PFAS in Biosolids/Wastewater: North Carolina Department of Environmental Quality Releases Data from Preliminary Study

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The North Carolina Department of Environmental Quality ("NCDEQ") has released data from a preliminary study of per- and polyfluoroalkyl substances ("PFAS") in biosolids and wastewater.

NCDEQ states that the study is the agency's first investigation assessing PFAS concentrations in biosolids in the state.

The study was undertaken by NCDEQ's Division of Water Resource ("DWR").

DWR staff initiated gathering of samples in 2023. PFAS concentrations in wastewater and biosolids were evaluated from 37 municipal, industrial, and domestic wastewater treatment facilities. Soil was also collected and tested from 19 fields that are regulated under non-discharge permits.

The study addressed the following sources:

- Wastewater flowing into treatment plants (i.e., influent).
- In the treated solid material removed from the plant (i.e., biosolids).
- In the treated wastewater, known as effluent, that is discharged to rivers, creeks and streams (i.e., effluent).
- Soil samples from fields that received applications of biosolids.

Key sections of the study include:

- North Carolina biosolids and disposal.
- Biosolids for distribution.
- Landfill burial.
- Land application.
- Incineration.
- Other.
- How are wastewater treatment plants regulated?
- How does PFAS contamination get into wastewater?
- Does conventional wastewater treatment remove PFAS?
- Study design.
- Wastewater treatment plants.
- Land application fields.
- Analytical method and laboratory.

- Sampling protocol.
- Range of influent and effluent PFAS concentrations by treatment facility type.
- PFOA, PFOS, and total PFAS levels in biosolids.
- PFOS in biosolids: comparison with selected states.
- PFOA, PFOS, and total PFAS in soils from land application fields.
- Summary of findings.
- Next steps.

A copy of the study which includes a summary of the results can be found here.