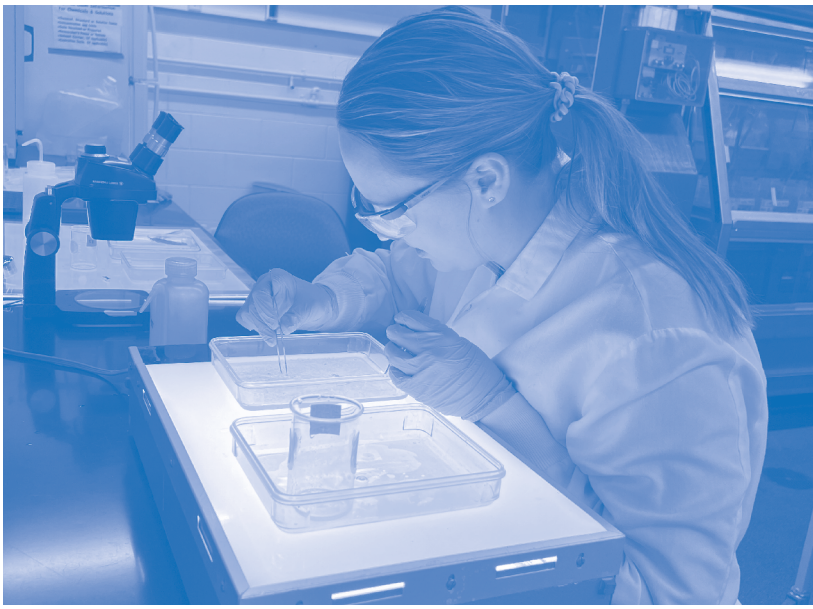
United States
Environmental Protection
Agency

EPA's PFAS Strategic Roadmap: **Second Annual Progress Report**

December 2023



Guided by its October 2021 PFAS Strategic Roadmap, EPA is taking science-based action to comprehensively address PFAS. Two years into implementation of the Roadmap, this is our update to the American people.

Introduction

PFAS, the common term used for per- and poly-fluoroalkyl substances, are an urgent threat to public health and the environment. Communities across the nation are discovering them in their air, land, and water. The science is clear: exposure to certain PFAS poses significant risks to human health, including cancer, even at very low levels. That's why, in 2021, EPA Administrator Michael Regan established the Executive Council on PFAS and multiple offices within the EPA developed the agency's PFAS Strategic Roadmap. The Roadmap is our commitment to the American people to confront PFAS contamination head on—by following the science, leveraging all available tools and authorities, holding polluters accountable, and investing historic resources to protect communities.

The EPA has made significant progress on PFAS over the past two years—delivering on our mission of ensuring that every person in this country has clean air to breathe, safe water to drink, and land to live, play, and farm on that is safe from pollution. The United States does not need to choose between public health, prosperity, and security. These are inextricably connected. Federal and state regulations, state legislative action, and increased public awareness—coupled with unprecedented federal investments enabled by the Bipartisan Infrastructure Law (BIL)—are protecting public health, catalyzing new economic opportunities, driving innovation, creating jobs, and advancing environmental justice across the nation.

EPA Administrator Michael Regan announces the EPA's proposed PFAS National Primary Drinking Water Regulation in March 2023 in Wilmington, North Carolina, alongside state, local, and community leaders.

In its second year of implementation, the EPA has remained focused on the three overarching goals established in the Roadmap:

RESTRICT

Pursuing a comprehensive approach to proactively prevent PFAS from entering air, land, and water at levels that can adversely impact human health and the environment.

REMEDIATE

Broadening and accelerating the cleanup of PFAS contamination to protect human health and ecological systems.

RESEARCH

Investing in research, development, and innovation to increase understanding of PFAS methods, human health and environmental risks, and technologies.

Signature achievements and milestones in 2023 include:

Making PFAS use safer. PFAS can be used responsibly in many critical industries and products. Understanding where and how they are used is key to ensuring protections for people and the environment, and to advancing the science on PFAS used in commerce. The EPA is using the Toxic Substances Control Act (TSCA) and Toxics Release Inventory (TRI) as foundational tools to enhance oversight of new and existing PFAS and to improve data on how PFAS are released and used. Over the last year, the EPA took action to address PFAS chemical safety—including finalizing rules for PFAS reporting, announcing a framework for reviewing new PFAS, proposing to eliminate exemptions for new PFAS and to restrict certain legacy PFAS, and issuing test orders to better understand categories of PFAS.

