The Rapids

US EPA's Trash Free Waters Monthly Update

July 2022

epa.gov/trash-free-waters

Introduction

Hello all,

I hope you had a nice Fourth of July!

On June 20, Canada announced a **ban** on the manufacture and import of single-use plastics including checkout bags, cutlery, foodservice ware, ring carriers, stir sticks and straws.

On World Oceans Day, the U.S. Interior Department **announced** the phase out of single-use plastic products on U.S. public lands by 2032. The Department was also directed to identify nonhazardous, environmentally preferable alternatives to single-use plastic products, such as compostable, biodegradable, or 100% recycled materials.

In addition, **Colorado** and **California** just passed extended producer responsibility laws for packaging.

Please continue to share any upcoming events with Layne Marshall (**marshall.layne@epa.gov**) so that the Trash Free Waters team can advertise these opportunities with all of you on the first Monday of each month.

Happy Plastic-Free July!

Romell Nandi
US EPA
Trash Free Waters National Program Lead

EPA Announcements

Seabin Trash Capture Devices Installed in the Delaware River Watershed
On June 7, EPA and the Partnership for the Delaware Estuary introduced a new project studying the effectiveness of a network of floating trash capture devices in the Delaware River watershed. One Seabin was installed in May 2022 and collected 890 pounds of plastic trash within a 30-day period, 90% of which was microplastics. A second Seabin will be installed at another Philadelphia location. EPA's Trash Free Waters Program provided $25,000 to support the project.

"Geauxing Green" in New Orleans

Thanks to the generous support and partnership of the Barataria-Terrebonne National Estuary Program (BTNEP), organizers were able to increase overall waste diversion from the 2022 French Quarter Festival by more than 25% in comparison to the 2019 Festival with the addition of composting, glass recycling, donations and upcycling. In 2022, recycling efforts amounted to 30,000 pounds of recycled waste, a 119% increase from 2019 with 13,500 pounds. EPA's Gulf of Mexico Program provided over $450,000 to kickstart this effort in 2020. Data and lessons learned from this event will be used in the development of a "Sustainable Festival Planning Guide."

Funding Opportunities

America the Beautiful Challenge 2022 Request for Proposals

The National Fish and Wildlife Foundation (NFWF), through anticipated cooperative agreements from the Department of the Interior, Department of Defense, and the Department of Agriculture, is pleased to announce the launch of the America the Beautiful Challenge (ATBC) 2022 Request for Proposals. ATBC proposals should address conservation and public access needs that showcase cumulative benefits to fish and wildlife, carbon sequestration and storage benefits, engage with and benefit underserved communities, support community access to nature, and help safeguard ecosystems through conservation, resilience-focused and nature-based solutions. Approximately $85 million will be available for 2022. **The deadline for submissions is July 21.**

FY22 EPA Regional Source Reduction Assistance Grants

EPA Regions 3, 4, 7, 8, 9 and 10 are issuing a RFA from eligible entities to implement pollution prevention projects through the Source Reduction Assistance grant program. Source Reduction Assistance grants can support research, investigation, experiments, surveys, study, demonstration, education, and training using source reduction approaches (also known as "pollution prevention," or "P2"). **The deadline for submissions is July 22.**

The FY22 Tribal Solid Waste Grant (EPA-OLEM-ORCR-22-03)

This funding opportunity has been made available to assist tribes with conducting solid waste management activities that support establishing sustainable solid waste management programs. Types of eligible applicants include: (a) an Indian tribal government, or (b) an intertribal consortium or consortia. Approximately 7-10 grants will be awarded. Each application may request up to $100,000. **The deadline for submissions is July 29.**

Sea Grant Marine Debris Challenge Grant

Approximately $16,000,000 will be available to support innovative research to application projects that will address the prevention and removal of marine debris. Approximately 5-12 projects of up to three years duration may be funded. Matching funds will not be required for this competition. Eligible applicants are Sea Grant College Programs, Sea Grant Institutional Programs, and Sea Grant Coherent Area Programs. Other interested entities must submit proposals in partnership with and through a relevant Sea Grant program. An **applicant webinar** will be hosted on July 12 at 4:30PM ET. **Letters of Intent must be submitted by August 9.**

