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Forever Chemicals are Infiltrating America, and The Nation is Letting Impoverished and Marginalized Communities Take the Brunt of the Contamination

Elizabeth Troutman

I. INTRODUCTION

In recent years, chemicals known as ‘forever chemicals’ have been found in our blood, water, and environment all over the United States.¹ As forever chemicals infiltrate the nation, impoverished and marginalized communities are being forced to take the brunt of the contamination. These chemicals, which were manufactured between the 1940s-1970s, remain in the environment and humans’ bodies for unknown lengths of time because they break down slowly.²

Polyfluoroalkyl Substances (PFAS) are one such forever chemical, and they are one of the strongest compounds in organic chemistry.³ Specifically, PFAS have been used in firefighting foam, aerospace technologies, and even consumer products such as protectants for paper and cardboard and nonstick coating on kitchen pans.⁴ Today, nearly all Americans have PFAS in their blood, and more than 200 million people may be drinking water

¹ Claire Bugos, *Study Finds Toxic ‘Forever Chemicals’ in Most Stain- and Water-Resistant Textiles*, VERYWELL HEALTH (Feb. 3, 2022), <https://www.verywellhealth.com/pfas-water-stain-resistant-products-5217827> [<https://perma.cc/D6VB-NQ9S>].

² *Id.*

³ Paul B. Tchounwou, *Trends in the Regulation of Per- and Polyfluoroalkyl Substances (PFAS): A Scoping Review*, NATIONAL LIBRARY OF MEDICINE, 18 INT’L J. OF ENV’T RSCH. AND PUB. HEALTH (2021).

⁴ *Id.*; ENV’T WORKING GRP., WHAT ARE PFAS CHEMICALS, <https://www.ewg.org/what-are-pfas-chemicals> [<https://perma.cc/D8YB-VHXD>].

tainted with PFAS.⁵ Scientists are still researching the health effects of PFAS exposure, but according to the CDC, PFAS may lead to an increased risk of kidney or testicular cancer, an increase in cholesterol levels, changes in liver enzymes, and decreased vaccine responses in children.⁶

Although PFAS affect the majority of Americans, the Union of Concerned Scientists have found that marginalized and impoverished communities are “more likely to bear” the economic and biological burdens of these chemicals as the federal government has been slow to react to the growing concerns.⁷ Recent strides have been taken by the Environmental Protection Agency (EPA) to start a cleanup initiative under the Superfund Act, but the Superfund is limited in the list of chemicals they have included, and the EPA fails to punish the manufacturers that are harming communities.⁸ Since the federal government has been slow to react, each state government must work to establish statutes to enforce liability for the companies creating these pervasive chemicals. States should refine their statutes of repose to match the longevity of forever chemicals,⁹ and state attorney generals should pursue civil litigation to encourage future cleanup

⁵ ENV’T WORKING GRP., *supra* note 4.

⁶ AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) AND YOUR HEALTH (2022), <https://www.atsdr.cdc.gov/pfas/health-effects/index.html> [https://perma.cc/9DNZ-MAQ7].

⁷ See Genna Reed, *PFAS Contamination Is an Equity Issue, and President Trump’s EPA Is Failing to Fix It*, THE EQUATION (Oct. 30, 2019, 8:49 AM), <https://blog.ucsusa.org/genna-reed/pfas-contamination-is-an-equity-issue-president-trumps-epa-is-failing-to-fix-it/> [https://perma.cc/BDC3-DGYH]; ENV’T PROT. AGENCY, OUR CURRENT UNDERSTANDING OF THE HUMAN HEALTH AND ENVIRONMENTAL RISKS OF PFAS (Jun. 7, 2023), <https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas> [https://perma.cc/EWG8-CGGT].

⁸ ENV’T PROT. AGENCY, *Superfund: CERCLA Overview* (Jan. 24, 2023), <https://www.epa.gov/superfund/superfund-cercla-overview> [https://perma.cc/DG7U-EXXN].

⁹ Statutes of repose are statutes “barring any suit that is brought after a specified time since the defendant acted (such as by designing or manufacturing a product), even if this period ends before the plaintiff has suffered a resulting injury.” Statute of Repose Definition, *Black’s Law Dictionary* (11th ed. 2019), available at Westlaw.

requirements. Although action from the federal government would be ideal, citizens could start to repair this problem by pursuing litigation that would eventually push their state governments to regulate forever chemicals to protect its citizens, especially those from impoverished and marginalized communities from further harm.

The following sections address the background of PFAS, the potential for toxic tort litigation, and solutions regarding the impact of PFAS. Section II includes the background of PFAS and the EPA's current strategies regarding PFAS, how marginalized and impoverished communities are affected by PFAS, and a narrower look into PCB (another forever chemical) litigation. Section III outlines three solutions for protecting impoverished and marginalized communities from further harm by PFAS chemicals. These solutions are: 1) have the EPA fully ban PFAS and expand the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)/Superfund purposes; 2) have states increase regulation within their states against PFAS and to remove or adjust their statutes of repose; and 3) have state attorney generals and private firms increase litigation against manufacturers and polluters of PFAS. Section IV explains how the EPA is acting too slowly and how state legislatures, state attorney generals, and private firms will have to step up to halt this pollution.

II. BACKGROUND

The full scope of PFAS is emotionally difficult to bear. There is concern from researchers that no consumer product is entirely free of PFAS and that humans have fluorine in their blood from PFAS exposure.¹⁰ Products containing PFAS have been found to emit these chemicals into the air, causing people around those products to breathe such chemicals in.¹¹ Nearly seventy-five percent of products marked as "stain-resistant or water-

¹⁰ Bugos, *supra* note 1.

¹¹ *Id.*

resistant” (such as jackets or other water-resistant clothing) have been found to contain PFAS.¹² While this is a significant concern, PFAS-contaminated drinking water has been politicians’ main focus. Most chemical contamination regulation centers on drinking water standards, while other avenues of contamination (like agricultural water contaminating food sources) are still being ignored.¹³

Forever Chemicals like PFAS have been found everywhere by scientists, and the EPA has advised that “even tiny amounts... found in drinking water may pose risks.”¹⁴ PFAS are human-made substances, but some PFAS can be formed from environmental degradation of the precursor compounds released during the manufacturing and use of consumer products containing PFAS.¹⁵ These chemicals are described as “forever” because they do not break down, and are resistant to oil, heat, stain, and water.¹⁶ Exposure to PFAS can lead to reproductive health issues, developmental effects of children, increased risk of cancer, weakened immune systems, interference with hormones, and increased cholesterol and/or risk of obesity.¹⁷ Those who are at the highest risk of exposure are industrial workers, people who live near PFAS-producing facilities, children, and pregnant people (since they are likely to drink more water than the average person, which increases

¹² Tom Perkins, *Nearly 75% of Water-resistant Products Contain Toxic PFAS, Study Finds*, THE GUARDIAN (Jan. 26, 2022, 6:00 PM), <https://www.theguardian.com/environment/2022/jan/26/water-resistant-products-toxic-pfas-study> [<https://perma.cc/3963-ZAXJ>].

¹³ Sarah Brunswick, *PFAS Are Forever: Why Unregulated Agricultural Water Is Not a Girl’s Best Friend*, 54 ARIZ. ST. L.J. 253, 255 (2022).

¹⁴ Erika Ryan, *PFAS ‘forever chemicals’ are everywhere. Here’s what you should know about them*, NPR (Jun. 23, 2022, 12:27 PM), <https://www.npr.org/2022/06/22/1106863211/the-dangers-of-forever-chemicals> [<https://perma.cc/U8TR-X2CQ>].

¹⁵ AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY, CTNS. FOR DISEASE CONTROL & PREVENTION, ATSDR-2015-0004, TOXICOLOGICAL PROFILE FOR PERFLUOROALKYLS 3 (2018), <https://www.atsdr.cdc.gov/toxprofiles/tp200-c1.pdf> [<https://perma.cc/75AL-SV22>].

¹⁶ Ryan, *supra* note 14.

¹⁷ Env’t Prot. Agency, *supra* note 7.

their risk to exposure if the water they are drinking is tainted with PFAS).¹⁸ Thus, it is crucial to observe the inequity of exposures by looking closely at the communities that are closest to PFAS-producing facilities.