Holding polluters accountable. The EPA is working to ensure transparency around PFAS releases through characterization and information gathering, to hold polluters financially responsible for treatment and cleanup, and to provide protections for communities facing circumstances that may pose an imminent and substantial endangerment. In the last year, the EPA took important steps to stop PFAS polluters, including specific enforcement actions and adding PFAS as an EPA National Enforcement and Compliance Initiative from 2024-2027. The EPA is also in the final stages of developing a regulation to list perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) as hazardous substances under CERCLA, the nation's Superfund law, which will give the agency powerful tools to hold polluters accountable. The EPA expects to take final action on this rule in early 2024.

Protecting America's drinking water. Every American deserves safe drinking water. Fulfilling a signature commitment in the Roadmap, the EPA proposed national drinking water standards for six PFAS in March 2023. The standards would set a national floor of protection for every person served by public water systems, regardless of their income or zip code. This rule, when finalized, will save thousands of lives and prevent tens of thousands of avoidable illnesses, including in small, rural, and disadvantaged communities. The EPA expects to finalize the rule in early 2024.

Identifying the scale of exposure through drinking water. Drinking water can be a significant source of a person's exposure to PFAS. To better understand the location and prevalence of PFAS in drinking water, the EPA initiated nationwide monitoring for 29 PFAS at more than 10,000 public water systems under the Unregulated Contaminant Monitoring Rule and announced two quarters of initial results. These results are posted publicly through the EPA's website and made more accessible through their inclusion in the EPA's PFAS Analytic Tools.

Deploying funding to invest in infrastructure projects to address PFAS in water. Many communities will need to install new infrastructure and treatment facilities to address PFAS in drinking water and wastewater. Thanks to President Biden's Bipartisan Infrastructure Law (BIL), the EPA is providing $10 billion to remove PFAS and other emerging contaminants—with more than half of the funds going to small or disadvantaged communities. In 2023, the EPA distributed nearly $1 billion through the BIL State Revolving Fund Emerging Contaminants programs and announced the first $2 billion in grant funding to states, Tribes, and territories through the new Small or Disadvantaged Communities Emerging Contaminants grant program. These programs also advance the Biden Administration's Justice40 Initiative, which set the goal that 40 percent of the benefits of many federal investment programs should flow to communities who

have historically been marginalized by underinvestment and overburdened by pollution.

Turning off the tap for industrial polluters. Addressing the PFAS lifecycle—and how PFAS enter the environment—is central to the EPA's strategy. Restricting point-source discharges from industrial facilities that use PFAS is a significant opportunity to safely remove PFAS pollution before it enters the environment or wastewater streams. The EPA has taken several steps to use Clean Water Act permitting and regulatory authorities to restrict PFAS—including developing rules under the Effluent Limitations Guidelines program to limit PFAS discharges to waterways from PFAS manufacturers, metal finishers, and landfills.

Advancing the science. The EPA has continued to build the scientific foundation on PFAS through research and development. The agency is investing in research to fill gaps in our understanding of PFAS, including research to characterize the toxicity of additional PFAS and mixtures of PFAS; to study the contributions of different sources to people's overall exposure to PFAS; and to develop methods to test, measure, remove, and destroy them.

Incorporating equity and environmental justice into our actions. Over the last year the EPA has worked to deliver on its Roadmap commitment to ensure that all communities have equitable access to solutions, and to integrate recommendations from the National Environmental Justice Advisory Council (NEJAC). The EPA has incorporated a focus on PFAS responses and resources into its PFAS work, while weaving environmental justice analyses into the agency's PFAS regulatory actions, targeting unprecedented infrastructure investments and technical assistance to small and disadvantaged communities, and collecting and releasing data to deepen our understanding of how PFAS may impact communities with environmental justice concerns, including by linking the agency's PFAS Analytic Tools and EJSCREEN, the EPA's environmental justice screening and mapping tool.

Listening to and learn from communities. To inform the EPA's work across a range of PFAS issues, the agency held a series of community engagement sessions in early 2023 in each of its 10 Regions, as well as a session specifically designed to hear from the EPA's Tribal partners. Feedback shared during these sessions, in coordination with recommendations from EPA's NEJAC and Local Government Advisory Committee, continue to inform the agency's policy, infrastructure, and communications work.