Sea Grant Marine Debris Community Action Coalitions

Approximately $3,000,000 will be available to support the creation of coalitions and partnerships to address marine debris prevention and removal. This competition is open to Sea Grant programs only and

will support approximately 10-15 Marine Debris Community Action Coalitions. An **applicant webinar** will be hosted on July 12 at 4:30PM ET. **Letters of Intent must be submitted by August 16.**

EPA Small Business Innovation Research (SBIR) Program

EPA's 2022-2023 SBIR Phase I Solicitation has officially been released to develop innovative technologies that protect human health and the environment. EPA is calling for small businesses to apply for Phase I awards up to $100,000 to demonstrate proof of concept in the following topic areas: Clean and Safe Water, Air Quality and Climate, Homeland Security, Circular Economy/Sustainable Materials, Safer Chemicals, and Risk Assessment. **The deadline for submissions is August 23.**

Translating Coastal Research into Application

The U.S. Coastal Research Program (USCRP) is a multi-agency led effort to coordinate Federal activities, strengthen academic programs, and address coastal community needs. Proposals should address the needs or gaps that have been identified by or are evident from USCRP-funded projects, to move research project findings toward application (i.e., the translation of societally-relevant coastal and estuarine physical processes science to science-based solutions that address coastal community needs related to resilience). Approximately $4,000,000 will be available through this opportunity with individual awards between $150,000 and $500,000. **The deadline for submissions to NOAA is August 30.**

Youth Innovation Challenge

The Youth Innovation Challenge is a program of the Global Environmental Education Partnership. Young people (ages 15–30) around the world can use this opportunity to share innovative, feasible, and research-informed solutions to tackling marine debris, using environmental education as a key strategy. Winning solutions will receive global recognition and a $1,000 USD prize. An **applicant webinar** will be hosted on July 21 at 9AM ET. **The deadline for submissions is September 1.**

Environmental Justice Data Fund

The Environmental Justice Data Fund (EJDF or "the Fund") is an $8 million fund, created and seeded by Google.org, that aims to help frontline communities that have been historically underserved and disproportionately impacted by climate change and environmental injustice. The Fund will enable frontline communities in the United States to use data to unlock resources, increase their access to Justice40 benefits and federal infrastructure funding, and advocate for new policies that empower communities to address past environmental harm and pave the way to a more sustainable, climate-resilient future. **Applications are being accepted on a rolling basis, but the final deadline for submissions is September 16.**

FY22 NOAA Marine Debris Removal under the Infrastructure Investment and Jobs Act

The NOAA Marine Debris Program will award up to $56 million through funding provided by the Bipartisan Infrastructure Law. This competition focuses on two priorities: removing large marine debris and using proven interception technologies to capture marine debris throughout the coastal United States, Great Lakes, territories, and Freely Associated States. These two priorities will be reviewed as separate, parallel tracks with different application requirements. Federal requests for Priority 1 must be between $1,000,000 to $15,000,000. Federal requests for Priority 2 must be between $100,000 to $1,000,000. An **applicant webinar** will be hosted on July 14 at 4PM ET. **The deadline for submissions is September 30.**

PADI AWARE Mission Hub Community Grants

This grant is open to funding projects that align with PADI's Blueprint for Ocean Action, in direct support of the United Nations Decade of Science for Sustainable Development. Project proposals should focus on the following areas: Marine Debris, Vulnerable Species Protection, Coral Reefs, Climate Change, and

Marine Protected Areas. Grantees will be selected based on conservation need, community feedback and budget. The maximum grant amount is $10,000. **The deadline for submissions is October 22.**

Upcoming Events

TFW Ninth Webinar: Illegal Dumping - Best Practices for Addressing a Persistent and Complex Problem
July 13th (1-2PM ET), virtual
This webinar will provide an overview of the problem of illegal dumping, what we know about the underlying causes, and the challenges that communities face in responding to- and preventing illegally dumped waste. Guest speakers will share insights and lessons learned from their experiences researching the issue or implementing programs to mitigate illegal dumping.

National Working Waterfront Network Conference
July 19th - 21st, Boston, MA
The National Working Waterfront Network's Conference brings together people from across North America to connect with one another and showcase initiatives that protect and promote working waterfronts. The purpose of this conference is to unite stakeholders and initiate innovative, successful, and timely solutions to waterfront and waterway issues. Working waterfronts include waterfront lands, waterfront infrastructure, and waterways that are used for water-dependent activities, such as ports, marinas, small recreational boat harbors, and fishing docks.

