PFAS Contamination in New Jersey: A Case Study of the 3M Settlement

11th Annual Student Scholarship Week 04/10-29/2026
Isabella R. Hallingse, Faculty Mentor: Dr. Peter Jacques
Wayne D. McMurray School of Humanities and Social Sciences

Abstract

Per- and polyfluoroalkyl substances (PFAS) are among the most significant environmental contaminants impacting human and ecological systems due to their persistence, mobility, and toxicity. Commonly referred to as "forever chemicals," PFAS are widely used in industrial processes, consumer products, and firefighting foams because of their resistance to heat, water, and oil. However, these same properties contribute to their long-term accumulation in environmental and biological systems, posing risks such as cancer, immune dysfunction, and developmental effects.

This study examines PFAS contamination in New Jersey through a case study of the 2025 settlement between the State and 3M. Framing PFAS as a sustainability and governance issue, this research asks how the settlement reflects the relationship between scientific knowledge, regulatory policy, and corporate accountability. Using a qualitative analysis of legal documents, state reports, and corporate communications, this study evaluates how PFAS contamination is identified, regulated, and addressed through litigation.

Findings suggest that while scientific advancements in PFAS detection have been critical in enabling regulatory action, governance responses remain largely reactive, occurring after widespread environmental contamination has already taken place. Additionally, the structure of the settlement, characterized by long-term payments and limited admission of liability, highlights the ongoing challenges in achieving meaningful corporate accountability. This case underscores the need for more proactive, systems-based approaches to chemical regulation that integrate scientific understanding with long-term environmental and public health protection.

Introduction

PFAS are synthetic chemicals that have been produced and used in the United States since the 1940s. Their strong carbon-fluorine bonds make them highly resistant to environmental degradation, allowing them to persist indefinitely in water, soil, and living organisms. Because of this persistence, PFAS contamination has become a widespread environmental and public health issue.

New Jersey represents a critical case study due to its history of industrial chemical manufacturing and its status as a national leader in PFAS regulation. The state has identified significant contamination in drinking water systems and has implemented some of the first enforceable PFAS standards in the United States.

This project aims to examine PFAS contamination not only as a chemical or toxicological issue, but as a broader environmental governance and public health challenges shaped by interactions between scientific knowledge, regulatory systems, and corporate practices. The purpose of this study is to examine what the 3M settlement reveals about environmental governance and corporate accountability.

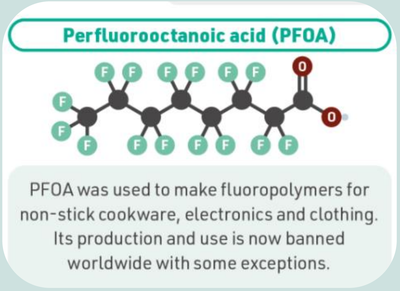

Figure 1: Structure of a PFAS compound, perfluorooctanoic acid (PFOA), showing the characteristic carbon-fluorine chain shared by PFAS.

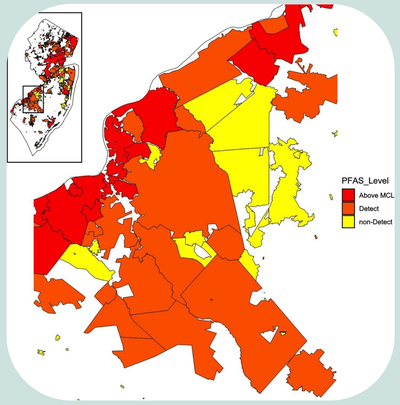

Figure 3: Map of New Jersey community water systems (n=491) showing highest PFAS levels reported to NJDEP (2019–2021). Systems are color-coded: yellow (no detection), orange (below state limits), and red (above NJ maximum contaminant levels).
Source: Mueller, R., Salvatore, D., Brown, P., & Cordner, A. (2024).

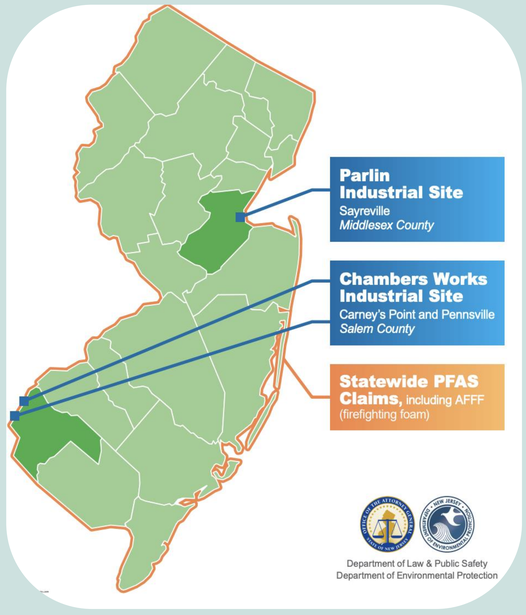

Figure 2: Map of New Jersey highlighting industrial sites linked to PFAS contamination from 3M. Source: NJOAG Communications WC. (2025, May 13).

