EPA-842-N-24-001
April 2024

THE FLOW OF...TRASH FREE WATERS

ISSUE 19

INSIDE THIS ISSUE

HOW'S IT FLOWING?

Earth Month Reflections: How the Trash Issue Helped Ignite the Environmental Movement

April is Earth Month, an important month for those of us who work in environmental restoration and protection to reflect on what we do and why we do it. Starting from the first Earth Day on April 22, 1970, this annual observance eventually grew into a full month of recognition about the need to protect the environment. The attention that Earth Day brought to the need to protect the environment helped set the stage for the creation of the U.S. Environmental Protection Agency in December 1970.

Photo Credits From Top: Thomas J O'Halloran/ Library of Congress; Julian Wasser/The Life Images Collection/Getty Images

A girl scout pulls trash from the Potomac River at an Earth Day event in April 1970. University of California, Irvine students visit a garbage dump on the first Earth Day with signs saying, "Recognize the polluter, Recognize ourselves."

Trash Issues & Clean-ups for Inaugural Earth Day

Months prior to April 22, 1970, experts and volunteers alike met in Washington, DC, to plan events across the country for the first Earth Day. Many of these events were centered around the problem of trash in the environment. From garbage dump visits in Irvine, California, to roadside litter clean-ups in Hohokus, New Jersey, people across the country took action to address the trash problem in a meaningful way. In the decades since that first Earth Day, environmental science and policy have both made significant strides, leading to more informed decision-making and improved infrastructure to address the problem of trash in the environment.

In 2024, trash—especially plastic waste—remains a threat to our environment, including to our aquatic ecosystems and to human health. Although we continue to build awareness and community through organized trash cleanup events, the need for increased and improved upstream interventions remains to effectively solve the problem. Significantly lowering the consumption of single-use plastics, working with the private sector on improving cradle-to-grave environmental stewardship of their products, reducing packaging volumes and many other interventions are needed to keep trash out of our environment.

(continued on p.2)

HOW'S IT FLOWING?

(continued from p.1)

Trash is an Environmental Justice Issue

On April 3, 1968—the day before he was assassinated—Dr. Martin Luther King Jr. gave a speech in support of the striking sanitation workers at Mason Temple in Memphis, Tennessee, in which he called for the need for the city to be "fair and honest" with those workers. Dr. King's speech is the first event recognized by the EPA to start the Environmental Justice Timeline.

Trash itself is an environmental justice issue as trash in the environment disproportionately affects disadvantaged communities, who typically do not have the resources to adequately address the problem. Plastic is the material of highest concern in our trash stream, and the environmentally detrimental effects of plastic production have been especially impactful on the health of poor and minority communities.

Photo Credit: Richard Copley via ABC News

Dr. Martin Luther King Jr. speaks on behalf of striking sanitation workers at Mason Temple in Memphis, Tenn., March 18, 1968.

As we celebrate Earth Day and Earth Month this year, we should all remember and acknowledge the painstaking efforts of those who have steadfastly worked to address the problem of trash in our environment. Look for ways to get involved in your community this month and check out EarthDay.org to learn more about initiatives to combat trash and plastic waste in our environment.

WORLD WILDLIFE FOUNDATION PLASTIC POLICY SUMMIT

WWF Hosts Second Plastic Policy Summit

WWF recently hosted their second Plastic Policy Summit, bringing together over 300 policymakers, businesses, NGOs, academics and activists. Building on last year's Summit, the event engaged stakeholders on efforts to reduce harm from plastic production and pollution, accelerate coordinated action, and implement and scale successful initiatives.

The Summit's plenary sessions demonstrated a universal commitment to acting on plastic pollution across all stakeholder groups. WWF announced public polling results showing that 85% of Americans want immediate political action to address plastic pollution. Senator Whitehouse echoed these sentiments in his keynote speech, advocating for congressional and administration leadership. The Coca-Cola Company and Mars, Inc. urged action on an ambitious, legally binding global plastics agreement that addresses the entire lifecycle of plastics. Leaders across sectors—including the EPA's own Karissa Kovner, standing in for Deputy Assistant Administrator Jennie Romer—shared progress made since the last Summit and

(continued on p.3)

(continued from p.2)

explained why they feel hopeful about collectively addressing plastic pollution. Environmental justice leaders from RISE St. James, Beyond Petrochemicals, and Azul called for stakeholders to reduce production, invest in safer alternatives, improve community education and ensure that fence line communities are consulted and included in all decision-making.