International Conference on Plastic Recycling and Waste Management
July 21st - 22nd, Rome, Italy and virtual
The International Conference on Plastic Recycling and Waste Management aims to bring together leading academic scientists, researchers and scholars to exchange and share their experiences and research results on all aspects of Plastic Recycling and Waste Management. It also provides a premier interdisciplinary platform for researchers, practitioners, and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges and solutions. A **similar conference** will be held August 30-31st.

Plastics in the Coastal Zone Webinar
July 27th (1:30-3PM ET), virtual
This Blue Flag USA Summer Series webinar will build off previous outreach and debris management conversations to look at approaches to addressing plastics in the coastal zone. Speakers include: Layne Marshall, EPA Trash Free Waters and Ellie Moss, Moss & Mollusk Consulting. Presentations will be followed by a roundtable discussion between speakers, participants, and the moderator, Kimberly Danesi, Chief Operations Officer of Galveston Island Park Board of Trustees. Dialogue will cover the impacts, challenges, and next steps for macroplastic debris management. Registration is free and open to all.

Save the dates for future months...

24th Biennial Conference on the Biology of Marine Mammals
August 1st - 5th, West Palm Beach, FL and virtual
The Society for Marine Mammalogy (SMM) holds its conference every two years to promote science, collaboration, and improve the quality of research on marine mammals around the globe. SMM2022 is a

hybrid conference under the theme, "A Sea Change: Transforming Science into Stewardship." The conference will highlight the value of diversity in all forms in marine mammal science, from our multidisciplinary approaches to the improvement of diversity in our field.

NAWM Annual State/Tribal/Federal Coordination Meeting

August 15-19th, Shepherdstown, WV

The National Association of Wetland Managers (NAWM) is hosting their annual coordination meeting focusing on "Protecting Waters in a Time of Rapid Change." The purpose of this annual meeting is to support state and tribal wetland program managers and other wetland professionals as they respond to challenges in the coming year. Focus areas for this year's meeting include: Engaging Under-resourced Communities in Wetland Protections, Continuity and Mentorship for Staffing Changes, Finding Funding for Climate Resiliency, Recent Regulatory Changes and Updates, Advances in Tools and Technology, and Effective Outreach and Communications.

World Water Week

August 23rd - September 1st, Stockholm, Sweden and virtual

World Water Week is the leading annual event on global water issues, organized by Stockholm International Water Institute since 1991. Together with organizations from all sectors and all regions of the world, we find solutions to the world's greatest water-related challenges. Within the overall theme of "Seeing the unseen: The value of water", conference sessions will be grouped under three theme headings: the value of water for people and development, the financial and economic value of water, and the value of water for nature and climate change.

7th International Marine Debris Conference

September 18th - 23rd, Busan, Republic of Korea

7IMDC will build on the momentum of past IMDCs by bringing together governments, industry, academia, civil society, and all relevant stakeholders, to discuss the latest science, strengthen collaborations, find solutions and catalyze action to address the urgent global problem of marine litter and plastic pollution. Technical session tracks range from monitoring and research to circularity and international collaboration.

International Solid Waste Association World Congress 2022

September 21st - 23rd, Marina Bay Sands, Singapore

The 2022 ISWA World Congress will be hosted by the Waste Management & Recycling Association of Singapore. The Congress has an overall theme of "Don't Waste Our Future" and will include keynote and plenary sessions by invited speakers, and concurrent sessions with oral and poster presentations by the participants. This will serve as an opportunity and platform for business leaders and entrepreneurs, technology developers, solutions providers, and policy makers to gather and discuss key trends and the opportunities.

Virginia Marine Debris Summit 2022

September 27-28th, Virginia Beach, VA

The Virginia Coastal Zone Management Program and Clean Virginia Waterways will host the fourth Virginia Marine Debris Summit in September 2022 at the Virginia Aquarium and Marine Science Center. This summit will provide attendees with a face-to-face opportunity to build new partnerships and learn from the latest research in crafting successful behavior change campaigns, research about plastic pollution, and how to get involved in implementing actions found in the VA Marine Debris Reduction Plan.

Aquaculture Europe Conference 2022

September 27-30th, Rimini, Italy

The theme of this year's Aquaculture Europe Conference is "Innovative Solutions in a Changing World." It will feature a Microplastics and Litter session to call attention to the importance of studying this issue, creating solutions, and implementing measures that help to tackle it.