The PFAS challenge is broader than can be addressed by the EPA's authorities and resources alone. The agency continues to deepen partnerships with other federal agencies and state and Tribal coregulators to tackle the magnitude and the complexity of PFAS pollution. Through the White House Interagency Policy Committee on PFAS, the EPA is helping to lead interagency efforts to accelerate PFAS cleanup, prevent PFAS contamination in the food system, and address PFAS in federal procurement and supply chains. And the EPA continues to support and learn from states in tackling PFAS contamination, including convening a September 2023 workshop on PFAS risk communications and partnering to address the unique challenge of PFAS in biosolids. Cumulatively, the EPA's work with its federal and state partners is helping to turn the tide on PFAS and to build more enduring, comprehensive, and protective solutions.

Looking ahead, the EPA anticipates continuing the progress on PFAS with several critical actions in 2024, such as finalizing national drinking water standards for several PFAS and taking final action to list certain PFAS as hazardous substances under CERCLA, the nation's Superfund law. The agency also soon expects to issue guidance on destroying and disposing of PFAS, to finalize methods to monitor for PFAS in a wide range of media, and to propose rules designating certain PFAS as hazardous constituents under the Resource Conservation and Recovery Act. The agency also will continue engaging closely with its states, who are actively working to address PFAS issues in their communities. Together, these and other commitments will more effectively protect the American people from the risks posed by PFAS exposure.

One thing is clear: Americans don't have to choose between clear air, land, and water or a prosperous, vibrant, and secure nation. With work on PFAS alternatives advancing; with new markets for technology innovation, services, and jobs in addressing the PFAS challenge; and with strategic, long-term research, planning, and coordination across all levels of government, this second year of progress points to the safe future that every person in this country deserves—and that we will achieve together.

Key Accomplishments

Enhancing Chemical Safety

The EPA committed to leveraging all of its authorities to restrict PFAS, and that begins with responsible use and management of these chemicals within the marketplace. The Toxic Substances Control Act (TSCA) and Toxics Release Inventory (TRI) are foundational tools that the EPA uses to collect information on PFAS used in commerce and to increase transparency so people know how and where these chemicals are being used and released. The EPA is using these authorities to limit use when the agency knows the use presents unreasonable risk, or when the EPA does not have sufficient information to ensure that unreasonable risks will not occur, including to potentially exposed or sensitive populations like young children and older adults.

Over the last year, the EPA has taken several important steps under TSCA and TRI to achieve these goals. The EPA has expanded work under the National PFAS Testing Strategy, which the agency announced alongside the Roadmap in October 2021. The Testing Strategy is a major step toward obtaining information about categories of PFAS, which will help accelerate research and innovation and amplify the effectiveness of regulatory and policy solutions to restrict and remediate PFAS. In the past year, the EPA released its second and third orders under the Testing Strategy to require manufacturers to test chemicals used to make plastics and GenX chemicals, and anticipates more orders in the year ahead.

In May 2023, the EPA proposed a rule to ensure that new PFAS go through a full safety review process before entering commerce, which would eliminate eligibility for exemptions that had allowed some substances to go through an abbreviated analysis. In June 2023, the EPA also announced a framework for evaluating PFAS to ensure that new PFAS, or new uses of existing PFAS, do not pose risks to people's health and the environment before they are approved for use. This framework will distinguish uses that could result in environmental releases—and those with expected human exposures—from those that won't, and will require upfront testing for many PFAS. In December 2023, and consistent with the PFAS evaluation framework, the EPA announced orders prohibiting a company from producing specific, harmful PFAS, which are created as part of its fluorination of high-density polyethylene (HDPE) plastic containers—an action that will protect the public from exposure to dangerous chemicals in the approximately 200 million containers that the company fluorinates annually.

In the Roadmap, the EPA also committed to restricting PFAS by reviewing previous decisions that allowed PFAS uses. As part of this effort, the EPA identified approximately 150 PFAS that had been reviewed through the TSCA new chemicals program, but where the protective requirements imposed on the submitters of those chemicals had not yet been extended to all future manufacturers and processors —creating risks for release and exposure. The EPA proposed a first batch of Significant New Use Rules in December 2022 to require these protections, and expects to propose additional rules for the remainder of this group in the coming months. The EPA is also working to close the door on abandoned PFAS and uses. In January 2023, the EPA proposed an additional rule that would prevent anyone from starting or resuming the manufacture or processing of an estimated 300 "inactive" PFAS that have not been made or used for many years without going through a full notice, review, and, if appropriate, risk management process.

Changeout in progress for a granular activated carbon (GAC) treatment system for PFAS. GAC is a proven technology for removing PFAS from drinking water and is already in use in many communities.