Through 12 breakout sessions, speakers and attendees dug into specific pathways to address plastic pollution. These conversations considered how to decrease harm from existing production and use of plastic, optimize product design, and build support for effective legislation at the local, state and federal levels. Attendees workshopped policy modeling scenarios, built connections to overcome capacity gaps, and brainstormed how to scale reuse and reduction initiatives. **Key themes from the breakouts include:**

1. **Additional data and research are important, but we already know enough to act now.** New evidence about plastics' impacts on human rights, human health, wildlife and the environment—as well as the impacts of plastic alternatives—is being published regularly, but we cannot afford to wait until we have every potential data point. Immediate action is both necessary and justified with the existing data.

2. **While there is no silver bullet solution, many successful legislative and voluntary efforts can already be replicated and scaled.** State policy efforts should be used as a foundation for new legislation, existing federal authorities can be activated to address the problem, and closed loop systems provide replicable models to cut plastic use and shift to reuse. Product redesign, paired with systems change, can reduce problematic materials in circulation, enable reuse and improve recyclability.

3. **Collaboration, coordination and public engagement are all vital to addressing the plastic pollution crisis.** All stakeholders have a role to play in addressing plastic production and pollution, and these groups must work closely together to scale successful initiatives and minimize duplication of efforts. Public buy-in will be critical, and initiatives should strive to include community education, engagement, and empowerment—particularly bringing in underrepresented and fence line communities who are disproportionately harmed by plastic production and pollution.

Photo Credits: WWF

Clockwise from top left: Senator Sheldon Whitehouse of Rhode Island was spotlighted as a Congressional Champion; attendees packed breakout rooms and engaged in discussion with peers and presenters; and panelists on the compelling "Centering Justice" plenary session included Reverend Yearwood (left), Shamyra Lavigne (center left), Sharon Levigne-Davey (center right), and Roland Gonzalez Pizarro (right).

To learn more, review this year's slides and resources and last year's Outcomes and Actions report which details immediate opportunities to decrease plastic pollution. For more information or to receive this year's summary, please reach out to Will Gartshore (will.gartshore@wwfus.org).

—Meredith Soward

REGIONAL PROJECT SUCCESS STORIES

R6—EPA Collaborates with University of Southern Mississippi on STEM Survey

The EPA's Gulf of Mexico Division has been collaborating with the University of Southern Mississippi on a science, technology, engineering and math outreach project that allows students to embark on a week-long science survey of the Gulf of Mexico. This immersive experience provides students with hands-on exposure to methodologies and techniques in the field of microbiology, marine biology, coastal ecology, oceanography, statistics and applied science. While on board of the USM's research vessel, the Point Sur, students work and learn alongside EPA scientists from a range of disciplines. The program also serves as a fruitful networking experience for students interested in marine research.

The STEM survey operates on a biannual basis since the inaugural trip in the summer of 2022, sending cohorts out every summer and winter session. While no two survey trips are the same, the week at sea for students includes basic elements that ground both the work and the lived experience. Students engage in lectures from EPA scientists and guided lab work as they would in a regular semester. As student researchers, they are also tasked with creating and facilitating independent research projects based on their experiences on the vessel.

During the weeklong survey trip, students visit a variety of near- and offshore sites in the eastern Gulf of Mexico. At these sites, students gain unique hands-on experience using techniques and equipment not readily available in a classroom setting. Some survey activities include deploying a conductivity, temperature, and depth instrument to collect water quality data. Other experiments involve collecting water samples at various depths for microplastic, bacterial and nutrient analysis in the lab. In addition, students deploy a manta net device for sea surface sampling of microplastics and planktons. Between collecting and analyzing samples, students conduct field surveys for marine mammals. Since the inception of the STEM Survey, students aboard the research vessel have observed a variety of marine mammals such as the common bottle nose dolphins, spinner dolphins and a sperm whale.

Photo Credit: USM

USM students receiving hands-on experience aboard the Point Sur deploying a manta net to collect surface microplastics (top) and counting and identifying microplastic particles as part of the STEM Survey (bottom).

The EPA and USM collaboration on the STEM Survey is a testament to the power of hands-on learning. Through their commitment to the program, students gain exclusive access to research focused on the complex ecosystems of the Gulf of Mexico. The EPA Gulf of Mexico Division is hoping to expand the STEM Survey by working with EPA Region 6. This expansion is aimed at engaging underserved students in Texas or Louisiana, exposing them to the opportunities in the field of marine research.

