

***Yvette Nadgir, Senior Claims Manager,** recently participated in a panel discussion at the **Environmental and Emerging Claim Manager Association (EECMA)** conference held in Naples, FL on May 6-8, 2026, titled **Three Ps in a Pod: Plastics, PFAS, and Poo**. The content below is an article she wrote based on her panel presentation.*

Emerging contaminants, such as plastics, PFAS (per- and polyfluoroalkyl substances), and biosolids, are reshaping environmental risk, regulatory priorities, and insurance exposure. While these substances have existed for decades, new research is revealing complex pathways and impacts that are not yet fully understood, creating uncertainty for industries, regulators, and insurers alike.

Modern wastewater treatment processes are not designed to fully remove contaminants like PFAS and microplastics. As a result, these substances often exit treatment facilities through effluent or become concentrated in sewage sludge (biosolids). Each day, billions of gallons of wastewater are processed in the U.S., generating millions of tons of sludge annually, much of which is applied to land. This creates a direct pathway for contaminants to enter soils, crops, and groundwater systems.

The EPA's draft sewage sludge risk assessment highlights PFAS as a major concern. The findings suggest:

- Risk levels may exceed acceptable thresholds
- Exposure pathways extend beyond immediate users like farmers
- Models indicate potentially "unacceptable risks"

Still, industry stakeholders argue the assessment may overestimate risks due to limited data and assumptions. Meanwhile, states are moving ahead with their own regulations, ranging from outright bans to monitoring programs and concentration limits.

Microplastics are now recognized as pervasive environmental pollutants, entering ecosystems through consumer products, industrial processes, and waste streams. Estimates suggest humans ingest significant amounts of plastic annually. In wastewater systems, microplastics can be released into the environment or absorbed by plants, contributing to widespread contamination. Studies show that wastewater treatment plants can release billions of microplastic particles, especially when sludge is land-applied. This creates long-term environmental persistence and potential entry into the food chain.

In real-world conditions, contaminants do not exist in isolation. Instead, they interact in ways that can amplify or reduce toxicity. Research shows that combinations of PFAS and microplastics can produce additive or even synergistic effects, complicating traditional risk assessments. Tools like Whole Effluent Toxicity (WET) testing attempt to capture these cumulative impacts, but significant uncertainties remain.

Implications for Insurance and Liability

These emerging contaminants present a new class of systemic, long-tail risks:

- Hidden exposure: Many organizations operate within permits yet remain exposed
- Evolving regulation: Laws are advancing faster than awareness
- Litigation risk: Includes regulatory actions, tort claims, and citizen suits

From a coverage standpoint, policies such as Pollution Legal Liability (PLL), Contractors Pollution Liability (CPL), and General Liability (GL) must be carefully evaluated. Key considerations include:

- PFAS exclusions and product liability interpretations
- Retroactive dates and multi-policy triggers
- Known condition exclusions and notice requirements

The complexity of contamination across time and geography also raises challenges in allocating liability across policy periods.

Conclusion

The convergence of plastics, PFAS, and biosolids represents a growing environmental and financial risk frontier. As science evolves, so too must regulatory frameworks, industry practices, and insurance strategies.

Understanding these interconnected risks is essential for proactive management, informed underwriting, and effective claims handling in an increasingly uncertain landscape.