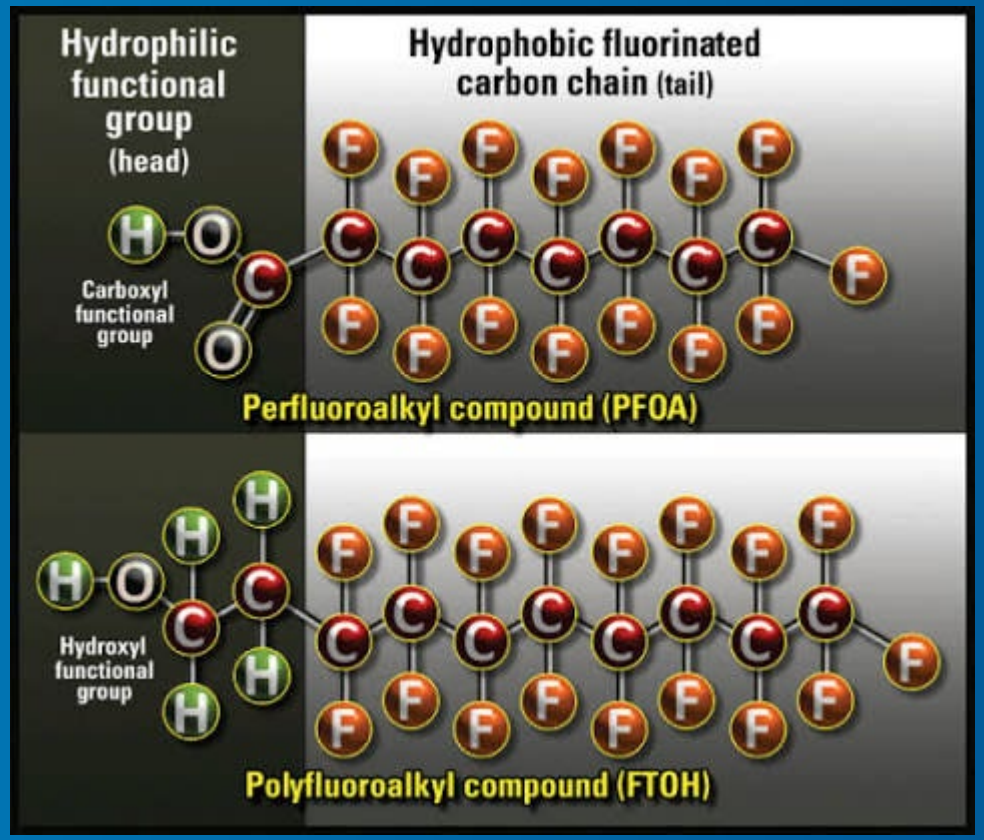
Managing PFAS in Biosolids and Stormwater

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- Prof. David Strifling, J.D., P.E., Director, Marquette Law School Water Law and Policy Initiative
- Lubar Center for Public Policy Research and Civic Education

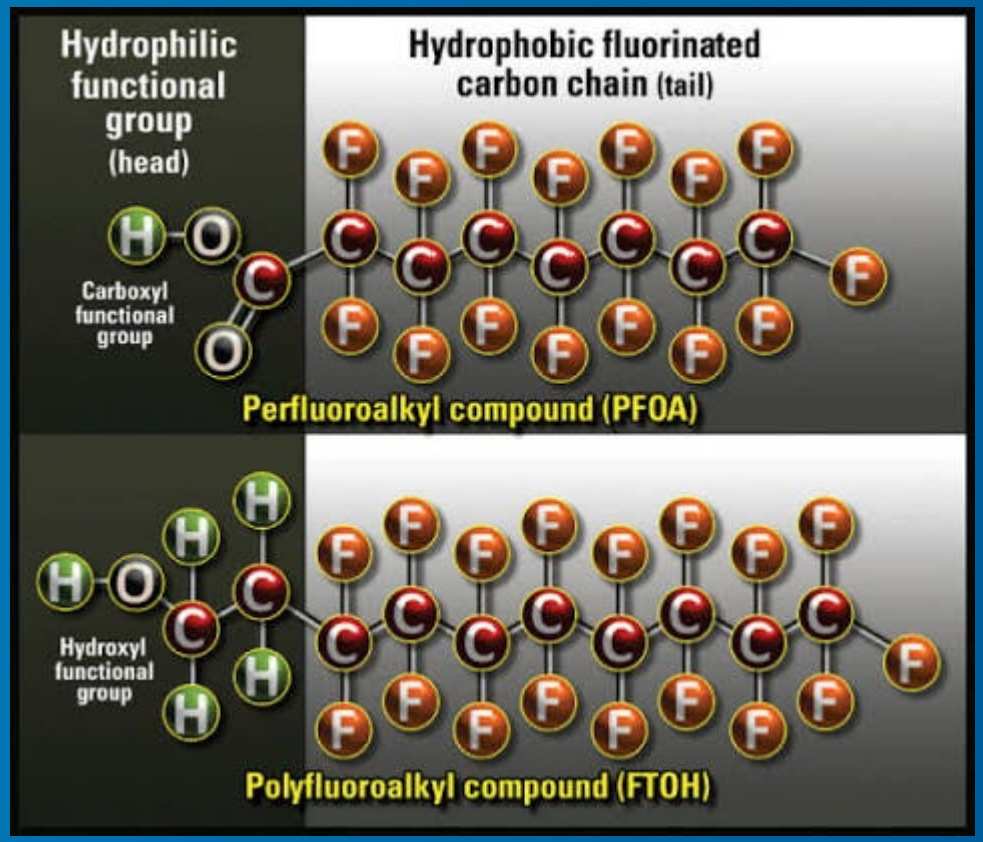
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Emerging contaminants