—Huy Vu, Ph.D.

REGIONAL PROJECT SUCCESS STORIES

R1- Updates from the Mystic River Watershed Association's Trash Free Mystic

The Mystic River Watershed Association (MyRWA), in collaboration with the EPA's Trash Free Waters Program, hosted three on-line workshops in 2021 to discuss reducing the harmful inflow of trash into the Mystic River and its tributaries. The goal of the sessions was to develop a shared trash-reduction campaign in the watershed. Participants included local municipal staff, community leaders, local nonprofit organizations, and volunteers, and the group identified both structural and non-structural paths forward. Born from the efforts of these workshops, MyRWA has been busy working on existing projects and planning for what's to come for combating trash in their communities and waterways.

Trash Assessment

To gather data on the origins of trash introduced through stormwater, MyRWA used the Visual Trash Assessment protocol in four cities around the watershed. The program assigned volunteers specific routes to evaluate trash on city streets according to a rubric for trash levels. Land use types were then overlaid using GIS to identify patterns.

Consistently across three surveys, findings showed that industrial, multi-family residential and commercial areas had higher trash levels than standard residential neighborhoods. A 2022 assessment revealed that commercial areas near fast-food establishments had a higher trash density than those without. Additionally, street segments that had public trash cans had less trash on streets than areas without trash cans. MyRWA plans to use this data to work with municipalities to inform policy changes and focus future intensive street sweeping efforts in land use types with higher trash levels.

Storm Drain Stewardship Program

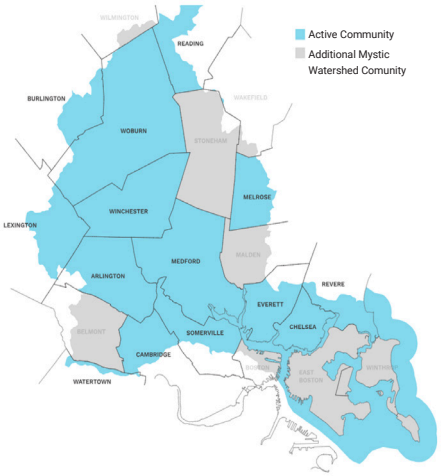
Directly inspired by the Trash Free Waters workshops, MyRWA applied for and received a $30,000 grant from the Massachusetts Department of Environmental Protection's MS4 (Municipal Separate Storm Sewer System) Municipal Assistance Grant Program to implement a storm drain stewardship program watershed wide. This Adopt-a-Drain program was offered to the members of the Mystic Stormwater Collaborative, a group of towns and cities in the watershed dedicated to the common goal of reducing stormwater pollution under MS4 requirements.

Using an already existing platform, the project created Adopt-a-Drain web portals in 12 municipalities, where residents can sign up for, and even give names to, storm drains they pledge to inspect and remove debris from. The goal of obtaining this buy in from the residents is increased public education and engagement in local water infrastructure issues. MyRWA assisted cities and towns by creating marketing and outreach materials that help publicize the project and educate residents on stormwater management issues. MyRWA also works with software developers to maintain the municipal databases and a watershed-wide map.

As of March 2024, the program has 838 residents claiming 1126 drains throughout the Watershed. The program received notable media coverage in The Boston Globe, The Somerville Times, and the Harvard Crimson.

Next Steps and Exploring Tangible Projects

In the past three years, the Trash Free Mystic team has been engaged in various feasibility analyses. These analyses aimed to assess the technical, financial and political viability of implementing tangible trash projects within the Mystic River Watershed. Such projects included the installation of inlet guards, increasing the number of public trash cans and enhancing street sweeping efforts.



The map shows the 12 municipalities of the Mystic Stormwater Collaborative, highlighted in blue, involved in the program. In these areas, residents pledge to "adopt" and monitor local drains.

MyRWA is currently seeking support for measures including the installation of hydration stations in parks and greenways; a source-reduction strategy; pilot programs aimed at identifying gaps in municipal trash management systems; and partnering with a local research lab on a sampling and education project around tire wear particles—a major, unregulated source of aquatic microplastics in urban areas.

Working in a 76 square-mile watershed with 22 municipalities, MyRWA has realized is that each city and town brings a different set of challenges and strengths to the problem of keeping trash out of waterways. This realization underscores the need for tailored approaches to effectively tackle trash-related issues at the local level.