In response to the increasing presence of PFAS, the EPA has proposed a rule to add only two types of PFAS to the Comprehensive Environmental Response, Compensation, and Liability Act's (CERCLA) list of hazardous substances, and to require companies to report releases of these chemicals by the pound or more over a 24-hour day.¹⁹ CERCLA, or what is commonly known as Superfund, was enacted by Congress in 1980.²⁰ The Superfund taxes the chemical and petroleum industries, then authorizes Federal authority to respond to these releases that may endanger public health or the environment.²¹ The requirement for companies to report chemicals in the way that the EPA proposes for PFAS is built into the Superfund already, and the two types of PFAS would just be an addition to the Act already in place.²² Although, getting chemicals on this list is a big step, according to the EPA, this move will impose an estimated \$875 million for social costs that consumers will ultimately have to pay.²³

¹⁸ *Id.*

¹⁹ Editorial Board, *The EPA's proposed rule on 'forever chemicals' is a long-awaited step forward*, THE WASHINGTON POST (Sept. 4, 2022, 7:00 AM), <https://www.washingtonpost.com/opinions/2022/09/04/forever-chemicals-epa-rule-progress/> [<https://perma.cc/C4Q2-E24J>].

²⁰ Env't Prot. Agency, *supra* note 8.

²¹ *Id.*

²² *Id.*

²³ Pat Rizzuto, *PFAS Rule to Cost Many Millions More, EPA Analysis Finds*, BLOOMBERG LAW (Nov. 23, 2022, 8:05 AM), [https://perma.cc/C6UF-EM7C](https://www.bloomberglaw.com/bloomberglawnews/exp/eyJjdHh0IjoiTkVWRSlmImkljoiMDAwMDAxODQtYTRjNC1kMjg3LWE1ZWQYmRkZjU0Y2MwMDAxIiwic2lnIjoiUWJObU1Sm16a2cxaWtSbWJ2YjNnZ3dCbERzPSIsInRpbWUiOiIxNjY5MjMwODAwIiwidXVpZCI6IjRpV3h4V0NTdzBNcU1hejgwZi9lUHc9PXXVObFRYa20zVHJWUTRmeHNDTkEzdkE9PSIsInYiOiIxIn0=?bwid=00000184-a4c4-d287-a5ed-bddf54cc0001&cti=LSCH&emc=bblnw_nl%3A3&et=NEWSLETTER&isAlert=false&item=body-link&qid=7385534®ion=text-section&source=newsletter&uc=1320048051&udvType=Alert&usertype=External)].

The Superfund law triggers a cleanup once thresholds are passed, but it does not hold the polluters accountable because it gives polluting companies the option to assist or not assist in cleanup.²⁴ It is also concerning that the limit of release is set at a pound or more per day by CERCLA, when the EPA has found that the health risk threshold for PFAS is near zero.²⁵ While adding these two PFAs to the list of hazardous substances is a significant step, there are 12,000 chemicals in total that are considered PFAS that are still left unregulated.²⁶ Additionally, there are only 800 hazardous substances listed on CERCLA at this time, meaning there are more PFAS in total than there are CERCLA-listed hazardous substances.²⁷

Prior to the most recent attempt by the EPA to add two types of PFAS to the CERCLA list, the EPA initiated a perfluorooctanoic acid (PFOA) stewardship program in 2006, that invited eight major leading companies in PFAS production to join.²⁸ PFOA is a specific long-chain PFAS chemical that was being manufactured in the U.S.²⁹ The two goals of this program were 1) to commit to achieve a 95% reduction from 2000 to 2010 of facility emissions of these chemicals, and 2) to commit to working toward

²⁴ Perkins, *supra* note 12.

²⁵ The Associated Press, *EPA warns that even tiny amounts of chemicals found in drinking water pose risks*, NPR (June 15, 2022, 11:47 AM), <https://www.npr.org/2022/06/15/1105222327/epa-drinking-water-chemicals-pfas-pfoa-pfos> [<https://perma.cc/WTT5-FKSU>].

²⁶ Kerry Breen, *New Study find PFAS “forever chemicals” in drinking water from 45% of faucets across U.S.*, CBS NEWS, (Jul. 6, 2023, 8:03 PM), <https://www.cbsnews.com/news/pfas-forever-chemicals-in-drinking-water-45-percent-faucets-in-us-study-says/#> [<https://perma.cc/ZGW9-VWZA>].

²⁷ ENV'T PROT. AGENCY, *CERCLA Hazardous Substances Defined*, (Feb. 22, 2023), <https://www.epa.gov/epcra/cercla-hazardous-substances-defined> [<https://perma.cc/562C-8ANV>].

²⁸ ENV'T PROT. AGENCY, *Fact Sheet: 2010/2015 PFOA Stewardship Program, ASSESSING AND MANAGING CHEMICALS UNDER TSCA*, <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/fact-sheet-20102015-pfoa-stewardship-program> [<https://perma.cc/5JJ2-9ZCY>].

²⁹ *Id.*

elimination of these chemicals from emissions and products by 2015.³⁰ Since the eight companies selected in this endeavor phased out the production of several PFAS, industrial releases have declined; however, PFAS are still imported, produced domestically, and used by companies not participating in the stewardship program.³¹

Manufacturing of PFAS began in the 1940s,³² yet it was not until 2000 and 2006 that PFOS and PFOA, which are two different types of PFAS, were phased out from production, respectively.³³ Although manufacturers have halted production of the PFAS designated in the CERCLA list, the chemicals used to replace them in production are toxic and still a part of the PFAS family.³⁴ One of these newer PFAS is called GenX.³⁵ GenX was developed as an “alternative to PFOAS in nonstick coatings,” but the toxicity is “on the same order of magnitude” as the PFOA and PFOS they sought to replace.³⁶ Studies found that GenX, a short-chain PFAS compound, may be more of a risk to human health and the ecosystem since it is more widely detected, persistent, and mobile in water than its long-chain predecessors.³⁷ DuPont has even admitted to these new “shortchain” PFAS causing cancer in animals.³⁸ Because of the short chain chemicals’

³⁰ *Id.*

³¹ Agency for Toxic Substances & Disease Registry, *supra* note 15.

³² Ryan, *supra* note 14.

³³ Katie Hunt, *Denmark just became the first country to ban ‘forever chemicals’ from food packaging*, CNN (Sept. 4, 2019, 10:21 AM), <https://www.cnn.com/2019/09/04/health/denmark-pfas-food-packaging-ban-intl> [<https://perma.cc/6CHF-9MEC>].

³⁴ Paul Quackenbush, *Patching A Persistent Problem: PFAS and RCRA’s Citizen Suit Provision*, 50 ENV’T. L. REP. 10896 (2020).

³⁵ *Id.*

³⁶ *Id.*

³⁷ ENV’T WORKING GRP., *Press Release, Env’t Working Grp. Study: Newer PFAS Chemicals May Pose More Risks than those They Replaced* (Aug. 22, 2019), <https://www.ewg.org/news-insights/news-release/study-newer-pfas-chemicals-may-pose-more-risks-those-they-replaced> [<https://perma.cc/WDU5-6Z2R>].

³⁸ See Sharon Lerner, *New Teflon Toxin Causes Cancer in Lab Animals*, THE INTERCEPT (Mar. 3, 2016), <https://theintercept.com/2016/03/03/new-teflon-toxin-causes-cancer-in-lab-animals/> [<https://perma.cc/6PLZ-FXMX>].

increased mobility, it could be even more dangerous than the “long chain” chemicals that are no longer being produced.³⁹

In 2017, there was a release of GenX PFAS in North Carolina’s drinking water,⁴⁰ primarily affecting Fayetteville, NC, where people of color make up more than half of the population.⁴¹ One of Chemours Company’s factories, located in Fayetteville, has been releasing this newer PFAS (or PFOA) into the Cape Fear River for over a decade.⁴² With drinking water being mostly affected from this contamination, a community that is predominantly composed of people of color has lost access to their clean drinking water—a human right recognized by the United Nations.⁴³

Interestingly, the Chemours Company that has contaminated Fayetteville, NC was formerly a part of the Du Pont chemical company,⁴⁴ which was the defendant in *Leach v. E.I. Du Pont*—one of the first lawsuits involving forever chemicals.⁴⁵ Chemours “spun off” from Du Pont in 2015, resulting in all the liability for litigation being transferred to Chemours.⁴⁶ In 2017, Chemours ended up settling 3,550 personal injury claims for a total of \$671 million because of the leak of PFOA/C-8 from the Chemours plant in Parkersburg, West Virginia.⁴⁷ The contamination of the citizens of

³⁹ Env’t Working Grp., *supra* note 4; *see also* Env’t Working Grp., *supra* note 37.