The EPA has also taken final action to collect the largest-ever dataset of PFAS manufactured in the United States. In October 2023, the EPA published a final rule under TSCA that will require all manufacturers and importers of PFAS and PFAS-containing articles in any year since 2011 to report information to the EPA on PFAS uses, production volumes, disposal, exposures, and hazards, and the EPA expects to begin making non-confidential data it receives publicly available in 2025. Also in the past year, the EPA finalized a rule that eliminated an exemption that allowed facilities to avoid reporting PFAS information to TRI when those chemicals are used in small (or *de minimis*) concentrations. TRI data allow communities to learn how facilities in their area are managing listed chemicals. The improved data the EPA will collect will help support informed decision-making by companies, government agencies, non-governmental organizations, and the public.

Safeguarding Drinking Water

Every person deserves to have safe drinking water. That's why, in the past year, the EPA has advanced critical work to protect communities' drinking water from PFAS contamination. In March 2023, the EPA proposed national drinking water standards for six PFAS, fulfilling a foundational commitment in the PFAS Roadmap. This proposed rule leverages the latest science, and builds on state efforts to limit PFAS, by proposing to establish legally enforceable levels for several PFAS known to occur in drinking water. Over time, this rule is anticipated to prevent thousands of avoidable deaths and tens of thousands of illnesses. The EPA anticipates finalizing this rule in early 2024.

In addition, the EPA is currently conducting nationwide drinking water sampling for 29 PFAS in our nation's drinking water systems under the fifth Unregulated Contaminant Monitoring Rule (UCMR 5). Under UCMR 5, the EPA is testing for more PFAS at lower levels in more water systems than ever before. In August 2023, the EPA released the initial UCMR 5 monitoring data on 29 PFAS and announced a subsequent quarter of data in November. Data collected under UCMR 5 will ensure science-based decision-making and help the EPA better understand national-level exposure to these PFAS, and to what extent these PFAS disproportionately impact communities with environmental justice concerns. The EPA will continue to publicly update UCMR results quarterly over the next three years.

As it advances regulatory and policy frameworks to address PFAS, the EPA is investing unprecedented levels of funding in treatment infrastructure to remove PFAS from communities' drinking water and wastewater. The EPA is deploying $10 billion in funding made available by President Biden's Bipartisan Infrastructure Law to address PFAS and other emerging contaminants in water. These investments are transformational for cleaning up PFAS and other emerging contaminants in water, especially in small or disadvantaged communities, as part of the Justice40 Initiative. Thanks to these resources, investments by communities from Tucson, Arizona, to Wilmington, Ohio, are developing infrastructure, expanding the market for skilled workers to build and maintain these systems, and catalyzing new innovation and economic opportunities.

Investments in PFAS treatment technologies are catalyzing innovation that will bolster American businesses, workers, and economic growth.

In addition to $4 billion available through the Drinking Water State Revolving Funds, the EPA announced the availability of $2 billion in new grant funding in February 2023 to address emerging contaminants in drinking water specifically in small or disadvantaged communities. These funds will be allocated to states and territories and will promote access to safe and clean water in small, rural, and disadvantaged communities while supporting local economies.

Protecting Clean Water

The EPA continues to prioritize efforts to reduce PFAS discharges to waterways. In December 2022, the EPA released a memo on how state co-regulators can help restrict PFAS at their source through the Clean Water Act's National Pollutant Discharge Elimination System (NPDES) permitting program. The NPDES permitting program is a powerful tool for reducing PFAS discharges into waterways and protecting sources of drinking water.

In January 2023, the EPA released its 15th Effluent Limitations Guidelines Plan (ELG), the latest plan for setting technology-based standards for industries that discharge PFAS. Building on existing rulemaking efforts for PFAS manufacturers and metal finishers, the latest plan announced rulemakings to address discharges from landfills, and a new Publicly Owned Treatment Works Influent Study. This study will collect more robust data on discharges into wastewater streams from a broad range of industries and enable strategic decisions about which industrial categories warrant PFAS ELGs in the future. The EPA will also conduct a detailed study of the textile industry and continue to monitor several key sectors, such as pulp and paper mills and airports, to determine whether additional steps are necessary.