—Sushant Bajracharya

REGIONAL PROJECT SUCCESS STORIES

Floatables Characterization at Two Flood Control Pump Stations: Updates from the Puerto Rico Integration Trash Free Waters Project

The Trash Free Waters program awarded $25,000 in grant funding to University of Puerto Rico-Mayaguez to support a pilot study of floatables at two Flood Control Pump Stations operated by the Puerto Rico Department of Natural and Environmental Resources. Aimed at supporting areas with heightened trash problems and infrastructure needs, the installation sites selected were focused in two communities with environmental justice concerns. To compare trash transport mechanisms in rainy-North and dry-South areas, pumps were placed at San Fernando in Cataño near San Juan Bay and Pichingo pump station in Salinas. Data were collected at both pump locations to inform the study looking to organize mitigation focus and identify pollution sources. The study was completed in December 2023 and results have shed light on questions surrounding impact of rain and urban density, as well as types of materials, sources of debris and frequency of plastic versus other materials making their way into the pumps.

Map of Puerto Rico showing the two Flood Control Pump Stations locations at San Fernando and Pichingo, highlighted by the yellow pins.

Sampling Methodology

Citizen science was incorporated by involving students and volunteers into the sampling process. They were trained on methodology and safety protocols before sampling, which involved counting and classifying each individual piece of trash removed from the pump. The classification was broken down by categories such as pieces of paper, disposable food utensils, and lids and grip rings at Pichingo. Similarly, at the San Fernando station, items were organized into classes such as plastic, cardboard and polyester. This study was carried out from September 7, 2022, to May 30, 2023, at Flood Control Pump Stations in San Fernando and from October 12, 2022, to November 28, 2023, in Pichingo.

Findings of the Study

Eighteen total sampling sessions were carried out over the timeline of the project at the San Fernando Flood Control Pump Stations. Items with the highest presence were straws (81 units/17.4% of trash), uncooked food packaging (57 units/12.2% of trash), plastic pieces (45 units/9.7% of trash), "ready to eat" food packaging (44 units/9.4% of trash), and cigarette filters (40 units/8.6% of trash). Items found in the samples were overwhelmingly made from plastic versus other materials. In this area, the study found that trash gained access to the stormwater system via poorly maintained inlet grates. The study also looked at demographic variables to try to paint a full picture of factors leading to trash in the drains. At this location, researchers determined the service area as 100% high-density urban with low- and middle-class housing.

Twenty sampling sessions took place at the Pichingo Flood Control Pump Station in Salinas, resulting in different findings to those in the North. The items found most often from sampling there were: pieces of polystyrene (169 units/22.8% of trash), pieces of wood (101 units/13.6% of trash), bottles (78 units/12.1% of trash), pieces of plastic (44 units/10.5% of trash), and cups (58 units/7.8% of trash). In contrast to the San Fernando service area, the Pichingo service area is low- to middle-density urban. Housing in this area is also mostly lower- and middle-income. Here, trash was found to be coming mostly from the drainage channel and trash dumped directly into the channel. Pichingo trash was primarily plastic as well, putting a spotlight on the intensity of plastic pollution overall.

Conclusions of the Puerto Rico Floatables Characterization Study

After finalizing the study this past December, some major conclusions have been made around contributing factors to trash ending up in pump stations. A few weeks later, the EPA and NOAA hosted a workshop at the Department of Natural and Environmental Resources in Puerto Rico on January 17-19, 2024. The workshop aimed to assess the progress in implementing the 2023-2028 Strategic Plan to Reduce Aquatic Debris in

(continued on p.7)

REGIONAL PROJECT SUCCESS STORIES

(continued from p.6)

Puerto Rico. Key stakeholders, including local government agencies, NGOs, and academia, actively participated. The first day focused on reviewing actions completed in 2023 and lessons learned. The second day focused on ongoing actions, new actions for 2024 and identifying potential resources. The third day featured a hands-on training session on this Marine Debris Monitoring and Assessment projects at the San Fernando and Pichingo pump locations.

Photos from the sampling process at San Fernando on March 20, 2023 (left) and Pichingo on October 24, 2023 (right).

During the workshop, the EPA provided a presentation about these findings and conclusions of the Puerto Rico Integration TFW Project, and a full report on the trash characterization project was published by the University of Puerto Rico in April 2024 In addition to the data-specific findings, conclusions highlight that advancing the implementation of the strategy continues to be challenging due to limited funding and lack of public awareness of funding and informational resources. To enhance awareness of available resources, the EPA Caribbean Office hosted the first Federal Grant Summit for Puerto Rico on February 9, 2024.