Reuse Minnesota's REUSE22 Conference

October 3-4th, Minneapolis, MN

REUSE22 educates, inspires, and connects professionals in the reuse, repair, and rental sectors. The event offers informative keynotes, breakout sessions, and networking opportunities geared toward strengthening and expanding the reuse economy. REUSE22 will bring together thought leaders and experts across multiple disciplines, including business professionals, nonprofit agencies, government workers, and students.

Sustainable Packaging Coalition Advance 2022

October 3-5th, Atlanta, GA

Sustainable Packaging Coalition's Advance 2022 Conference will feature collaboration examples from a range of leaders in environmental sustainability, showcasing better manufacturing practices, responsible sourcing, forest and water conservation, climate strategies, more efficient recovery and composting practices and systems and packaging technology and production. Workshop themes include reuse/refill systems, compostable packaging, flexible packaging and circularity, chemical recycling, and more.

2022 Keep Florida Beautiful Annual Conference and Awards Social

October 19th-21st, New Port Richey, FL

Keep FL Beautiful is excited to be working alongside host affiliate Keep Pasco Beautiful to bring you an innovative and engaging conference experience. This conference is for affiliates, board members, community partners, local governments, state agencies, elected officials, businesses, and like-minded organizations.

In case you missed it...

Marine Litter and Plastic Pollution Legal Frameworks Course

United Nations Information Portal on Multilateral Environmental Agreements (INFORMEA) just launched a new course on Marine Litter and Plastic Pollution Legal Frameworks for World Oceans Day. The course is available after creating a free account.

Global Plastics Outlook - Policy Scenarios to 2060

This webinar was recorded by The Organization for Economic Co-operation and Development (OECD). Global plastics use is projected to nearly triple by 2060 from 2019 levels due to a growing global economy and population. This webinar includes a presentation of the key projections and two policy packages to bend the plastic curve, for a better understanding of the environmental benefits and economic consequences of adopting more stringent policies.

Natural and Microplastic Debris Management in Sediment Webinar

The June edition of Blue Flag USA's Summer Series focused on natural and microplastic debris management. Guest speakers David Hewett and Christy Ferguson, Town of Holden Beach; Judd Mahan, TetraTech; and Russell Cole, City of Galveston provided presentations on the topic.

The Microplastics Breakdown

MICROPLASTICS AND PUBLIC POLICY

Americans Frustrated That Plastic Waste Ends Up in Oceans, Survey Finds

Jamie Hailstone Contributor

This Forbes magazine article summarized a **survey** conducted by the World Wildlife Fund in association with Corona Insights, a market research and consulting company. One of the main findings reported was that more than three quarters of Americans are increasingly frustrated that plastic waste generated in the United States ends up in oceans. The article indicated that 86% of the respondents said they were most concerned about plastic waste's impacts on marine life; 76% were concerned about water quality impacts. The overwhelming majority (86%) was described as agreeing that the U.S. recycling system needs improvement, and a similar number (84%) said the economy needs to embrace reusing and recycling plastics. Another significant finding was that 23% saw it as a top-five-issue that Congress should address, which was reported as being up from 16% in 2020.

A Framework to Assess the Impact of Flooding on the Release of Microplastics from Waste Management Facilities

Marta G. Ponti, Deonie Allen, Christopher J. White, Douglas Bertram, Christine Switzer

This study observed that floods' impacts on waste management facilities can induce the release of micro pollutants to freshwater systems that in turn affects the marine environment, agricultural ecosystems, and human health. Almost 30% of the total waste managed in the UK in 2019 was described as being comprised of "Microplastic Releasers (MPRs)": a selection from the European Waste Catalogue code, comprised of 1) plastic waste, 2) synthetic textile and rubber waste, and 3) mix and undifferentiated materials which are likely to contain different sizes and types of plastic items, synthetic cloths, and rubber components. In this study, the authors proposed a methodology that entailed combining waste received by waste management facilities with flood extent maps for fluvial (produced by the action of a river or stream) and pluvial (produced by rain) sources; and the likelihood of flooding (5, 10, 20, 50, 100, 200, 500 and 1000 years) at the national level. This methodology was applied to the UK to estimate the quantity of waste at risk of flooding which could lead to MPs' mobilization in flood waters. The results indicated that impacts were significantly higher for pluvial flooding compared to fluvial flooding. The authors concluded that further studies at the local scale are necessary to establish site-specific mitigation measures and containment systems. The authors also suggested that, depending on the localities, stakeholders and policymakers could rethink the location of existing and new waste management facilities outside flood-prone areas.