The EPA is also making significant progress to advance the methods needed to detect PFAS in water, and to build knowledge on the levels at which PFAS in surface waters may harm aquatic life and people. The EPA and the Department of Defense are in the final stages of validating a method to test for 40 PFAS in wastewater, surface water, groundwater, soil, biosolids, sediment, landfill leachate, and fish tissue. The EPA expects to finalize EPA Method 1633 in the coming months and intends to start the rulemaking process to formally codify Method 1633 under the Clean Water Act in 2024. In the interim, the EPA recommends its use now in NPDES permits.

The Bipartisan Infrastructure Law provides $10 billion to address PFAS and other emerging contaminants in water. Here, Assistant Administrator for Water and PFAS Executive Council co-chair Radhika Fox highlights a $30 million investment in PFAS drinking water treatment in Tucson, Arizona.

The EPA continues its work to protect aquatic life and human health from PFAS by developing Clean Water Act water quality criteria. The EPA expects to fulfill a Roadmap commitment to issue recommended aquatic life criteria for PFOA and PFOS in the near future. States and Tribes may use these criteria in assessing the impact of PFAS water pollution on local communities and the environment, and in developing water quality standards that serve as a basis to issue permits to limit PFAS discharges. Future EPA efforts will focus on developing similar recommended criteria to protect human health.

The EPA is also working to address PFAS in biosolids and is currently completing risk assessments for PFOA and PFOS for public comment and release in 2024. The EPA is also working to further engage with a wide range of partners in managing biosolids to develop principles and to discuss perspectives on the challenges and opportunities in managing biosolids as awareness of PFAS occurrence in biosolids continues to grow.

EPA scientist Jessica Schlafstein conducts sampling of water sources adjacent to a military installation with known PFAS contamination.

Cleaning Up PFAS Contamination

In 2023, the EPA made significant progress in its efforts to remediate PFAS and hold polluters accountable. In September 2022, the EPA took a critical step forward by proposing to designate PFOA and PFOS as CERCLA hazardous substances, which would improve transparency around releases of these chemicals and help hold responsible parties accountable for cleaning up their contamination. The EPA expects to take final action on this rule in early 2024. At the same time, the EPA is developing a CERCLA enforcement discretion policy on PFAS and has held listening sessions with the public and key stakeholders from a variety of sectors to inform development of this policy.

Soon after announcing the PFAS Strategic Roadmap, the EPA initiated two rulemakings to tackle PFAS contamination under the Resource Conservation and Recovery Act (RCRA), which if finalized will provide federal and state agencies with important tools to clean up PFAS. One proposed rule would designate certain PFAS as "hazardous constituents" under RCRA, which would make these PFAS subject to investigation and cleanup activities at permitted hazardous waste facilities. The second proposed rule would clarify that emerging contaminants such as PFAS can be cleaned up through the RCRA corrective action process. The EPA expects to propose these rules as soon as the interagency reviews are complete.

As our scientific understanding of PFAS evolves, the EPA is also working to update and strengthen the agency's cleanup efforts. In August 2023, the EPA rescinded its 2019 groundwater cleanup guidance for PFOA and PFOS because that guidance's recommendations no longer reflect the best, currently-available science. Instead, the EPA recommended that site managers resume using well-established CERCLA and RCRA processes for making site-specific decisions that can better protect people from PFAS contamination. To that end, the EPA has updated its Regional Screening Level and Regional Removal Management Level tables, which provide risk-based values that help the EPA determine if further attention is warranted or a removal is needed, to include a total of 14 PFAS.

The EPA is also poised to update its 2020 interim guidance on destroying or disposing of PFAS-containing materials and expects to release the guidance in winter 2023. This updated guidance reflects significant advances in research and knowledge by the EPA and the scientific community, filling gaps in our understanding of PFAS destruction and disposal technologies and highlighting remaining uncertainties that require further investigation.

Strengthening the Scientific and Data Foundation

The EPA continues to invest in research, innovation, and data analysis to increase our understanding of PFAS and to provide science to inform decisions at all levels, from local communities to national regulations. Over the past year, EPA researchers published more than 40 papers on PFAS in peer-reviewed scientific journals. These publications present new information on methods for measuring PFAS, human exposure to PFAS, human health and ecological effects of PFAS, treatment of PFAS-contaminated water, and destruction and disposal of PFAS-containing materials. The EPA also updated key data resources—including the EPA's Drinking Water Treatability Database, the ECOTOX Knowledgebase, and the CompTox Chemicals Dashboard—to transparently share new information.