—Evelyn Huertas

NEW AND FORTHCOMING RESOURCES & PUBLICATIONS

The Plastic Predicament in National Parks: Insights from 5 Gyres' Plastic-Free Parks Project

In the realm of environmental stewardship, few places hold as much significance as our national parks. These vast expanses of natural beauty have long been sanctuaries for wildlife, havens for outdoor enthusiasts, and classrooms for environmental education. However, even these pristine landscapes are not immune to the scourge of plastic pollution.

A History of Progress and Setbacks

The National Park Service has a storied history of addressing environmental challenges within the 63 designated national parks. In 2011, 22 parks implemented an optional phase-out of the sale of single-use plastic water bottles. This initiative yielded remarkable results, eliminating millions of plastic bottles and significantly reducing plastic waste. This progress was reversed in 2017 by a change in policy, underscoring the possibility of changes in administration priorities and the role that statutory protections can play.

(continued on p.8)

NEW AND FORTHCOMING RESOURCES & PUBLICATIONS

(continued from p.7)

In response to this setback, 5 Gyres joined forces with partners to push for renewed efforts to address plastic pollution in national parks. Their collective efforts were successful in 2022 with the Department of the Interior's Secretarial Order 3407, which instructed the National Park Service to phase out the sale of single-use plastics across all park service units and federal lands within a 10-year time frame.

Community Science in Action
Armed with this newfound momentum, 5 Gyres launched the Plastic-Free Parks TrashBlitz initiative to assess the scope of plastic pollution trends within national parks and federal lands. This volunteer-driven endeavor aimed to crowdsource data on the items, materials and brands of trash present in national parks and federal lands across the country to lay the groundwork for informed policy decisions and localized solutions.

In 2023, TrashBlitz brought together hundreds of volunteers who conducted data collection and cleanup efforts at over 30 national park locations. From the iconic Yosemite National Park to the marshy landscapes of Assateague Island National Seashore, dedicated volunteers scoured these landscapes and uploaded their waste findings into the TrashBlitz research platform. The new TrashBlitz app enabled volunteers to track the coordinates of each piece of trash without access to cell service.

Insights Unveiled: Key Findings
The findings from TrashBlitz paint a sobering picture of single-use plastic pollution trends in our national parks:

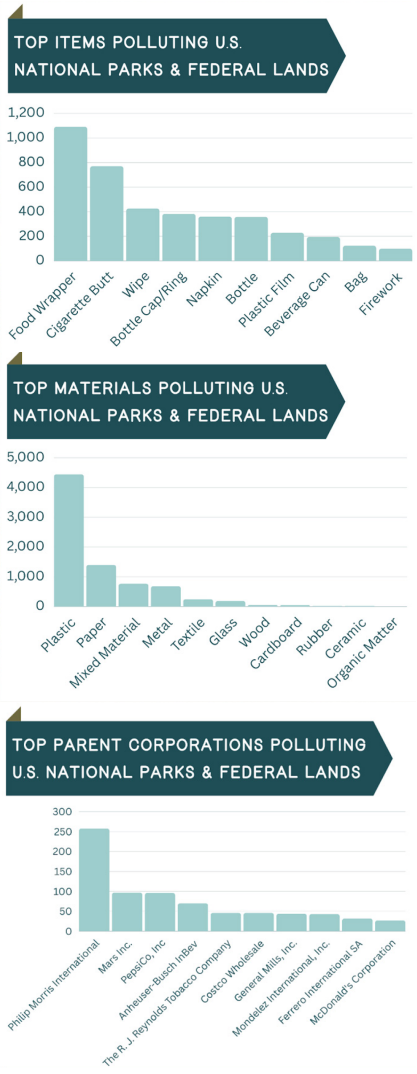
- Plastic accounted for 66% of all identifiable waste collected during the audits.
- The top 10 identifiable items were all single-use products, ranging from food wrappers to beverage containers.
- Broken plastic pieces, though not included in the items chart, constituted 25% of the total study, highlighting the insidious nature of plastic fragmentation in the environment.

Delving deeper into the data, TrashBlitz identified not only the brands, but also the top parent corporations responsible for producing the most prevalent plastic items found in national parks. Corporations like Philip Morris International and PepsiCo Inc. emerged as major contributors to plastic pollution, with their products found to be frequently littering park landscapes.