- Microplastics, pharmaceuticals, endocrine disruptors, and others
- Sources, fate and transport, effects not fully understood
- Regulation occurs at the intersection of law, policy, science and technology

Emerging contaminants



- Today: PFAS
  - Widespread use – some easier to phase out than others: firefighting foam and food packaging, but also semiconductors and heart stents
  - Significant negative effects on human health and the environment
  - C-F bond is strongest known in organic chemistry
  - Regulatory patchwork – different PFAS compounds, environmental media
  - Unexpected places (biosolids, stormwater)

Biosolids background from a legal perspective



- Biosolids
  - Nutrient-rich solid byproduct of wastewater treatment, sometimes called sewage sludge
  - Millions of tons generated each year
  - Options – reuse or dispose. Commonly reused as a fertilizer or soil amendment. Disposal options include landfilling and incineration.
- Land application of biosolids is part of the critical role wastewater treatment facilities play in achieving sustainability goals and moving toward a circular economy (keeping materials and products out of the landfill as long as possible)

Biosolids background from a legal perspective

- Problem of pass-through PFAS (and other emerging contaminants)
  - Utilities are “passive receivers,” not generators, of PFAS
  - Treatment not designed with PFAS in mind
  - As a result, PFAS are released with liquid effluent and/or biosolids
- EPA has authority to issue biosolids regulations, but a court ruled it cannot be compelled to do so when it comes to PFAS (that finding is currently on appeal).
  - EPA draft risk assessment (Jan. 2025 – 25,000 comments, not finalized) vs. July 2026 guidance
- Biosolids landspreading creates various legal liability concerns for landowners, spreaders, municipal utilities (remediation, torts)
    - Contaminants (presumably originating in the biosolids) have been detected in soil, groundwater, livestock, crops, surface water, and (allegedly) humans

Biosolids background from a legal perspective

- These concerns have led to a wide variety of state actions
  - Testing requirements
  - NPDES permit conditions
  - Interim rules/policies based on PFAS concentration (example on next slide)
  - Temporary or permanent application ban
  - Liability exemptions

Biosolids background from a legal perspective

Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS

Version3
Date: July 2, 2026 (revised typo in worksheet)
Effective Date: July 1, 2026

Tier 1: PFOA + PFOS at or less than 20 ug/kg (ppb)

- Notify the property owner/farmer of the results.
- Land apply the biosolids or industrial sludge without additional requirements.

Tier 2: PFOA + PFOS above 20 ug/kg (ppb) and at or less than50 ug/kg (ppb)

- Track cumulative PFAS loading on each field for the following.
  - PFOA
  - PFOS
  - PFOA + PFOS
- Notify the property owner/farmer of the results.
- Begin to monitor WWTF effluent discharges for PFAS within 30 days if not already required under the WPDES permit. Report the results to the department.
- Create and implement a (or continue an existing) PFAS source identification and reduction plan.
- If PFOA is greater than 20 ug/kg (ppb), notify the department and reduce application rate to 1.5 dry tons per acre or propose an alternative risk mitigation strategy for approval from the department to land apply.
- The department will modify the facility's WPDES permit to incorporate numeric limits or conditions to address PFAS in biosolids.

Tier 3: PFOA + PFOS above 50 ug/kg (ppb) and at or less than100 ug/kg (ppb)

- Track cumulative PFAS loading on each field for the following.
  - PFOA
  - PFOS
  - PFOA + PFOS
- Notify the property owner/farmer of the results.
- Begin to monitor WWTF effluent discharges for PFAS within 30 days if not already required under the WPDES permit. Report the results to the department.
- Create and implement a (or continue an existing) PFAS source identification and reduction plan.
- Land apply at a reduced application rate of 1.5 dry tons per acre or propose an alternative risk mitigation strategy for approval from the department to land apply.
- If PFOA is greater than 20 ug/kg (ppb) notify the department.
- The department will modify the facility's WPDES permit to incorporate numeric limits or conditions to address PFAS in biosolids.