⁴⁰ Ehren Wilder, *Lessons from Cape Fear: “Forever Chemicals” Haunt North Carolina Waters*, 12 WAKE FOREST J.L. & POL’Y 407, 407 (2022).

⁴¹ Olivia Backhaus and Jared Hayes, *Environmental Injustice: Passing on the costs of ‘forever chemicals’ cleanup*, ENV’T WORKING GRP. (May 26, 2022), <https://www.ewg.org/news-insights/news/2022/05/environmental-injustice-passing-costs-forever-chemicals-cleanup> [<https://perma.cc/5ACE-LZ4Y>].

⁴² Wilder, *supra* note 40, at 408.

⁴³ U.N., *Human Right to Water*, https://www.un.org/waterforlifedecade/human_right_to_water.shtml [<https://perma.cc/RM2H-5ZTG>].

⁴⁴ Wilder, *supra* note 40, at 408.

⁴⁵ *In re E. I. Du Pont De Nemours & Co.* (S.D. Ohio Dec. 17, 2014).

⁴⁶ Arathy S Nair, *DuPont Settles Lawsuits Over Leak of Chemical Used to Make Teflon*, REUTERS (Feb. 13, 2017, 8:44AM), <https://www.reuters.com/article/us-du-pont-lawsuit-west-virginia/dupont-settles-lawsuits-over-leak-of-chemical-used-to-make-teflon-idUSKBN15S18U> [<https://perma.cc/2NH5-J24J>].

⁴⁷ *Id.*

Parkersburg resulted in a documentary, movie, and several awards for damages, all of which has brought the issue to the forefront of environmental concerns.⁴⁸ While 21.7% of this town is below the poverty line—far below the national average (the official poverty rate was 11.5% in 2022)—94% of Parkersburg’s citizens are white.⁴⁹ While this predominantly white and impoverished community is being spotlighted and aided, communities like Fayetteville, NC, that are predominantly people of color and that have a higher poverty rating than the national average, have not received the same kind of legal assistance.⁵⁰

Today, PFAS have been “confirmed in the drinking water of nearly 3,000 communities” and scientists have determined that low-income, people of color, and Indigenous communities in several states are more likely to have PFAS in their drinking water and to live near a site contaminated with PFAS.⁵¹ These communities will likely bear the biological and economic burden of PFAS due to the lack of response by the federal government.⁵² Until the government does something about these product manufacturers, the burden will continue to fall on consumers.⁵³

⁴⁸ The Devil We Know, IMDB, <https://www.imdb.com/title/tt7689910/> [<https://perma.cc/J9E8-VGR3>]; Quackenbush *supra* note 34; *Parkersburg, West Virginia*, THE PFAS PROJECT LAB, <https://pfasproject.com/parkersburg-west-virginia/> [<https://perma.cc/A39K-P6GD>].

⁴⁹ *Parkersburg, WV*, The Census Reporter, <https://censusreporter.org/profiles/16000US5462140-parkersburg-wv/> [<https://perma.cc/F24C-5V7F>]; *see also* U.S. Census Bureau, Poverty in the United States: 2022 (Sept. 12, 2023), <https://www.census.gov/library/publications/2023/demo/p60-280.html#:~:text=The%20official%20poverty%20rate%20in,37.9%20million%20people%20in%20poverty> [<https://perma.cc/ELW5-W3GN>].

⁵⁰ *See* Backhaus & Hayes *supra* note 41; *see also* ANITA DESIKAN ET AL., ABANDONED SCIENCE, BROKEN PROMISES: HOW THE TRUMP ADMINISTRATION’S NEGLECT OF SCIENCE IS LEAVING MARGINALIZED COMMUNITIES FURTHER BEHIND, at 4 (2019), <https://www.ucsusa.org/sites/default/files/2019-10/abandoned-science-broken-promises-web-final.pdf> [<https://perma.cc/DWA6-7A5K>].

⁵¹ Backhaus & Hayes, *supra* note 41.

⁵² Reed, *supra* note 7.

⁵³ Ryan, *supra* note 14.

Although America is fraught with PFAS contamination, it is a global problem, and other countries have responded more efficiently than the American federal government. Denmark was the first country to initiate a ban on PFAS in 2019,⁵⁴ and four other countries have since joined Denmark in sending a PFAS restriction proposal to the European Chemicals Agency.⁵⁵ Recently, the Denmark Conservative Party has joined in supporting the left-wing Danish legislation for a total ban of PFAS chemicals being used in consumer products such as toys, cosmetics, jewelry, furniture, cleaning products, and hobby products.⁵⁶ Since the United States government has yet to ban PFAS entirely, the responsibility to regulate will fall onto the states and individuals affected until further action is taken by the federal government.

Although states would like the EPA to establish a National Primary Drinking Water Regulation for PFAS specifically, pursuing national efforts could take too long.⁵⁷ Addressing the contamination of drinking water is important for communities, but it only fixes the damage that has already been done, rather than preventing future contamination. States and affected individuals need to go further than this. Manufacturers will continue making PFAS-alternatives that are just as dangerous, and the clean-up process will never end.

⁵⁴ Hunt, *supra* note 33.

⁵⁵ *Official Start to Ban PFAS in Europe*, THE DUTCH NAT'L INST. FOR PUB. HEALTH AND THE ENV'T (Jul. 15, 2021), <https://www.rivm.nl/en/pfas/official-start-to-ban-pfas-in-europe> [<https://perma.cc/J3RM-USHS>].

⁵⁶ *Danish Conservatives want national ban on 'forever chemical' PFAS*, THE LOCAL DK, <https://www.thelocal.dk/20230413/danish-conservatives-want-national-ban-on-forever-chemical-pfas> [<https://perma.cc/HU3L-RC3N>].

⁵⁷ ASSOCIATION OF STATE DRINKING WATER ADMINISTRATORS, *Lessons Learned from States and Challenges Ahead in Setting State- level Per- and Polyfluoralkyl Substances (PFAS) Standards*, <https://www.asdwa.org/wp-content/uploads/2021/11/ASDWA-PFAS-MCLS-White-Paper-November-2021-Final.pdf> [<https://perma.cc/FN5U-QSMU>].

A. PCB Civil Litigation as an Example for the Future of PFAS Litigation

The economic and biological burden on consumers has already resulted in increased civil litigation against the manufacturers of various forever chemicals.⁵⁸ In Washington State, recent civil litigation efforts revolving around PCBs could serve as an example of how the future of forever chemical tort litigation could go state-by-state.⁵⁹ Individuals can be exposed to PCBs from old lighting fixtures, contaminated food, or the air around them, and such exposure can result in skin conditions, liver damage, and various cancers.⁶⁰ Since PCBs and PFAS have similar levels of adverse effects and similar passive ways of exposure, current PCB litigation is a perfect comparison to show what could be anticipated in future PFAS litigation. At a Montessori school in Monroe, WA, more than 200 teachers, parents, and students were found to be severely ill from potential PCB exposure in the building.⁶¹ The teachers, parents, and students have been able to sue Monsanto and Solutia (a company that broke off from Monsanto) for toxic product liability.⁶²

⁵⁸ See, e.g., *Leach v. E.I. Du Pont de Nemours & Co.*, 2002 WL 1270121 (W. Va. Cir. Ct. Apr. 10, 2002); *Vermont sues 3M, Dupont over 'forever chemicals'*, 2019 WL 2709017; WASHINGTON STATE OFF. OF THE ATT'Y GENERAL, *Monsanto to Pay record \$95 million to end Ferguson's lawsuit over PCBs* (Jun. 24, 2022), [https://www.atg.wa.gov/news/news-releases/monsanto-pay-record-95-million-end-ferguson-s-lawsuit-over-pcb#:~:text=OLYMPIA%20%E2%80%94%20Attorney%20General%20Bob%20Ferguson,recovery%20against%20a%20single%20entity_\[https://perma.cc/65Y3-VCJ7\]](https://www.atg.wa.gov/news/news-releases/monsanto-pay-record-95-million-end-ferguson-s-lawsuit-over-pcb#:~:text=OLYMPIA%20%E2%80%94%20Attorney%20General%20Bob%20Ferguson,recovery%20against%20a%20single%20entity_[https://perma.cc/65Y3-VCJ7]).