Turning Data into Action: Recommendations for Change
Armed with these insights, 5 Gyres and TrashBlitz partners put forth a series of recommendations aimed at addressing plastic pollution in national parks. These recommendations include:

- Urging the passage of legislation to reduce single-use plastics, including *The Reducing Waste in National Parks Act.*
- Increasing access to water refill stations and promoting reusable alternatives.
- Implementing reusable dining options to reduce food ware waste.
- Expanding waste audits across the National Park Service to inform targeted interventions.

A Call to Action
The Plastic-Free Parks TrashBlitz report serves as a canary in the coal mine to highlight waste trends in parks and a barometer to understand the most prevalent types of harmful plastics. It underscores the urgent need for collective efforts to safeguard our national parks from the scourge of plastic pollution. As stewards of these natural treasures, it falls upon us to heed this call, to advocate for change, and to ensure that future generations inherit a world free from plastic pollution. In the words of Dr. Win Cowger, Research Director



at the Moore Institute of Plastic Research, "We are stoked for the results of our extensive analysis...to better understand how to prevent trash from getting into the environment...and how we can respectfully recreate these special landscapes."

Learn how you can join the nationwide effort by partaking in a TrashBlitz at any national park or federal land this year on the Plastic Free Parks site. Together, let us rise to the challenge and embark on a journey towards a plastic-free future for our national parks and beyond.

— Alison Waliszewski, Policy & Programs Director, The 5 Gyres Institute

NEW AND FORTHCOMING RESOURCES & PUBLICATIONS

Upstream Reuse for Onsite Dining Library

Reuse is an important part of the solution for the trash-in-waterways problem. The non-governmental organization Upstream has created a Reuse for Onsite Dining Library. The library includes resources allows users to organize content based on target audience, type of resource and age of listing.

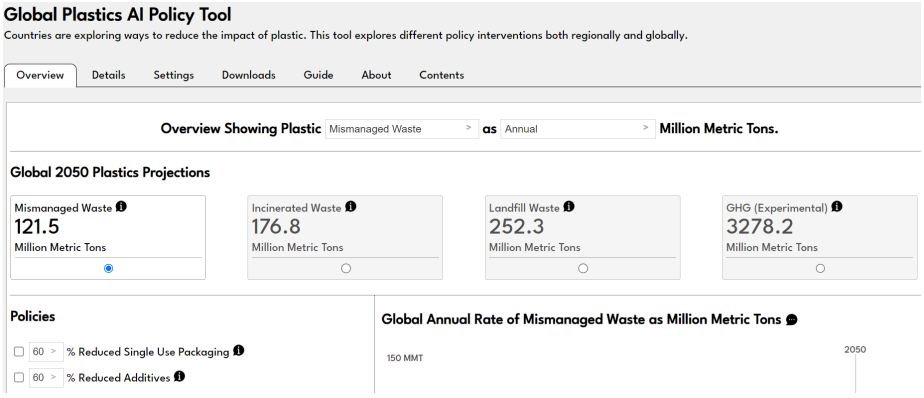
This resource will allow advocates for reusable foodware to access a plethora of factsheets and toolkits, model policies, case studies, trackers and more to launch or reinforce their reuse efforts.

Upstream
We heart reuse.

Reuse for Onsite
Dining Library

Look for the Reuse Library on Upstream's website!

UCSB & Berkeley Global Plastic Policy Tool



Part of the tool's user interface, which can be found in its entirety at global-plastics-tool.org.

Dr. Doug McCauley from University of California, Santa Barbara and his team have developed a Global Plastic Policy Tool. The tool is an open-source, interactive model where users can explore regionalized data about the production, use and fate of plastic and the effectiveness of potential policies world leaders can potentially use to greatly reduce plastic pollution. Users can see the combined effects of possible policies as well.

The tool harnesses a novel integration of artificial intelligence in policy impact forecasting for the plastics system and has the potential to focus policymaking on those interventions that have the greatest potential impact.

IN THE NEWS

Update to the TFW Webinar Series "Plastics & Climate" on April 4

Trash Free Waters hosted a conversation on Plastics & Climate: Exploring What We Know, Impacts on Vulnerable Communities, and How to Solve the Problem. The webinar featured a panel discussion of three speakers:

- Alice Zhu, PhD Candidate & Vanier Scholar at the University of Toronto, Co-Founder of Plastics & Climate Project
- Dr. John M. Doherty, Science and Policy Analyst at Environmental Law Institute
- Margaret Spring, Chief Conservation and Science Officer at Monterey Bay Aquarium

The speakers provided their expertise to explore the topic from different perspectives. After an overview of available science at the nexus of plastic and climate change, the discussion moved to policy options highlighting new and existing channels to combat the issue through regulation. The disproportionate impacts on disadvantaged communities were explored and technical solutions were offered by highlighting opportunities to align plastic and climate interventions. The conversation generated numerous questions from the large number of attendees.