Tier 4: PFOA + PFOS greater than 100 ug/kg (ppb)

- Land application is not allowed. Arrange for alternative management and/or disposal.
- Notify and provide results to the department
- Begin to monitor WWTF effluent discharges for PFAS within 30 days if not already required under the WPDES permit. Report the results to the department.
- Create and implement a (or continue an existing) PFAS source identification and reduction plan.
- Site specific requirements may be necessary.
- Requests for new land application site requests by the WPDES permitted facility are not approved.
- Requests to transfer sites to the WPDES permitted facility are not approved.
- The department will modify the facility's WPDES permit to incorporate numeric limits or conditions to address PFAS in biosolids.

PFAS in biosolids: legal concerns

- Sampling requirements (and disclosure)
- Remediation claims
  - Federal
  - State
  - Third Party
- Toxic tort lawsuits
- Noncompliance with permit or regulations
  - National patchwork
- Alternate disposal costs

Sampling

- In most states, utilities can likely be forced to disclose the results of any PFAS sampling they do, either by regulatory agencies pursuant to permits and regulations, by requesters pursuant to open records laws, or both
- This means sampling biosolids for PFAS for internal purposes only, and not disclosing the results upon request, is not a feasible option

State actions

- Some states are moving toward banning or restricting the land application of biosolids containing specified levels of PFAS
  - A total ban would be very expensive and damaging to the circular economy
- In other states, laws have been proposed or passed to immunize some parties who would otherwise be liable
- If effective treatment is unavailable or too costly, utilities will likely have to pursue source control efforts via pretreatment programs or, as a last resort, targeted litigation against PFAS sources

Liability

- Utilities are rightly concerned about becoming litigation targets as a result of “pass-through” PFAS and other emerging contaminants in biosolids
  - Status as “passive receivers” isn’t completely protective, nor are governmental enforcement discretion policies

Understanding and Minimizing Liability

- Liability for environmental remediation (and other costs) under CERCLA (federal)
  - Liability attaches to “potentially responsible parties” when there has been a release of a hazardous substance to the environment, if the release causes the incurrence of response costs
  - PRPs include facility owners, operators, and waste generators, among others
  - CERCLA liability is:
    - Strict (no element of intent or negligence)
    - Joint and several
    - Retroactive

Neenah-Menasha Sewerage Commission

110. The Neenah-Menasha Sewerage Commission ("NMSC") has owned and/or operated a regional sewer system and a POTW that is adjacent to the Little Lake Butte des Mort segment of the Lower Fox River, at the western end of Garfield Avenue, in Menasha. As alleged above, the NMSC's sewer system and POTW received PCB-containing wastewater from several facilities – including the WTM Facility, the John Strange Facility, and the Kimberly-Clark Neenah and Badger Globe Facilities – and the NMSC in turn discharged partially-treated, PCB-containing wastewater from those facilities to the Lower Fox River. The NMSC still owns and/or operates the NMSC POTW and its associated regional sewer system.

111. The NMSC therefore: (i) owns and operates a facility from which there have been releases of hazardous substances, and there were releases of hazardous substances from that facility to the Site; and (ii) owned and operated a facility at the time of disposal of hazardous substances at that facility, and there were releases of hazardous substances from that facility to the Site.

112. In light of the foregoing, the NMSC is liable to Plaintiffs in this action under: (i) CERCLA § 107(a)(1), 42 U.S.C. § 9607(a)(1); and (ii) CERCLA § 107(a)(2), 42 U.S.C. § 9607(a)(2).

- Example: liability under CERCLA (federal)
  - US DOJ has successfully taken the position that all of the CERCLA elements are satisfied in the context of contaminants passing through a wastewater treatment facility, even if the facility was completely unaware of it

Understanding and Minimizing Liability

- Parties are not liable under CERCLA for selling a new and useful product that was later improperly disposed
  - Highly fact specific
  - PFAS manufacturers are attempting to assert this defense
- “Useful product” defense for biosolids? See Ryan v. Newark Group, Inc., 814 F.Supp.3d 78 (2026) (under Massachusetts state law, biopellets are a useful product)
  - Biosolids producers then did not have knowledge of the persistence and toxicity of PFAS – still true?