The EPA's researchers are also working with communities to address PFAS science questions important to their lives and livelihoods. This includes several projects with Tribal partners focused on identifying and characterizing the extent of PFAS contamination in water, sediment, fish, and plants near Tribal communities. The EPA researchers are also working to provide small or disadvantaged communities with technical support for drinking water treatment options for emerging contaminants, including PFAS. In July 2023, the EPA proposed additional data collection from facilities that emit PFAS to the air through the Air Emissions Reporting Rule, which would collect detailed PFAS data, enabling more refined air quality and exposure modeling. The EPA expects to finalize the rule in mid-2024.

In 2023, the EPA made significant progress in developing human health toxicity assessments for several PFAS under the Integrated Risk Information System (IRIS) program. This includes releasing the final IRIS assessment for PFHxA, and draft IRIS assessments for PFDA and PFHxS for public comment and peer review. The EPA is also developing and applying new human health assessment approaches to PFAS in order to provide actionable science to decision-makers sooner. As part of these efforts, the EPA released human health toxicity values for PFPrA and lithium bis[(trifluoromethyl)sulfonyl] azanide (also known as HQ-115), two substances that have been detected in surface waters and wastewater at or around PFAS manufacturing facilities.

Finally, the EPA continues to support PFAS research, development, and innovation through its extramural research grants program and the agency's Small Business Innovation Research (SBIR) program. In 2023, the EPA partnered with the U.S. Department of Agriculture to request grant applications for $8 million in funding for research to better understand

EPA'S PFAS ANALYTIC TOOLS

The EPA publicly released its PFAS Analytic Tools in January 2023, providing a transparent and accessible resources that can be used to compile and integrate data on PFAS manufacture, release, and occurrence in communities. The EPA further updated these data tools in September 2023 to add:

- More than 10 years of PFAS emissions data from the Greenhouse Gas Reporting Program
- Over 100,000 recent drinking water monitoring samples from UCMR 5
- Tens of thousands of ambient surface water and fish tissue samples, including studies from the EPA and the U.S. Geological Survey
- Hundreds of new waste manifests that have been identified to likely contain PFAS
- Dozens of incident reports sent to the agency's National Response Center for releases likely containing PFAS
- Discharge monitoring reports for nearly 100 facilities with PFAS effluent monitoring
- Data on federal sites with known or suspected PFAS detections and Superfund sites with PFAS detections
- Data from the Toxics Release Inventory

PFAS uptake in plants and animals, and management of PFAS impacts in agricultural, rural, and Tribal communities. Also in 2023, the EPA requested grant applications for $1.5 million in funding to develop and demonstrate nanosensor technology to detect, monitor, and degrade PFAS in drinking water sources. The EPA looks forward to announcing the grant recipients for both research grant opportunities in 2024. Through its SBIR program, the EPA has provided more than $5.7 million to small businesses developing technologies to detect, treat, and destroy PFAS since 2017, with $200,000 awarded in 2023.

EPA Region 4 environmental engineer Landon Pruitt samples groundwater for PFAS at the Seminole Tribe of Florida's Brighton Reservation.

Holding Polluters Accountable

The EPA continues its proactive approach to use its enforcement tools to better identify and address PFAS releases at facilities where PFAS pose imminent and substantial danger to people and the environment. Earlier this year, the agency announced that "addressing exposure to PFAS" will be one of the EPA's six National Enforcement and Compliance Initiatives for Fiscal Years 2024-2027. The EPA continues to collect information from PFAS manufacturers and users, including federal facilities. In April 2023, the EPA took the first-ever Clean Water Act enforcement action for PFAS discharges at Chemours' Washington Works facility near Parkersburg, West Virginia. Near military installations with known, significant, PFAS contamination, the EPA is sampling private drinking water wells to assess whether alternative drinking water is needed. The EPA continues to ensure federal facilities on the CERCLA National Priorities List are meeting their enforceable Federal Facility Agreement requirements.

The PFAS National Enforcement and Compliance Initiative will work to achieve site characterization, control ongoing releases that pose a threat to human health and the environment, ensure compliance with permits and other agreements to prevent and address PFAS contamination, and address endangerment issues as they arise. As part of the National Enforcement and Compliance Initiative, the EPA expects to expand these enforcement efforts, especially to protect drinking water supplies. Finally, the EPA will focus its enforcement efforts on holding responsible those parties who significantly contribute to the release of PFAS into the environment, such as major manufacturers and PFAS users, federal facilities that are significant sources of PFAS, and other industrial actors.