⁵⁹ See, e.g., Washington State Off. of the Att'y General, *supra* note 58; Lulu Ramadan, *Toxic PCBs festered at a Monroe School school for eight years as students, teachers grew sicker*, SEATTLE TIMES (Jan. 23, 2022), <https://www.seattletimes.com/seattle-news/times-watchdog/toxic-pcb-s-festered-at-a-monroe-washington-school-as-sky-valley-students-teachers-grew-sicker/> [https://perma.cc/Q9P4-XDGJ].

⁶⁰ WASHINGTON STATE DEP'T OF HEALTH, *PCBs*, <https://doh.wa.gov/community-and-environment/contaminants/pcb> [https://perma.cc/BT6X-QYXX].

⁶¹ Ramadan, *supra* note 59.

⁶² *Id.*

PCBs have been banned since 1979; yet, there is still concern about other old school buildings in the state containing PCBs as well.⁶³ Buildings built or renovated between 1929-1979 may still be contaminated with building materials that contain PCBs.⁶⁴ The oldest school buildings in America with the least updated renovations were more likely to contain environmental hazards, and these older schools were found to have a higher proportion of children in poverty.⁶⁵

Washington State requires inspections at schools for environmental hazards, but the dangerous findings from these inspections are neither required to be acknowledged nor fixed.⁶⁶ Because of this, one could infer that there is a huge gap in Washington State's knowledge of which schools are actually contaminated, despite potential regular inspections.⁶⁷ To enforce a violation, the local health officer would have to bring an action to the State Board of Health of the Department of Health.⁶⁸ Thus, Washington school districts are resisting mandatory testing and cleanup laws because of the financial responsibility they would face if they were to remediate the buildings.⁶⁹ This leaves the burden on students, parents, and teachers to pursue safety for themselves while attending school, and if their school district is unable to afford new buildings, their likelihood of being exposed to PCBs is increased.

The people that suffered in this case had the individual resources to pursue civil litigation for themselves when the school district refused to

⁶³ *Id.*

⁶⁴ Dep't of Ecology: State of Washington, *PCBs in building materials*, <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Dangerous-waste-guidance/Common-dangerous-waste/Construction-and-demolition/PCBs-in-buildings> [<https://perma.cc/EL42-TPLP>].

⁶⁵ National Center for Education Statistics, *How Old are America's Public Schools?*, <https://nces.ed.gov/surveys/frss/publications/1999048/> [<https://perma.cc/6SAX-R5NB>].

⁶⁶ Washington State Off. of the Att'y General, *supra* note 58; Ramadan, *supra* note 59.

⁶⁷ Ramadan, *supra* note 59.

⁶⁸ RCWA WASH. REV. CODE § 43.70.190 (1990).

⁶⁹ Ramadan, *supra* note 59.

renovate or halt the use of the school facility, unlike communities that could be suffering the same consequences without any support from, within, or beyond their neighborhoods. Without the support of the state government, impoverished communities are unlikely to pursue the enforcement they need as well. The PCB-contaminated school is in Monroe, WA, a city which is 7.5% below the poverty line,⁷⁰ which means it is above the national poverty average;⁷¹ the Monroe School District also consists of predominantly white students.⁷² Monroe, WA, is not impoverished or marginalized, yet it is still suffering from old school buildings with environmental hazards. These cases are only an indication of what potential hazards communities without this support could be suffering both right now and in the future.

In “Washington’s largest independent state environmental recovery against a single entity,” the State Attorney General of Washington sued Monsanto for its manufacturing, marketing, and distribution of PCBs.⁷³ After years of litigation, Monsanto settled with the Attorney General for \$95 million.⁷⁴ Since this suit was filed, three other states have brought similar actions for PCBs against Monsanto as well.⁷⁵ With the settlement money, the Attorney General plans to “repair the damage PCBs have inflicted on [Washington’s] environment and public health...”⁷⁶ which is a small financial victory, as the manufacturer will only be expected to pay out and will not bear the burden of cleaning up the chemicals they created. But

⁷⁰ THE CENSUS REPORTER, *Monroe, WA*, <https://censusreporter.org/profiles/16000US5346685-monroe-wa/> [https://perma.cc/JZ6U-YCC5].

⁷¹ Backhaus & Hayes, *supra* note 41.

⁷² *Monroe School District, US NEWS*, <https://www.usnews.com/education/k12/washington/districts/monroe-school-district-108906> [https://perma.cc/2FKL-NJDD].

⁷³ Washington State Off. of the Att’y General, *supra* note 58.

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ *Id.*

with all this recent litigation, there has already been a response from Washington lawmakers and advocates to “strengthen state laws on environmental hazards in schools,”⁷⁷ which could mean more support for other communities in Washington.

The progress for regulating PFAS is concerningly slow when comparing the regulation of PCBs. Though PCBs were entirely banned in 1979, they are still pervasive, and new PCB litigation is continuously being pursued. Only two types of PFAS chains have been banned by CERCLA, yet manufacturing of the new shorter-chain PFAS continues, despite the increased pervasiveness of this newer type of PFAS. Still, the PCB litigation taking place in Washington can serve as an example of how more states can pursue their own citizens’ safety, and potentially require manufacturers of forever chemicals to provide a specific performance of cleaning up their own mess.

B. Chemical Contamination in Impoverished and Marginalized Communities

The lack of acknowledgement by the federal government of the increased risk of PFAS-contamination in impoverished and marginalized communities leaves the onus on states and individuals to address this inequitable exposure. While observing the pervasiveness of PCBs and what it could predict for the future of PFAS, it has been found that those with a higher likelihood of exposure to PFAS “live or recreate near PFAS-producing facilities,” and are either involved in the making of the chemicals or are an individual likely to be drinking more water than the average person, like pregnant and lactating people.⁷⁸ What the EPA fails to say

⁷⁷ Lulu Ramadan, *WA Lawmakers, advocates call for PCB testing in schools in response to Seattle Times Story*, THE SEATTLE TIMES (Jan. 29, 2022, 6:00AM), <https://www.seattletimes.com/seattle-news/times-watchdog/wa-lawmakers-advocates-call-for-action-on-pcb-testing-in-schools-in-response-to-seattle-times-story/> [<https://perma.cc/N97U-BBCL>].

⁷⁸ Env’t Prot. Agency, *supra* note 7.

when they describe these possible exposures is that most of these criteria will disproportionately affect impoverished and marginalized communities. “Sources of pollution and hazards are located more often near disenfranchised communities.”⁷⁹ For example, men of color and men of low socioeconomic status are more likely to suffer a death related to an increased exposure to air pollution.⁸⁰ Additionally, Indigenous communities are at risk of living near pollution because a lot of resource extraction industries are on tribal land.⁸¹

In two different communities—Willowbrook, IL, and Lake County, IL,—citizens were plagued by a carcinogenic chemical that could be inhaled. This chemical was ethylene oxide, which has been classified by the EPA as cancer-causing by inhalation and contributes to higher cancer rates in communities near the facilities emitting these chemicals.⁸² Interestingly, these two communities saw two very different responses from the EPA.⁸³ Willowbrook, an affluent community, was given hands-on help by the EPA when they started a campaign to shut down a nearby plant emitting this chemical.⁸⁴ The campaign, put together by the neighborhood, resulted in a 90% drop in ethylene oxide levels when the campaign found success.⁸⁵ Also, high-ranking EPA officials met with these residents and even assisted in creating a website that outlined the concerns of the neighbors.⁸⁶

In contrast, Lake County, a majority low-income community with a larger number of people of color and Spanish speakers, had to navigate their fight for environmental justice on their own.⁸⁷ Lake County put together a

⁷⁹ Desikan et al., *supra* note 50.

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.* at 6.

