large number of the state's 610 SPDES-permitted WWTPs will come in for inspections, overhauls and modification of the sources of influent they accept.
4. The results for PFOS reduction from a list of 7 "Industrially Impacted" Michigan WWTP [Table 1. page 16] misleads because it is based on PFOS content of the *effluent* water from those plants but the subject of the proposed regulation is the biosolids. We find a number of studies that show the WWT processes themselves concentrate PFOS and PFOA into the sludge and biosolid more than into the effluent. A study of two WWTPs in Oregon for which influent, effluent and biosolid concentrations were measured found the average ratio of concentrations of PFAS in biosolids to that in the influent was 225:1 for PFOA and 2460:1 for PFOS. To attain the proposed interim guideline concentration of 20 ppb in the biosolids, a WWTP would have to reject influent with more than 8 ppt PFOS or more than 89 ppt of PFOA. A study that estimated the US average concentrations of PFOA and PFOS in WWTP influent found 11 ppt and 35 ppt respectively. At those levels of contamination, an average WWTP cannot attain the proposed biosolids guidance value for PFOS. A properly informed regulation needs a better set of studies and more pertinent data drawn from NY WWTPs.

**We also find that some matters relevant to the objectives of the regulation have not been addressed:**

**A simpler approach could save money and the environment.**

The cost of the program of regulation, inspection, testing, and enforcement is significant. Due to the expected two years of uncertainty about whether the regulated contamination limits are scientifically sound and the decades in which PFAS compounds will be phased out and finally be flushed out of the waste streams, the duration of that regulatory work may drag on with questionable protective benefits. A critical life cycle review of the means, objectives, and both direct and indirect costs including health care impacts to the NY economy may lead to a decision to send all biosolids to landfills pending development of cost-effective capacity to remove and destroy PFAS from biosolids. Pyrolysis of biosolids is one remedy being developed with some success in Europe.

**Immediate cessation of putting landfill leachate into WWTPs**

The practice of disposing of leachate from solid waste landfills by trucking or pumping to WWTF should never have been allowed and must be stopped. There is an incontrovertible array of studies showing that WWTPs presently can't remove PFAS compounds and biotransform PFAS precursors into PFAS compounds, i.e., make the PFAS situation worse.

**Pending legislation would help to identify PFAS sources, driving better management decisions.**

The Network supports the *PFAS discharge disclosure act*, Bill A03296, currently under consideration, but would ask for more. The proposed monitoring of SPDES discharges would provide insight into where originating sources are concentrated. It would also help downstream communities make better decisions about how they use or treat a particular water resource. It does not, however, provide an expedited path to reducing or removing PFAS from a SPDES-permitted discharge. Many of the SPDES dischargers who would be subject to this bill are publicly owned municipal wastewater treatment facilities.

Presently, none of these facilities has the treatment capability to reduce or remove PFAS. Upgrades of this sort take years to complete and cost millions of taxpayer dollars.

**Good News**

Our review of the relevant research literature finds one bit of good news and that stems from regulation applied to the real source of the problems: the production and use of PFAS substances has been declining for a decade with the consequence that yearly reductions of PFAS in waste streams are being observed in some locales. That improvement must accelerate and the counterproductive practice of spreading of PFAS-contaminated biosolids, especially where we grow food, should cease in favor of a developing and implementing the capacity to extract and destroy PFAS compounds as methods to do this improve.

**Summary**

We view the proposed regulation as an inadequate patchwork that will not do enough to prevent the spread of PFAS throughout our environment. There is no going back once PFAS compounds are applied to NY farm soils.



Date: 7/10/2023

Liz Kreitinger

Steward/Executive Director, Cayuga Lake Watershed Network

Signed on behalf of the Cayuga Lake Watershed Network, Issues Committee

**Information sources related to our comments:**

**TITLE:** Session 6:PFAS Treatment in Biosolids , State of the Science

**URL:** [https://www.epa.gov/sites/default/files/2020-10/documents/r1-pfas\\_webinar\\_day\\_2\\_session\\_6\\_mills\\_final.pdf](https://www.epa.gov/sites/default/files/2020-10/documents/r1-pfas_webinar_day_2_session_6_mills_final.pdf)

**Comments supported:**

Unfunded and Unprotective Remedy for WWTPs going out of compliance

**TITLE:** Biosolids Management in New York State (2018)

**URL:** [https://www.dec.ny.gov/docs/materials\\_minerals\\_pdf/bsmgmt2015.pdf](https://www.dec.ny.gov/docs/materials_minerals_pdf/bsmgmt2015.pdf)

**Comments supported:**

Unaddressed Biosolid uses

**TITLE:** LAND APPLICATION OF BIOSOLIDS CONTAINING PFAS: Interim Strategy

**URL:** <https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/Biosolids/PFAS-Biosolids-Strategy.pdf?rev=c81c0064150d4f45bece88efcf304e3f>

**Comments supported:**

Incomplete Testing 2.  
Michigan strategy is flawed 1., 2., 4.  
Fund PFAS treatment strategies for WWTPs

**TITLE:** PFAS and Precursor Bioaccumulation in Freshwater Recreational Fish: Implications for Fish Advisories

**URL:** <https://pubs.acs.org/doi/10.1021/acs.est.2c03734#>

**Comments supported:**

Incomplete Testing 3.

**TITLE:** Guide to Investigating PFAS Risk on Your Farm

**URL:** <https://extension.umaine.edu/agriculture/guide-to-investigating-pfas-risk-on-your-farm/>

**Comments supported:**

Incomplete Testing 4.  
Incomplete Testing 5. [\$250 to 450 per test for soil and biosolids]

**TITLE:** Stabilization of per- and polyfluoroalkyl substances (PFAS) in sewage sludge using different sorbents

**URL:** <https://www.sciencedirect.com/science/article/pii/S2772416622000456>

**Comments supported:**

Unaddressed Biosolid uses

**TITLE:**

Poly- and Perfluoroalkyl Substances in Municipal Wastewater Treatment Plants in the United States: Seasonal Patterns and Meta-Analysis of Long-Term Trends and Average Concentrations

**URL:** <https://pubs.acs.org/doi/10.1021/acsestwater.1c00377?ref=pdf>

**Comments supported:**

Good News

**TITLE:** 2022 INTERIM STRATEGY FOR LAND APPLICATION OF BIOSOLIDS

**URL:** <https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/WRD/Biosolids/PFAS-Biosolids-Interim-Strategy-2022.pdf?>

**Comments supported:**

Unfunded and Unprotective Remedy for WWTPs going out of compliance

**TITLE:** National inventory of perfluoroalkyl substances in archived U.S. biosolids from the 2001 EPA National Sewage Sludge Survey

**URL:** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3776589/>

**Comments supported:**

Good News

**TITLE:** PFAS Concentrations in Effluent, Influent, Solids, and Biosolids of Three Wastewater Treatment Plants

**URL:** <https://apps.ecology.wa.gov/publications/documents/2203028.pdf>

**Comments supported:**

Michigan strategy is flawed 4.