EXPOSURE TO AND EFFECTS OF MICROPLASTICS ON ANIMALS

Co-Contaminants of Microplastics in Two Seabird Species from the Canadian Arctic

Roxana Sühring, Julia E.Baak, Robert J. Letcher, Birgit M.Braune, Amila de Silva, Cody Dey, Kim Fernie, Zhe Lu, Mark L. Mallory, Stephanie Avery Gomm, Jennifer F. Provencher

The authors investigated the occurrence and pattern of organic and inorganic co-contaminants of microplastics in two Canadian Arctic seabird species: the northern fulmar and black-legged kittiwake. In early 2013, ten northern fulmars and 11 black-legged kittiwakes were collected from Prince Leopold Island and eggs were collected from all nests of female birds sampled; samples of fulmars were also collected from the Labrador Sea in mid-July 2015. Nine plastic additive groups, including legacy persistent organic pollutants (POPs), were analyzed in different bird tissue types to examine the relationship between plastic ingestion and chemical contaminants. The fulmars were found to have higher levels of plastic contamination and known emerging organic compounds, whereas kittiwakes were found to have higher concentrations of legacy POPs. The authors observed that fulmars, the species with the much larger foraging range, may be acting as long-range transport vectors for plastic-associated pollution. The study

results suggested a potential connection between plastic additive contamination and plastic pollution burdens in the bird stomachs, which the authors asserted highlighted the importance of treating plastic particles and plastic-associated organic additives as co-contaminants rather than separate pollution issues.

Virgin and UV-Weathered Polyamide Microplastics Posed No Effect on the Survival and Reproduction of Daphnia Magna

Alla Khosrovyan and Anne Kahru

This study focused on the toxic potential of virgin and UV-weathered polyamide, identified as one of the commonly used plastics worldwide. Polyamide microplastic (MP) particles were subjected to UV-weathering in wet conditions over 26 days in a customized irradiation chamber. The authors noted that the color of the virgin particles changed from white to light yellowish/brownish after being subjected to the artificial aging practice and initially buoyant particles floating on the water surface sank to the bottom by the 10th day of irradiation. Additionally, the particles became susceptible to breaking into small pieces when smashed manually by a stone pestle. The toxicity of virgin and UV-weathered polyamide MP was evaluated via examining the reproduction of the water flea *Daphnia magna* in natural lake water spiked with MP. The results of the tests showed no adverse effects of either virgin or UV-weathered polyamide MP on the reproduction of *D. magna*. The authors observed that the standard test endpoints (survival and reproduction) may still miss long-term adverse effects and that the toxicity of pure MP particles should still not be overlooked because in the environment, they adsorb contaminants and/or undergo degradation and this may have corresponding consequences for the biota.

EFFECTS OF MICROPLASTIC EXPOSURE ON PLANTS

Effects of Microplastics on Lentil (Lens Culinaris) Seed Germination and Seedling Growth

Y. Sanath, K. De Silvaa, Uma Maheswari Rajagopalan, Hirofumi Kadono, Danyang Li

This study investigated the effect of polyethylene microplastics (MPs) on the germination of lentil seed and seedling growth using the Biospeckle Optical Coherence Tomography (bOCT). According to the authors, they had previously demonstrated that this technique was effective in visualizing the internal activity of plants. Effects were assessed using the bOCT technique and these results were compared with conventional measurements such as germination viability, germination rate, shoot length, root length, fresh and dry weights of seedlings, and enzyme activities. Statistically significant differences were observed using the bOCT just after 6 hours of exposure under all of experimental conditions. In contrast, the authors found that no significant effect was observed until 2 days of exposure using the conventional parameters. The study authors described their overall results as demonstrating for the first time that MPs could hinder the internal activity during germination of the seeds; they attributed this hindrance as possibly resulting from the physical blockage of pores leading to stunted growth at later stages.

If you'd like to see your posting in this email, please email Marshall.Layne@epa.gov with any suggestions!