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

coalition to secure environmental, economic, and racial justice⁸⁸ to find solutions for many safety issues, including the ethylene oxide emissions they faced. The EPA has failed to come to Lake County to discuss the health issues from these emissions, and the EPA’s failures have resulted in the Clean Power Lake County coalition having to stand up to the EPA while the community of Willowbrook—just forty miles away— gets to work alongside the EPA to fight for their safety.⁸⁹

PFAS are an environmental justice concern because 40,000 more low-income households, and 300,000 more people of color live near a PFAS-contaminated site.⁹⁰ The EPA warning for a higher likelihood of exposure to PFAS was a blanket statement that disregards how much more protected affluent and white people are from exposure, when it says that people who “live or recreate near PFAS-producing facilities” should be concerned.⁹¹ If the EPA has been making such omissions regarding the risks that people of color and low-income individuals are facing, then both states and individuals need to fight for litigation efforts in order to protect the health of their communities which are more at risk by the day.⁹²

III. SOLUTIONS

PFAS have yet to be fully banned in the United States, and thus continue to contaminate the nation. Marginalized and impoverished communities

⁸⁸ See Clean Power Lake County, *EPA ordered to finalize ethylene oxide regulations by March 2024* (Aug. 27, 2023), <https://cleanpowerlakecounty.org/tag/celeste-flores/> [<https://perma.cc/KJH6-WTT7>].

⁸⁹ See Desikan et al., *supra* note 50, at 6.

⁹⁰ *Id.* at 13.

⁹¹ Env’t Prot. Agency, *supra* note 7.

⁹² See ENV’T WORKING GRP., *Suspected industrial discharges of PFAS* (2021), https://www.ewg.org/interactive-maps/2021_suspected_industrial_discharges_of_pfas/map/ [<https://perma.cc/6ETQ-T37C>].

alike are disproportionately affected by forever chemicals' adverse effects, yet most litigation focuses on predominantly white, rural areas of the U.S.

Although PFAS affect the majority of the United States and the world, scientists have found that marginalized and impoverished communities are the most affected.⁹³ Recent strides have been taken by the EPA to start a cleanup initiative under the Superfund Act, but the list of included chemicals is incredibly limited and does not provide any actual punishment (such as cleanup or being required to stop their contamination) to these manufacturers for harming such communities.

Since the federal government has been slow to react, each state government must work to establish statutes to enforce liability for the companies creating these pervasive chemicals. States should refine their statutes of repose to match the longevity of forever chemicals, and state attorney generals should pursue civil litigation to encourage future cleanup requirements. Although action from the federal government would be most ideal, citizens could start to repair this problem by pushing their state governments to regulate forever chemicals to protect impoverished and marginalized communities from further harm.

It has been difficult to control the rising problem of forever chemicals in the U.S, but there are a few possible solutions that could stop the further spread of such chemicals or could at least hold the manufacturers of these chemicals accountable. The first solution would be for the EPA to fully ban PFAS and expand the Superfund requirements to encapsulate the severity of forever chemicals' toxicity as well as require cleanup solutions from the manufacturers themselves. A second solution would be for state legislatures to impose regulations and prohibit future production of PFAS, as well as expand their statutes of repose to make civil litigation against manufacturers of chemicals more possible. A third solution would be for state attorney generals and private firms to increase civil litigation by

⁹³ Reed, *supra* note 7.

representing affected individuals with the means to seek legal aid to hold manufacturers accountable and to encourage bans on such chemical manufacturing.

A. Solution 1: The EPA Fully Banning PFAS and Expanding Superfund Requirements

The first potential solution to this problem is to have the EPA fully ban PFAS and expand the Superfund requirements to specifically address forever chemicals as well as to require cleanup solutions from the manufacturers themselves. The EPA already has the Superfund in place, and it provides a framework for the EPA to go further in its forever chemical regulation.⁹⁴

The CERCLA, or often called Superfund, is a law created by Congress to create a tax on chemical and petroleum industries, as well as provide Federal authority to the EPA to respond directly to harmful releases.⁹⁵ As the Superfund stands today, it requires sites that potentially have a presence of hazardous waste to be “discovered” and made known to the EPA, usually by citizens who report the potential site.⁹⁶ There are two types of responses that the EPA uses once they have been alerted that there is a potential Superfund site: removal actions and remedial actions.⁹⁷ Removal is used in a short-term emergency where an immediate risk is posed, such as oil spills or chemical releases.⁹⁸ Remedial is a long-term response and is used when a release does not pose an urgent threat, yet is still complex and highly contaminated.⁹⁹

The EPA uses a hazard ranking system called the National Priorities List (NPL) to guide determinations about which sites need further

⁹⁴ Env’t Prot. Agency, *supra* note 8.

⁹⁵ *Id.*

⁹⁶ Env’t Prot. Agency, *supra* note 7.

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ *Id.*

investigation.¹⁰⁰ The information that is used to put the rankings and list together for the NPL is from initial, limited investigations of sites that any person or organization can report to the EPA.¹⁰¹ The EPA's approach to determining the hazardous score of a site is a three-factor system: 1) the likelihood that a site has released or will release hazardous substances, 2) characteristics of the waste (such as toxicity), and 3) the people or sensitive environments affected by the release.¹⁰²

There are also four specific pathways for pollutant exposure that can be scored on the ranking system; ground water migration, surface water migration, soil exposure, and air migration.¹⁰³ The issue with these hazardous rankings and the nature of PFAS, is that PFAS are contaminating environments through consumer goods, not just through releases into the environment, and there is not a particular pathway that all PFAS would fit into this scoring system. It is also uncertain how they rank toxicity. For instance, since there are only two PFAS on the EPA's hazardous substance list, does that mean the Superfund will not apply to releases of any of the other 12,000 variations of PFAS?

On August 26, 2022, the EPA proposed to specifically designate PFOA and PFOS under the Superfund/CERCLA as hazardous substances.¹⁰⁴ The hope is that there will be more transparency and citizens will be better aware of the risks.¹⁰⁵ The EPA also says it hopes to hold manufacturers

¹⁰⁰ ENV'T PROT. AGENCY, *Superfund: National Priorities List (NPL)* (Sept. 7, 2023), <https://www.epa.gov/superfund/superfund-national-priorities-list-npl> [<https://perma.cc/7ML8-FPXK>].

¹⁰¹ ENV'T PROT. AGENCY, *Hazard Ranking System (HRS)* (Dec. 13, 2022), <https://www.epa.gov/superfund/hazard-ranking-system-hrs> [<https://perma.cc/597M-8F9P>].

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ Editorial Board, *supra* note 19.

¹⁰⁵ Env't Prot. Agency, *EPA Proposes Designating Certain PFAS Chemicals Hazardous Substances Under Superfund* (Aug. 16, 2022), <https://www.epa.gov/newsreleases/epa-proposes-designating-certain-pfas-chemicals-hazardous-substances-under-superfund> [<https://perma.cc/6LK7-L85D>].

accountable through its Superfund program.¹⁰⁶ The Superfund program imposes an expectation that producers/pollutants will be sued if they do not engage in cleanup.¹⁰⁷ With the Superfund structure in place, it should be well within the EPA’s statutory authority to hold PFAS manufacturers accountable if they wanted to. An issue that arises with the designation of PFAS as a hazardous chemical under the Superfund law, though, is that doing so will not halt the use of PFAS by manufacturers but will only regulate the cleanup after its use.¹⁰⁸ Thus, it is crucial that the EPA imposes an actual ban of the chemical’s production as well.

A lot is left to be desired with the EPA’s use of CERCLA to hold manufacturers and pollutants accountable. CERCLA provides that a “potentially responsible party” (PRP) can be deemed responsible, but an action may only commence once the Attorney General, as the President’s representative, initiates it against the PRP for abatement of the pollution.¹⁰⁹ Failure to comply could result in civil monetary penalties, but there is also no guarantee that such failure would lead to these penalties since the government may also initiate cleanup itself through the CERCLA Superfund (which the government could then seek reimbursement for from the PRP if they would like.)¹¹⁰ The government is required to make efforts to find the PRPs or require the PRPs to do cleanup, but they may apply for funding from the Superfund if they exhaust the search.¹¹¹ The EPA designating the two PFAS as hazardous would allow the EPA to finally apply a “polluter pays” cleanup, which would allow the EPA to recover full

¹⁰⁶ *Id.*

¹⁰⁷ Env’t Prot. Agency, *supra* note 7.

¹⁰⁸ ENV’T WORKING GRP., *Fact versus fiction: ‘Forever chemicals’ hazardous substance designation is not a ban* (Jun. 28, 2022), <https://www.ewg.org/news-insights/news/2022/06/fact-versus-fiction-forever-chemicals-hazardous-substance-designation> [<https://perma.cc/982C-6XQV>].

¹⁰⁹ Jean Macchiaroli Eggen, *Toxic Torts*, IN A NUTSHELL 138 (West Academic, 6th ed. 2019).

¹¹⁰ *Id.* at 139.