Figure 4: Aerial view of 3M's Pennsville, New Jersey site. Source: NJOAG Communications WC. (2025, May 13).

Methodology

This research uses a qualitative case study approach. The data is sourced from legal documents (Judicial Consent Order and litigation records), reports from the New Jersey Department of Environmental Protection (NJDEP), corporate communications from 3M, and news coverage and public statements.

The analysis focuses on:

- The role of scientific evidence in identifying PFAS contamination
- Legal and regulatory frameworks used to address contamination
- Power dynamics between corporations, the state, and affected communities

Results

- The 2025 settlement between New Jersey and 3M is valued at up to $450 million, making it the largest statewide PFAS settlement in New Jersey history.
- The settlement resolves claims related to contamination at major industrial sites, including Chambers Works and Parlin, as well as statewide contamination linked to PFAS-containing products such as firefighting foams.
- Payments will be distributed over a 25-year period, with initial funding directed toward natural resource damages, water treatment, and PFAS abatement efforts.
- Despite the scale of the settlement, 3M does not admit liability and is released from certain future claims related to PFAS contamination in New Jersey.

Conclusions

The 3M PFAS settlement shows contamination is a governance failure, not just a scientific issue. Action came after decades of exposure, and compensation is spread over time without full admission of liability. The 3M case highlights power imbalances between corporations, regulators, and affected communities. New Jersey has led PFAS litigation, but the scale of cleanup reflects weak chemical oversight. Overall, the settlement shows a lack of urgency and reliance on reactive responses, leaving long-term environmental and public health risks insufficiently addressed.

References

EPA. (2025). *PFAS Explained*. https://www.epa.gov/pfas/pfas-explained

Glüge, J., Scheringer, M., Cousins, I. T., DeWitt, J. C., Goldenman, G., Herzke, D., Lohmann, R., Ng, C. A., Trier, X., & Wang, Z. (2020). An overview of the uses of per- and polyfluoroalkyl substances (PFAS). *Environmental Science: Processes & Impacts*, *22*(12), 2345–2373. https://doi.org/10.1039/D0EM00291G

Mueller, R., Salvatore, D., Brown, P., & Cordner, A. (2024). Quantifying Disparities in Per- and Polyfluoroalkyl Substances (PFAS) Levels in Drinking Water from Overburdened Communities in New Jersey, 2019–2021. *Environmental Health Perspectives*, *132*(4). https://doi.org/10.1289/ehp12787

NJDEP (2025). Nj.gov. https://dep.nj.gov/3m/

NJOAG Communications WC. (2025, May 13). *AG Platkin and DEP Commissioner LaTourette Announce Historic Settlement of Up to $450 Million with 3M for Statewide PFAS Contamination - New Jersey Office of Attorney General*. New Jersey Office of Attorney General. https://www.njoag.gov/ag-platkin-and-dep-commissioner-latourette-announce-historic-settlement-of-up-to-450-million-with-3m-for-statewide-pfas-contamination/

Platkin, M., & Farley, G. *Attorney for Plaintiffs*. https://www.nj.gov/oag/newsrelease25/2025-0513_Tab-F-NJ-3M-JCO-May-12-2025_v3_CLEAN.pdf

Sunderland, E. M., Hu, X. C., Dassuncao, C., Tokranov, A. K., Wagner, C. C., & Allen, J. G. (2019). A review of the pathways of human exposure to poly- and perfluoroalkyl substances (PFASs) and present understanding of health effects. *Journal of Exposure Science & Environmental Epidemiology*, *29*(2), 131–147. https://doi.org/10.1038/s41370-018-0094-1

Vannozzi, B. (2025, August 5). *New Jersey reaches historic $2B settlement with DuPont over decades of pollution - Delaware Currents*. Delaware Currents. https://delawarecurrents.org/2025/08/05/ncw-jersey-dupont-pollution-settlement/

3M Company. (2025, May 12). 3M Company. https://investors.3m.com/news-events/press-releases/detail/1887/3m-resolves-pfas-related-claims-with-the-state-of-new-jersey

www.PosterPresentations.com