Partnerships for Progress

Partnering with States

Offices across the EPA's headquarters and 10 Regional offices are focused on increased coordination and collaboration with states and Tribal partners and coregulators. One particular area of emphasis for the EPA and state partners is working to improve communications with the public and local communities, including about the risks of PFAS. In September 2023, the EPA held a workshop with its partners in the Environmental Council of the States (ECOS) and the Association of State and Territorial Health Officials, where participants worked to learn from each other on the challenges and best practices for communicating about PFAS.

Another important area for state-federal partnership is enhanced coordination on PFAS in biosolids. In July 2023, the EPA, ECOS, and the National Association of State Departments of Agriculture developed and released "Joint Principles for Preventing and Managing PFAS in Biosolids." These Principles recognize the unique challenges and uncertainties presented by the presence of PFAS in biosolids, and they highlight the importance of partnership across all levels of government and between environmental and agricultural agencies as the science and policy landscape continues to evolve.

A Whole of Government Approach

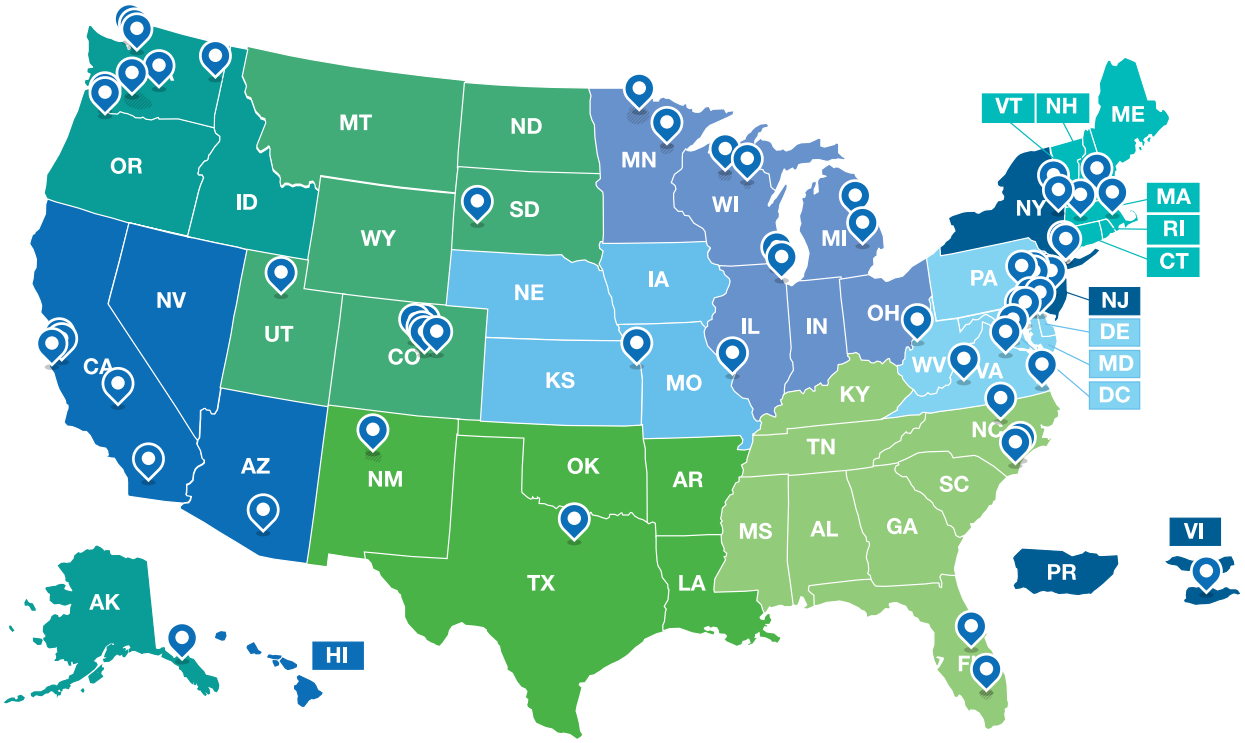
As the EPA acts to address PFAS, it does so as a partner in the Biden-Harris Administration's effort to harness the collective tools and capacity of the federal government. The EPA participates in and leads a range of interagency efforts to advance science and knowledge around PFAS health effects, accelerate cleanups and disposal, assess the impacts of PFAS on the nation's food system, and work toward PFAS-free alternatives in federal procurement and supply chains. In March 2023, the White House Council on Environmental Quality released a report highlighting two years of coordinated progress by the Biden-Harris Administration under the Interagency Policy Committee on PFAS. Also in March 2023, the White House Office of Science and Technology Policy's PFAS Strategy Team published a report providing the state of the science on PFAS that summarizes current PFAS research in key strategic areas, including safe removal and destruction of PFAS and alternatives to PFAS that are safer, as well as gaps in PFAS data and knowledge.