¹¹¹ *Id.* at 140.

costs or contributions from polluters.¹¹² Once again, though, this does not create a solution for how to stop the pollution, only how to monetarily support the cleanup after the damage has already occurred.

In order for the EPA to hold a company liable for cleanup costs under CERCLA based on 42 U.S.C. §9601 et seq. (1980), it must demonstrate that the PRP 1) released or threatened release 2) into the environment 3) from a facility 4) of a hazardous substance 5) in which response costs have been incurred.¹¹³ The issue with this CERCLA liability standard is that when PFAS-tainted products have already been purchased and used elsewhere and are now breaking down into the atmosphere, the manufacturers have not “released or threatened release” per se.¹¹⁴ This means most manufacturers (who were the polluters by creating and selling the product in the first place) will not be held liable for their contribution to the contamination. However, the “from a facility” requirement also would not include consumer products in consumer use,¹¹⁵ leaving many victims of forever chemicals unsupported. As mentioned, there have been PFAS found in numerous consumer products, from jackets to pans. By specifying “from a facility,” consumers using these products may be unable to satisfy this prong if attempting a suit.¹¹⁶ The other issue is “in which response costs have occurred.” Although these response costs cover both remedial and removal actions,¹¹⁷ the burden is still on both the EPA and the federal government to initiate removal and then to seek monetary support from the polluter.

¹¹² Dean Scott, *EPA Plan to Use Superfund Law on PFAS Stirs Cleanup Cost Worries*, BLOOMBERG LAW NEWS (Jun. 23, 2022, 2:30 AM), <https://news.bloomberglaw.com/environment-and-energy/epa-plan-to-use-superfund-law-on-pfas-stirs-cleanup-cost-worries> [<https://perma.cc/Y5KV-AALG>].

¹¹³ Eggen, *supra* note 109, at 140; *see also* ENV'T PROT. AGENCY, *Superfund Liability*, <https://www.epa.gov/enforcement/superfund-liability> [<https://perma.cc/F6NA-AFNU>].

¹¹⁴ *Id.*

¹¹⁵ Eggen, *supra* note 109, at 142.

¹¹⁶ *Id.*

¹¹⁷ *Id.* at 141.

In another effort to halt the use of PFAS, the EPA invited major companies in the PFAS industry to join in a “global stewardship program” to achieve a 95% reduction in emissions of PFAS by 2010, and to work toward eliminating them completely from both emissions and products by 2015.¹¹⁸ The eight major companies involved reported that they have stopped manufacturing PFOAS, and have transitioned to alternative short-chain chemicals that are still variations of PFAS,¹¹⁹ but many of these alternatives are equally as dangerous as the original long-chain versions.¹²⁰ The alternative PFAS do not last in the human body as long as the “legacy” ones, but they still impact human health enough to make continued use of them unjustified,¹²¹ and because the newer short-chain chemicals have greater mobility, they could be worse than the two PFAS that have been banned.¹²²

Some may argue that the most recent efforts from the EPA are more than sufficient in solving the PFAS problem, and they may point to the use of alternatives as a positive change already. These efforts from the EPA are insufficient, though, as the EPA has only banned two out of 12,000 kinds of PFAS.¹²³ Not only that, but the newer PFAS alternatives are being found to be just as dangerous, if not more dangerous, than the banned ones.¹²⁴ It is within the EPA’s ability to list all the PFAS on the NPL at the very least, but it should be able to further prevent more PFAS short-chain chemicals from being created as well.

¹¹⁸ Env’t Prot. Agency, *supra* note 27.

¹¹⁹ *Id.*

¹²⁰ Quackenbush, *supra* note 34.

¹²¹ Isaacs-Thomas, *Why Getting PFAS out of our products is so hard and why it matters*, PBS (Mar. 14, 2023), <https://www.pbs.org/newshour/science/pfas-are-everywhere-what-can-we-do-to-change-that> [<https://perma.cc/AT9K-WB86>].

¹²² Env’t Working Grp., *supra* note 37.

¹²³ Tom Perkins, *Polluters could pay billions in fines for PFAS cleanup under new Biden plan*, THE GUARDIAN (Aug. 26, 2022, 1:30 PM), <https://www.theguardian.com/environment/2022/aug/26/pfas-cleanup-superfund-biden-proposal> [<https://perma.cc/33Y2-XWMX>].

¹²⁴ Quackenbush, *supra* note 34.

Additionally, others may argue that it will be difficult to expand the Superfund to further enforce specific performance from producers of these chemicals from what is already established in the Superfund. Some may also feel that it is not in the EPA's right as an administrative agency to punish these companies more than they may already be perceived as being punished. It should be within the EPA's right to ban PFAS and to enforce specific performance because the framework for these abilities is already in place. Within the Superfund, it is already outlined that the EPA may require producers of pollutants to pay for cleanup, and, if they choose not to, the EPA may sue those companies for monetary support.¹²⁵ If the EPA were to expand and require the manufacturers to do the cleanup, this substantial burden on the EPA would be removed. This would allow the governmental agency to focus on other forms of protections, such as actually pursuing more preventative efforts rather than solely focusing on aftereffects. Also, as the current designation of hazardous chemicals stands, it does not prohibit PFAS from being used, since the new alternatives are still forms of these harmful chemicals. The best solution would be for the EPA to fully ban PFAS.

Another argument against fully banning PFAS is that there are still some "essential" uses for them.¹²⁶ The unique water-resistance property of PFAS makes them essential in two different uses: retinal reattachment surgery and a lubricant used for spacecrafts.¹²⁷ Some questions posed by those who argue PFAS are essential are: 1) whether there is a true essential use for PFAS; 2) are they being used where it is unnecessary; 3) are there safer substitute chemicals that can perform the same function; and 4) is the use

¹²⁵ Env't Prot. Agency, *supra* note 7.

¹²⁶ Isaacs-Thomas, *supra* note 121.

¹²⁷ *Id.*; See also Ian T. Cousins et al., *The concept of essential use for determining when uses of PFASs can be phased out*, ENV'T SCI: PROCESSES & IMPACTS, <https://pubs.rsc.org/en/content/articlelanding/2019/em/c9em00163h> [<https://perma.cc/3K6J-7G9M>].

essential for health and safety?¹²⁸ If only two uses (retinal reattachment and spacecraft lubricant) have been established as essential by these questions, a full ban does not seem like an overreaction. The FDA may continue to allow such medical uses it deems necessary, if such an exception is needed.¹²⁹

By expanding the Superfund to fully capture PFAS and other forever chemicals, an administrative agency that is already in place with full Congressional approval will be fully utilized. This could speed up the process to ban PFAS and other forever chemicals and could prompt more federal governmental action, thus, making an actual difference for the environment.

To best protect the nation, the EPA needs to fully ban PFAS. Although the EPA has taken steps toward halting long-chain PFAS manufacturing through its stewardship program and by listing two types of PFAS on its hazardous substances list, this does not stop the actual production or further contamination of PFAS. A full ban would prevent companies from continuing to manufacture new types of short-chain PFAS, and from continuing to pollute with just a payment to the EPA to clean up its mess.

The EPA could also expand their CERCLA functions, or further define the CERCLA framework to require mandatory specific performance from polluters. As it stands, manufacturers and polluters can still get out of doing the cleanup themselves, and the EPA takes on the burden of cleaning it up, if they cannot get the PRP to initiate cleanup itself. Without a mandatory clean up requirement, it is going to be easy for PRPs to continue to pollute and just pay the EPA when caught. If the EPA started to require mandatory clean up from polluters, it could start to focus its work efforts on more

¹²⁸ Isaacs-Thomas, *supra* note 121.

¹²⁹ Env't Working Grp., *Fact versus Fiction: 'Forever chemicals' hazardous substances designation is not a ban*, (Jun. 28, 2022), <https://www.ewg.org/news-insights/news/2022/06/fact-versus-fiction-forever-chemicals-hazardous-substance-designation> [<https://perma.cc/982C-6XQV>].

preventative functions rather than simply clean up solutions. If the EPA does not do this, the states could consequently put their own regulations in place.

B. Solution 2: State-Enforced Regulations and Statutes of Repose

Even though federal efforts would be the best path to protecting communities from PFAS contamination, states could initiate their own actions more quickly than the nation could, thus serving as an indication that more steps should be taken on a nation-wide scale. States can enforce their own regulations and potentially prohibit future production of PFAS, and they could also improve the process of civil litigation against chemical manufacturers by expanding their statutes of repose.