Watch the recording and view slides on the TFW Webinar homepage.

IN THE NEWS

Fourth Session of the Negotiations for an Internationally Legally Binding Instrument on Plastic Pollution

During the United Nations Environment Assembly in March 2022, a historic decision was reached to pursue a legally binding commitment to reduce plastic pollution by countries across the globe. The Intergovernmental Negotiating Council was created and tasked with generating the tool and bringing together world leaders in policy and science to find common ground for compromise and agreement. The INC has met three times already, with the most recent being in Nairobi, Kenya, from November 13-19, 2023.

The fourth negotiating session was held in Ottawa, Canada, from April 23-29, 2024. The recordings of previous sessions and the forthcoming recordings for the fourth negotiating session (when they become available) will be posted on UNEP's webcast page. Additionally, provisional agendas, rules, and a revised draft text of the treaty can be accessed on the official documents page.

Photo Credit: United Nations

NC-3 convened at UNEP headquarters in Nairobi, Kenya.

EPA Begins Process to Prioritize Five Chemicals for Risk Evaluation Under Toxic Substances Control Act

The EPA announced in December 2023 that it would prioritize five chemicals for risk evaluation under the Toxic Substances Control Act (TSCA)'s 2014 Workplan. The press release provides context on use of each chemical under review, listing all five as "probable human carcinogens":

- Acetaldehyde (CASRN 75-07-0) is primarily used in the manufacturing and processing of adhesives, petrochemicals, and other chemicals, as well as intermediates for products like packaging and construction materials. Exposure to acetaldehyde may result in a range of health effects such as irritation of the respiratory system.
- Acrylonitrile (CASRN 107-13-1) is primarily used in the manufacturing and processing of plastic materials, paints, petrochemicals and other chemicals. Exposure to acrylonitrile may result in a range of health effects such as irritation of the respiratory system.
- Benzenamine (CASRN 62-53-3) is used in the manufacturing and processing of dyes and pigments, petrochemicals, plastics, resins and other chemicals. Exposure to benzenamine may result in a range of health effects such as adverse effects on the blood, fetal development, and reproduction.
- 4,4'-Methylene bis (2-chloroaniline) (MBOCA) (CASRN 101-14-4) is used in the manufacturing and processing of rubbers, plastics, resins and other chemicals. There is extensive data that demonstrate exposure to MBOCA may damage genetic material in cells, potentially leading to other adverse health effects, particularly when exposure occurs to infants and children.
- Vinyl Chloride (CASRN 75-01-4) is primarily used in the manufacturing and processing of plastic materials like polyvinyl chloride (PVC), plastic resins, and other chemicals, many of these materials are used for pipes, insulating materials, and consumer goods. This chemical was also involved in the Norfolk Southern train derailment in East Palestine, Ohio. Exposure to vinyl chloride may result in a range of health effects such as liver toxicity.

The comment period closed on March 18, 2024, and the EPA's decisions on any designation of these five chemicals as High-Priority Substances under TSCA are forthcoming.

IN THE NEWS

Senate Committee on Environment & Public Works Hearing on Microplastics in Water

The US Senate Committee on Environment & Public Works held a hearing titled "Understanding the Presence of Microplastics in Water" on February 27, 2024. Led by Chairman Tom Carper of Delaware, EPW's work covers many environmental topics, including water pollution. Given the large and growing evidence related to the prevalence and impacts of microplastics in our waters and the need for continued research and concerted action, EPW decided to host this hearing. Experts in the field provided testimony to the Subcommittee on Chemical Safety, Waste Management, Environmental Justice and Regulatory Oversight.

The panel featured testimony from three topical experts from around the United States. Pictured here are Dr. Susanne Brander (left), Dr. Sherri Mason (middle), and Mr. Brent Alspach (right).

The panel consisted of three speakers: Susanne M. Brander, Ph.D., Associate Professor of Oregon State University, College of Agricultural Sciences, Department of Fisheries, Wildlife, and Conservation Sciences; Brent Alspach, P.E., Vice President and Director of Applied Research at Arcadis; and Sherri A. Mason, Ph.D., Director of Sustainability, Penn State Behrend.