Understanding and Minimizing Liability

- State equivalents – e.g., Wisconsin Spills Law (Wis. Stat. 292.11)
- "A person who possesses or controls a hazardous substance which his discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands or waters of this state."
- Toxic tort suits
  - Nuisance, negligence, strict liability
  - In one case, plaintiffs allege that they suffered devastating health consequences and that their land and groundwater was contaminated because of high PFAS concentrations emanating from biosolids land-applied nearby

Understanding and Minimizing Liability

- How should municipalities address these concerns?
- The federal government and some state governments have formally stated that they will not pursue farmers and related entities for response actions or costs related to unintentional PFAS contamination resulting from permitted land spreading.
  - However, this will not protect against third party actions.
- Insurance?
- Federal and state legislation could exempt WWTF from liability for PFAS releases

Understanding and Minimizing Liability

- Federal level: Water Systems PFAS Liability Protection Act
  - Proposes to exempt certain entities, including WWTF, from liability under CERCLA with respect to releases of PFAS and related substances.
  - No action since February 2025 (referred to committee)

Wisconsin Acts 200 and 201

- Exemptions from the “Spills Law” coverage related to certain PFAS-contaminated waste (generally applies to those who cause the discharge of a hazardous substance, or who possess or control the land on which the spill occurred)
  - WPDES permitholders, with respect to PFAS discharged in compliance with limits or conditions in the permit
  - Landowners of agricultural, commercial, or residential property upon which spreading occurred, and owners of property upon which PFAS contamination did not originate
  - Industrial landowners, under more limited circumstances
  - Contracted landspreaders
  - Fire departments
  - Landfills, collection services, transfer facilities (municipal solid waste)

Ongoing litigation – Farmer v. EPA

- Issue: Must USEPA issue new regulations imposing limits for PFAS (and potentially other toxic chemicals) in biosolids? Plaintiffs argue that it must, pursuant to the Clean Water Act (CWA).
- Section 405(d)(1) of the CWA says EPA must "develop and publish . . . regulations providing guidelines for the disposal of sludge and the utilization of sludge for various purposes."
- Further, section 405(d)(2)(A)(i) requires EPA to "propose regulations specifying acceptable management practices for sewage sludge containing [toxic pollutants] and establishing numerical limitations for each such pollutant for each use. . . ."
- Finally, section 405(d)(2)(C) requires EPA to review the regulations "for the purpose of identifying additional toxic pollutants and promulgating regulations for such pollutants. . . ."

Ongoing litigation – Farmer v. EPA

- Plaintiffs argue that the CWA should be interpreted to mean EPA must identify the pollutants *and* issue regulations imposing limits if EPA identifies toxic pollutants in biosolids that are not yet regulated.
  - EPA has not regulated new toxic substances in biosolids since 1993
  - It has simply gathered information
- EPA interpretation – statute means EPA must review its biosolids regulations, but is not required to issue new regulations

Ongoing litigation – Farmer v. EPA

- U.S. District Court for the District of Columbia granted a motion to dismiss the suit (Sept. 2025)
- Rationale: while the CWA imposes a duty on EPA to *review* its regulations every two years, it does not mandate that EPA also *regulate* newly-identified pollutants in biosolids in the same time frame
- Case is currently on appeal to the D.C. Circuit – oral argument scheduled for December 18, 2026

Ongoing litigation – Alessi v. Synagro

- Tort litigation (civil wrongs, here negligence, nuisance, strict liability - product defect) rooted in state law
- Suit filed in Maryland state court; via legal machinations, ended up in Texas federal court, where it is still pending
- Allegation – PFAS in biosolids caused health problems and property damage
- Class action certification sought

Strategies

- Effective Treatment (EPA – PFAS TECH program)
- Source Control
  - The CWA allows state regulation permitting sewerage districts to prohibit and regulate certain discharges into their systems, including those that would “interfere with the marketing of treated sewage sludge”
  - The regulations also allow districts to require preliminary treatment of certain harmful discharges into the system
  - “Fingerprinting”?
- Litigation? Last resort, as always, due to cost and uncertain outcome

What to watch

- EPA response to comments/revisions to draft risk assessment and 2026 guidance
- Additional state legislation and regulation
- Outcome of court cases
  - Farmer v. EPA
  - Alessi v. Synagro

Quick look – PFAS in stormwater



- PFAS regulation has focused on drinking water standards
- Other media: surface water, groundwater, storm water, biosolids
  - Evidence is mounting that stormwater can carry significant amounts of suspended PFAS – enough to cause immediate violations of drinking water standards
  - Federal government has done nothing, so this will largely fall to the states

Quick look – PFAS in stormwater



- PFAS transport to local waterways via stormwater can occur from soil or impervious surfaces
- PFAS concentrations in stormwater originating from impacted sites, such as airfields, can reach thousands of times greater than PFAS drinking water limits
- PFAS concentrations in stormwater originating from non-impacted sites have been measured at over 80 ng/L, more than twenty times the drinking water limit for some PFAS

Quick look – PFAS in stormwater



- Most common state actions:
  - Source control (ban on PFAS-containing products)
  - Monitoring
  - Permit limits (MS4 or industrial)
  - Pretreatment limits
  - Enforcement/compliance efforts and penalties for violations

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