Maine was the first state to ban the sale of products that intentionally contained PFAS, and now twenty-one other states have followed by implementing various regulations, such as bans on firefighting foam uses and manufacturing, and bans on food packaging containing PFAS.¹³⁰ Pushing for states to enforce regulation on PFAS and other forever chemicals will allow more to be done quicker, since attempts at nationwide regulations could be difficult during this period of returning to strong federalism ideals (this means the court is placing more emphasis on state individuality to allow the states to govern themselves.) However, even Congress has recognized that Maine's attempts at regulating the PFAS crisis are an indicator that nationwide contamination needs to be addressed.¹³¹ Until that happens, states should continue to implement their

¹³⁰ Raissa Havens, *More U.S. States Ban PFAS-Containing Products* (Sept. 14, 2022), <https://www.ul.com/news/more-us-states-ban-pfas-containing-products> [<https://perma.cc/889R-2ZT8>].

¹³¹ Env't Prot. Agency, *EPA Proposes Designating Certain PFAS Chemicals as Hazardous Substances Under Superfund to Protect People's Health*, (Aug. 26, 2022), <https://www.epa.gov/newsreleases/epa-proposes-designating-certain-pfas-chemicals-hazardous-substances-under-superfund> [<https://perma.cc/6LK7-L85D>].

own regulations that go more in-depth than the national ones, allowing them to address the issue of their statutes of repose.

Most states have statutes of repose, which are like statutes of limitation except that statutes of repose run from a time “external to plaintiff,” while statutes of limitations start to run from the time the action begins.¹³² Statutes of repose will often bar legitimate claims that plaintiffs may bring when they may not have known in time that a specific product is what made them ill. Some states have already overturned their statutes of repose due to the statutes’ unconstitutionality.¹³³ In *Hazine v. Montgomery Elevator*, the Arizona statute of repose was found to be unconstitutional, as the cause of action would accrue more than 12 years after the product was first sold,¹³⁴ which could bar the action before the injury has even occurred.¹³⁵ Uniquely, forever chemicals can take years after exposure to cause injury, or the exposure can happen years after the purchase of the PFAS-contaminated product.¹³⁶

An argument against states creating their own regulations is that there could be such a variance in how the regulations are placed that any efforts made to regulate by one state will be counteracted by a neighboring state that chooses to not put regulations in place. In *Massachusetts v. EPA*, Massachusetts chose to regulate greenhouse gases, but without nationwide efforts from the EPA, it was unlikely that the problem would be solved as the states surrounding it could still pollute. In that case, it was held that the EPA had the statutory authority to regulate greenhouse gases because of the Clean Air Act. This case also raises a concern of redressability, where there

¹³² Jean Macchiaroli Eggen, *It’s about Time: The Long Overdue Demise of Statutes of Repose in Latent Toxic Tort Litigation*, 68 CASE W. RESV. L. REV. 20, 25 (2017).

¹³³ Katelyn Ashton, *50-state Survey of Statutes of Limitations and Statutes of Repose in Prescription Product Liability Cases*, JD SUPRA (Nov. 16, 2020), <https://www.jdsupra.com/legalnews/50-state-survey-of-statutes-of-20476/> [<https://perma.cc/542Y-8HFU>].

¹³⁴ ARIZ. REV. STAT. § 12-551 (1993).

¹³⁵ *Hazine v. Montgomery Elevator Co.*, 176 Ariz. 340, 345, 861 P.2d 625 (1993).

¹³⁶ Eggen, *supra* note 109, at 323.

was less than a 50% chance that the sought-for relief would redress the problem; however, the severity of the pollution was great enough to overcome this.¹³⁷ Because of this decision, states have a lower threshold requirement for justiciable cases to bring to court and can bring cases of this pollution magnitude without a high probability of relief. The Superfund Act is already in place, which makes this like the involvement of the Clean Air Act in *Massachusetts v. EPA*; the Superfund was established by Congress, so states would most likely be able to bring their own claims to court to enforce their own bans on PFAS, eventually inspiring nationwide efforts against the chemicals as well. In *Massachusetts v. EPA*, it took the efforts of the state to bring the suit to the Supreme Court, so it is imperative states initiate bans on PFAS to tip off the nation that this is an important change.

Another criticism for states working with statutes of repose would be that states may not or will not want to reevaluate their statutes of repose. Although statutes of repose are rare since many states have found them to be unconstitutional, they are still active in seventeen states.¹³⁸ Since states have been repealing their statutes of repose for being unconstitutional, there is a persuasive precedent for many states to follow suit. Some states have implemented a latent disease (disease takes residence but does not immediately manifest symptoms) exception to their statute of repose, which is what Florida has done; however, other states, like Georgia, have no exception at all, with a statute of repose of ten years from the first date of sale of a drug or device.¹³⁹ States' statutes of repose are a barrier because the nature of chemical contamination is one of unpredictable timing. An injury from exposure to a forever chemical could take years, if not decades, to surface. It is hard to say when we may see injuries develop, given the recency of many PFAS exposures.

¹³⁷ See *Massachusetts v. E.P.A.*, 549 U.S. 497 (2007).

¹³⁸ Ashton, *supra* note 133.

¹³⁹ *Id.*

In Fayetteville, NC, GenX spilled into the river and affected the drinking water of a marginalized community, exposing them to a new, more mobile PFAS chemical. North Carolina is one of the states that still maintains a statute of repose, and it is one without any exceptions where forever chemical exposure could potentially fall.¹⁴⁰ The North Carolina statute of repose is twelve years after the date of initial purchase for use or consumption.¹⁴¹ What would this mean for possible lawsuits for the citizens that may not show signs of injury for another twelve years? Will those citizens be able to sue for their involuntary consumption of GenX PFAS chemicals?

Statutes of repose need to be removed or modified to include an exception for latent disease from forever chemical contamination. Regulation would be better for our nation, so that even if certain states fail to act, there will at least be some reduction in states that choose to regulate. It also seems that there are already efforts to unify states on regulating drinking water, so it seems possible to get the states to unify on regulating chemicals themselves.

State regulations and expanded statutes of repose are a great solution that could potentially lead to nationwide regulation in the future. States could at least start to reduce PFAS exposures if they continue to enforce regulatory measures like banning PFAS in food containers and firefighting foams. As more states start to regulate PFAS further, other states may follow; eventually, the federal government may take greater action when the number of state regulations grows. States can also remove their statutes of repose for product liability or put exceptions in place for hazardous substances. Statutes of repose can prohibit future relief for citizens who may suffer injuries from PFAS contamination, and by removing them or adding exceptions, more civil impact litigation would be able to take place.

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

Through that civil litigation, manufacturers will feel the pressure of more accountability and a loss of good reputation.

C. Solution 3: Increase Civil Impact Litigation and hold Manufacturers Accountable

Increased litigation from state attorney generals as well as private firms representing affected individuals with the means to seek legal aid could hold manufacturers accountable and encourage bans on the manufacturing of PFAS. While the Superfund does conduct a search for potentially responsible parties of contamination, it seems these searches will often end in negotiated settlements.¹⁴² The EPA has an “enforcement first” strategy, but the focus seems to be on getting the PRPs to perform or pay for the cleanup work when the EPA could do more.¹⁴³ Although suits brought by state attorney generals would provide more publicity overall to the public on the wrongs of PFAS manufacturers, the small case study of PCB litigation in the State of Washington shows that personal tort lawsuits could provide a unique opportunity for public impact litigation. It seems the large manufacturers (such as Monsanto with PCBs) are taking these “smaller” cases to trial while settling the “larger” cases brought by state attorney generals to avoid further publicity.¹⁴⁴ Courts could also consider a “take home” toxic tort adaptation for PFAS to further support for victims of contamination.

If state attorney generals’ took on these cases, they would be able to bring even more publicity to the actions of these companies as well as

¹⁴² ENV’T PROT. AGENCY, *Finding Potentially Responsible Parties*, (May 23, 2023), <https://www.epa.gov/enforcement/finding-potentially-responsible-parties-prp> [<https://perma.cc/5SJD-HU84>].