Dr. Brander provided insights on the value of university-based research and highlighted the latest information on the presence of microplastics in drinking and wastewater, as well as impacts to human and ecosystem health.

Mr. Alspach provided viewpoints from his involvement in the American Water Works Association and as Principal Investigator of studies funded by the Water Research Foundation: "Developing Strategic Consumer Messaging for Microplastics in Drinking Water Supplies" and "Fate of Microplastics in Drinking Water Treatment Plants." He provided information about the widespread prevalence of plastic in our natural and manufactured environments, as well as the need for congressional support for developing standardized analytic methods for microplastic study.

Dr. Mason spoke from her purview as a chemist and one of the first scientists to consider the plastic problem in freshwater. Her suggestions were multifaceted: source reduction and mitigation through various pathways, including Extended Corporate Responsibility, more commonly known as "Extended Producer Responsibility", to increase product recyclability and shift away from the most harmful chemicals associated with plastic production.

Major takeaways from the panelists included:

- The need to implement Extended Corporate Responsibility policies to promote product recyclability, decrease usage of the most hazardous plastics and encourage smarter plastics;
- The importance of using the actions in EPA's National Recycling Strategy to help transition to a true, comprehensive national waste management system;
- Supporting waste management strategies such as improved recycling, chemical simplification and moving towards globally touted approaches for circularity and safely and sustainably designed materials and products; and
- The critical need for congressional support for research on occurrence, toxicity, and treatability of microplastics.

IN THE NEWS

Upgrades for PFAS Protection Efforts

Final PFAS National Primary Drinking Water Regulation Announced by the EPA
Perfluoroalkyl and Polyfluoroalkyl Substances, or PFAS, are defined by the National Institute of Environmental Health Sciences as a "large, complex group of synthetic chemicals that have been used in consumer products around the world since about the 1950s [as ingredients] in various everyday products." Because of their unique carbon bonds, they take a long time to breakdown in the environment and cause lasting harm to human health. The newly adopted rule allow regulators greater access to addressing the harmful impacts of PFAS to humans across the U.S.

"EPA finalized a National Primary Drinking Water Regulation (NPDWR) establishing legally enforceable levels, called Maximum Contaminant Levels (MCLs), for six PFAS in drinking water [and] expects that over many years the final rule will prevent PFAS exposure in drinking water for approximately 100 million people, prevent thousands of deaths, and reduce tens of thousands of serious PFAS-attributable illnesses," the April 10th press announcement from the EPA stated. The rule has tiered enforcement timelines, the soonest being public water systems monitoring and reporting PFAS by 2027.

Vice President Kamala Harris visits Pittsburgh, PA to announce $5.8 billion for water infrastructure improvements.

Along with the ruling, the EPA announced a $1 Billion commitment of BIL funding allocation to PFAS testing and treatment for both public and private water systems. See the full rule announcement on EPA's website.

Historic Commitments to Clean Water
In February, Vice President Harris and EPA Administrator Michael S. Regan traveled to Pittsburgh to announce the $5.8 billion commitment from the Biden Administration's Investing in America agenda. This historic funding is slated for investments in drinking water and clean water infrastructure upgrades. Just a slice of the over $50 billion allocated for water infrastructure, this funding has been rolling out to states, Tribes and territories for much needed improvements and expansions.

Vice President Harris highlighted the need for such improvements in communities across the country dealing with a variety of challenges, especially lead pipes. "With this investment, we are continuing our urgent work to remove every lead pipe in the country and ensure that every American has access to safe and reliable drinking water," she said in her remarks.

The investment will come through the Clean Water and Drinking Water State Revolving Funds, both well-established channels for funding water projects in the United States. This commitment continues the mission of the Bipartisan Infrastructure Law which has awarded over $21.9 billion to water infrastructure projects since 2022.

National Academies of Science to Host Roundtable Series on Plastics

Creating space for a national, multi-sector common ground to discuss plastic over its full lifecycle, the National Academies of Science hosted the first roundtable session on March 28-29, 2024. NAS describes the event on their webpage as, "a venue for federal agencies and cross-disciplinary experts in academia, industry and non-governmental organizations to discuss priorities for future research initiatives and promising avenues for averting the stream of plastics into the environment."

Goals of the roundtable include addressing central topics of the national plastics issues: production, material and product design, waste generation management, environment and health impacts, and data collection, management and modeling.

Join the Trash Free Waters Email List

Join the TFW contact list to receive the *Flow* newsletter, the *Rapids* monthly email blast, and TFW webinar announcements in your inbox! Sign up today!