EPA Region 1 Administrator and PFAS Executive Council co-chair David Cash tours a drinking water treatment facility in Portsmouth, New Hampshire, with Senator Jeanne Shaheen and community leaders.

Engaging with Communities

The EPA committed in the PFAS Strategic Roadmap to listening to and learning from people and communities impacted by PFAS contamination. In early 2023, the EPA held a series of community listening sessions in every EPA Region, and another focused on hearing from Tribal communities around the nation. These forums provided a platform for thousands of individuals to share feedback directly with EPA Regional and PFAS Executive Council leaders to inform the implementation of the agency's Roadmap. Participants shared how PFAS have impacted their communities and their lives. Their statements touched on a range of topics, including the need for increased funding, equitable cost considerations for water utilities and consumers, the imperative to hold polluters accountable, increasing education and communication to the public, regulating PFAS in larger groups and categories, evaluating environmental justice concerns, addressing PFAS in biosolids, contamination surrounding military installations, and identifying technologies for cleanup and disposal. The feedback the EPA received during these listening sessions has helped to reinforce and focus the agency's PFAS efforts, in coordination with federal, state, Tribal, and local partners. The EPA is actively responding to these priorities, such as by providing unprecedented funding to addressing PFAS under the Bipartisan Infrastructure Law, holding polluters accountable by designating PFAS as an enforcement and compliance priority, prioritizing collaborative efforts to improve PFAS risk communications, and releasing public tools that improve understanding of PFAS in communities.

In December 2022, the EPA's National Environmental Justice Advisory Council (NEJAC) encouraged the agency to more broadly institutionalize actions to evaluate and address the disproportionate and cumulative effects of PFAS and other pollution on communities with environmental justice concerns. The NEJAC recommended that the agency not only pursue efforts within the three goal areas of the Roadmap (research, restrict, and remediate) but to also focus on both responding to PFAS and the resources required to do so. The EPA is taking these recommendations to heart in its work by building stronger internal PFAS coordination; collaborating with federal, state and Tribal partners on response toolkits and risk communications; and building and sustaining public tools that provide information and resources to communities.



Map depicts EPA Regions and the communities from which the agency received feedback during virtual listening sessions for each Region and for Tribes in early 2023.

Communicating about PFAS risk to communities has been a particular priority of the EPA's Local Government Advisory Committee, which held a PFAS tabletop exercise in May 2023 and made recommendations to the EPA in September 2023 on developing a toolkit for local governments. Pediatric Environmental Health Specialty Units (PEHSUs) supported by the EPA and the Agency for Toxic Substances and Disease Registry have been pursuing PFAS-focused projects in each EPA Region to promote children's health by sharing clinical challenges, providing guidance for clinicians on how discuss PFAS concerns with patients, providing actionable advice for the general public to reduce PFAS exposure, and learning from experts and peers. Feedback from the EPA's listening sessions, the NEJAC, the Local Government Advisory Committee, and others, has been—and will continue to be—integrated into all of the agency's efforts to address PFAS.

Conclusion

The EPA's actions in 2023 demonstrate the Biden-Harris Administration's commitment to protect Americans' health from PFAS. The accomplishments made over the last year are providing transparency, accountability, and tools and resources to support federal, state, Tribal, local, and individual efforts to restrict PFAS and clean up contamination. Collectively, the agency's progress in 2023 sets the stage for final regulatory actions to restrict and remediate PFAS, and to hold polluters accountable.

In 2024, the EPA's work on PFAS will remain laser focused on driving positive change, protecting people and the environment, and catalyzing new economic opportunity.

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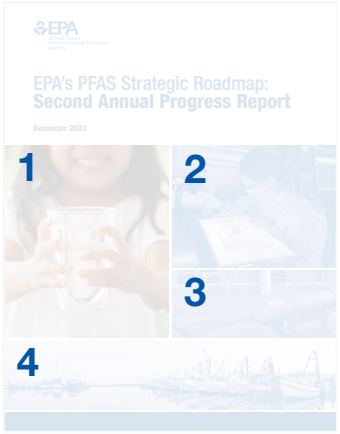

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