¹⁴³ *Id.*

¹⁴⁴ Compare Washington State Office of the Attorney General, *Monsanto to Pay record \$95 million to end Ferguson’s lawsuit over PCBs* (June 24, 2022), <https://www.atg.wa.gov/news/news-releases/monsanto-pay-record-95-million-end-ferguson-s-lawsuit-over-pcb> [<https://perma.cc/Z44N-ZA26>] and Ramadan, *supra* note 59.

disallow the producers and manufacturers from sweeping it under the rug. Returning to the example of how PCBs have been handled legally, litigation over these toxic industries is financially and reputationally affecting these companies.¹⁴⁵ The State Attorney General of Washington recently sued Monsanto because of how their chemicals polluted natural resources.¹⁴⁶ The settlement of \$95 million will be paid to resolve Monsanto's manufacturing, marketing, and distribution liability related to the forever chemical, PCBs, but it does not apply to the liability of the "direct discharge of PCBs" into the lower Duwamish River, a Superfund site.¹⁴⁷ A portion of this settlement will go into Washington's Environmental Protection Division which is entirely funded by successful lawsuits by Washington's Attorney General.¹⁴⁸ Washington is a great example of how states can litigate against forever chemical producers and use this litigation to further fund their own cleanup actions without the EPA's assistance.

It also seems that once a PRP is found to be liable to the U.S. government, state, or Indigenous tribe, then the PRP will also be liable to any other person for necessary costs of response regarding private party actions.¹⁴⁹ This could expand litigation efforts even further, because once a PRP is found liable, there will be more opportunity for damages.

One drawback to states having to litigate and enforce against forever chemicals without nationwide assistance is that this will keep the burden on the affected individuals and is unlikely to result in immediate policy changes. Damages may hurt these companies monetarily, and the money may assist states in pursuing environmental protection, but is monetary support enough?

¹⁴⁵ Washington State Off. of the Att'y General, *supra* note 58.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ Eggen, *supra* note 109, at 168.

Every case that ends in damages being paid by a producer or manufacturer of forever chemicals will be huge for those affected, even if the damages may be minimal to the companies being punished. If state attorney generals and firms continue to pursue litigation against these companies, it will eventually force these manufacturers to make some sort of change for the greater good. These manufacturers have had no incentive so far to entirely stop their new production of short-chain PFAS and have even recognized the dangers of them without stopping production, so it is necessary to continue to pursue litigation until greater state-wide and nation-wide efforts begin.

Another issue with state attorney generals and private firms pursuing this litigation is that specific performance regarding cleanup seems to be rare, especially when the cases end in settlement. For example, in the State Attorney General of Washington's case against Monsanto for PCB contamination, the money from the settlement went into Washington's fund used to clean up the environmental issues.¹⁵⁰

The damages and negative publicity from these cases may eventually force companies to change their production ways, but there is no incentive for the companies in this method to clean up their mess specifically. This solution would pair well with what is already in place through the Superfund. Since some of the sites affected by this litigation are already listed as Superfund sites, there will be some additional requirements if the nation requires the companies to either pay to clean up or initiate the cleanup themselves.

Beyond environmental exposures, exposures from consumer products and clothing items present another complication to PFAS toxic tort litigation. This kind of exposure could fall under product liability, but what if the injury caused by PFAS is from an item of clothing purchased by someone other than the potentially injured person, and the clothing item

¹⁵⁰ Washington State Off. of the Att'y General, *supra* note 58.

filled with PFAS “breaks down” in the air contaminating the other? There is a “take home” toxin exception from the Workers’ Family Protection Act that was put in place to protect family members and people that live with employees that may bring home hazardous chemicals after work that can injure the people that they live with.¹⁵¹ The purpose of this Act is to protect the health of workers and their families from hazardous chemicals in their workplace,¹⁵² which is incredibly helpful for workers in the chemical factories, but it is not clear how far this Act extends.

A recent study found that the only textile that contained more PFAS than school uniforms was firefighter gear.¹⁵³ The Act could potentially extend to firefighters because their exposure to a hazardous chemical is from the workplace, but it is not clear if the workplace needs to be the producer of the hazardous chemicals to apply. It is also concerning that school uniforms are so high in PFAS content, yet there is no protection for students taking these toxins home to their families after school. This could continue to complicate toxic tort litigation; as private litigation increases, the defense will be more prepared to counter the claims. By mentioning this in dicta, there could also be potential to make more changes to the Act to protect more people.

If national and statewide efforts are limited, the next possible defense against the American PFAS contamination is civil impact litigation from both state attorney generals and private firms representing plaintiffs with the means to pursue legal relief. The damages, though minimal to these giant companies, will make huge differences in the individual lives of those

¹⁵¹ Workers’ Family Protection, 29 U.S.C. § 671a (1992) [<https://perma.cc/2K77-DFLC>].

¹⁵² CDC, *Take Home Toxins*, (Feb. 2012), <https://www.cdc.gov/niosh/docket/archive/docket071.html> [<https://perma.cc/5M3E-T38L>].

¹⁵³ Tom Perkins, *What are they Thinking?: Toxic Forever Chemicals found in School Uniforms*, THE GUARDIAN (Sept. 21, 2022, 6:00 AM), <https://www.theguardian.com/society/2022/sep/21/toxic-forever-chemicals-school-uniforms-pfas> [<https://perma.cc/NPJ4-JGXG>].

affected and could potentially result in more requirements of specific performance from manufacturers. There is also the potential to use litigation to pressure an expansion of the take-home toxin duty to protect more citizens.

IV. CONCLUSION

PFAS have infiltrated the nation, and manufacturers of these chemicals have been able to get away with contamination by pushing most of the burden on impoverished and marginalized communities who have been forced to fight for environmental justice without the support of the national administrative agencies put in place solely for this purpose. There are 12,000 chemicals that fall under the umbrella term of PFAS, and they have been found in the environment, drinking water, and blood of American citizens.

The EPA has made efforts to slow down the contamination of PFAS through a PFAS stewardship program. It has also made efforts to reduce contamination through 2 out of 12,000 PFAS chemicals to be designated as a hazardous substance, which is estimated to cost consumers \$875 million for the costs of small businesses' reporting their PFAS emissions. Throughout all of this, manufacturers have created new short-chain PFAS that are just as injurious, if not more injurious, than the long-chain PFAS that were before them.

While litigation is growing against the manufacturers of forever chemicals, most of the publicized and spotlighted communities getting relief are predominantly white, even when studies have shown that marginalized communities are most affected by the harms of chemical contamination due to the locations of most plants. The disparity is evident when comparing the lack of attention given to the recent GenX contamination in the more marginalized community of Fayetteville, NC, with the outpouring of media sympathy for the predominantly white town

of Parkersburg, WV when it was contaminated.¹⁵⁴ The manufacturer was able to stop the release in Fayetteville, and drinking water quality is back to state health goals; however, the potential for future harm remains uncertain.

It is imperative that efforts beyond the EPA's current endeavors be made to stop more releases and future injuries. First, the EPA could fully ban PFAS and expand the purposes of the CERCLA. Until the EPA fully bans PFAS, manufacturers will continue to invent new alternatives to PFAS that are still within the same chemical family and just as dangerous. The EPA already has the CERCLA in place, so the EPA should use it for more preventative measures than just clean-up efforts, by requiring mandatory cleanup once a PRP is identified. Manufacturers will not stop their contamination of American communities until PFAS manufacturing is entirely halted and the EPA stops spearheading all the clean-up efforts.

Second, states can continue to regulate PFAS within their own borders by banning PFAS-containing food packaging and other items that are tainted with the chemical. As more states do this, the rest will eventually follow, ultimately leading to a nationwide ban. States can also remove their statutes of repose for product liability to pave the way for more civil litigation for plaintiffs in private suits whose injuries transpired a long time after they were exposed to PFAS.

Finally, state attorney generals and private firms representing injured plaintiffs should continue to increase litigation against manufacturers and polluters. The best way to hold PFAS manufacturers accountable will be through monetary and reputational damages until more regulations are in place nation- and state-wide. Through this litigation, there is also the potential to expand the take home toxin duty to cover PFAS exposures beyond workplace exposures.

¹⁵⁴ See N. C. Dep't of Env't Quality, *GenX Investigation*, <https://deq.nc.gov/news/key-issues/genx-investigation>. [<https://perma.cc/8A6R-NL8G>]; see also The PFAS Project Lab, *supra* note 48.

Until the United States takes the steps to protect its citizens from the contamination produced by companies that get nothing but a bill and a slap on the wrist, the burden will continue to fall on individuals, and in particular, people of impoverished, marginalized, and Indigenous communities located closest to the plants producing these chemicals.

