

THE FLOW OF... TRASH FREE WATERS

ISSUE 9

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This newsletter is intended to provide the latest information to all of our Trash Free Waters (TFW) partners and friends.

The Flow...of Trash Free Waters is our opportunity to highlight recent successes, as well as shine a spotlight on news and other related items. It is produced by the U.S. Environmental Protection Agency, with support from CSRA. Mention of commercial products, publications, or Web sites in this newsletter does not constitute endorsement or recommendation for use by EPA, and shall not be used for advertising or product endorsement purposes.

HOW'S IT FLOWING?

6th International Marine Debris Conference (6IMDC)

In March, people came to San Diego from all over the world to discuss a wide range of marine debris topics—from communications strategies and microplastics research to industry efforts and global coalition building. The conference was hosted by the UN Environment Programme and the US National Oceanic and Atmospheric Administration (NOAA).

As an ORISE Research Participant for the Trash Free Waters (TFW) Program, I presented a poster about how TFW approaches the problems related to trash pollution. I started by asking, “How should one approach a puzzle? Study the picture on the box first, so the end goal is in mind? Group the pieces by characteristics so they are easier to apply when it’s time? Build the framework edge or focus on the central image?”

TFW asks the same questions when tackling trash pollution and uses every technique to connect the pieces. TFW starts by building partnerships in communities and with other

US EPA TRASH FREE WATERS PROGRAM: INTEGRATION - THE HOLISTIC PICTURE OF TRASH POLLUTION



place-based programs, such as the Urban Waters Federal Partnership or the National Estuary Program. With a focus on community-driven projects, the level of engagement is often high and the effort can shift from reactive to forward-looking when projects are designed in an integrated way. For example, the Trash Free Trinity Adopt-A-Spot program aligns aquatic trash prevention and stormwater management

with community engagement in an area upstream from the Galveston Bay Estuary Program. The Trash Free Waters Program uses a holistic approach for aquatic trash prevention and reduction. Each puzzle piece has a place, but finding the right fit for a project takes careful consideration of its many parts and connections.

—Emma Maschal
ORISE Participant
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The 6IMDC was held on March 12-16 in San Diego. The conference examined how marine debris can harm natural resources, human health, and national and local economies. The conference also celebrated and encouraged further global innovation, collaboration, and action.

More than 700 attendees from over 50 countries shared lessons learned, promoted international dialogue, exchanged ideas, and discussed research methods and results. The conference included 74 technical sessions, 400 oral presentations, and 170 posters.

Learn more about the great presentations, posters, speakers, technical sessions, and attendees at internationalmarinedebrisconference.org. In addition, highlights from the 6IMDC will be featured in an upcoming Virtual Special Issue of [Marine Pollution Bulletin](#), a peer-reviewed scientific journal.

Microplastics and Corals in the Caribbean

EPA research plays a critical role in understanding the fate, transport, and effects of microplastics in the environment. In addition to the Microplastics Expert Workshop of June 2017 (see www.epa.gov/trash-free-waters/epa-reports#MEW), EPA's Office of Research and Development has supported multiple Regional Applied Research Efforts (RARE) in this area.

One of the two-year RARE projects that began in 2017 is the *Quantification and Fate of Microplastics in U.S. Caribbean Scleractinian Corals*. Researchers looked at the ingestion and egestion rates of two coral species, *Montastraea cavernosa* and *Orbicella faveolata*, after exposure to different class sizes of plastic microbeads and microfibers. The use of a large polyp coral and small polyp coral in these experiments, as well as the different microplastic class sizes, will help give context to how microplastics may affect coral.

Furthermore, field data analyses of both subsurface water samples and coral tissue samples will include FTIR analysis for polymer identification. This will support research into sources of microplastics for a deeper understanding of interventions that will be effective at stemming the tide.

—Cheryl Hankins, U.S. EPA
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EPA's Cheryl Hankins takes a coral sample in St. John, USVI for microplastic quantification and polymer analysis.

Photo courtesy of Shaun Wolfe

San Juan Bay Estuary Program Hurricane Follow-Up

The San Juan Bay Estuary Program (Estuario) responded to last year's devastating hurricane season by tackling the immediate emergency while also addressing existing stressors aggravated by the hurricanes.

The Estuario designed a green infrastructure initiative in the Condado Lagoon to stabilize the lagoon's borders and decrease the amount of runoff and contaminants reaching this urban nature reserve. Plants selected for the restoration, including red mangrove and sea grapes, are typical for the coastal area. Prior to the restoration, the Estuario cleaned up and mulched the vegetative debris, removed solid waste that could not be repurposed,

and educated volunteers on the repurposing of resources. The initiative has continued with activities such as a workshop on turning old clothing into shopping bags, addressing two watershed problems at the same time.

In January, the Estuario staffed a recycling station at a large street festival in Old San Juan attended by thousands of people. The station included a cigarette butt receptacle as part of a Trash Free Waters educational initiative, the *ABC for the Sustainability of the Estuary*. Staff and volunteers educated hundreds of attendees on the proper disposal of cigarette butts.

The Estuario focus for the upcoming season is preparing community allies

and decreasing vulnerability. Efforts include assessing and cleaning septic tanks in highly vulnerable areas frequently compromised with debris and lack of proper maintenance, and increasing monitoring efforts to swiftly identify point and nonpoint sources of pollution within the watershed. At the same time, the watershed-level monitoring network is training citizens to identify and report sources of contamination within their communities.

Lastly, we are focusing on the improvement of green infrastructure. Community coordinators are repurposing vacant lots into community spaces such as gardens or parks. Claiming the abandoned spaces and

integrating them into an urban forest network discourages their use as illegal landfills, promotes community involvement in public space maintenance, and strengthens the social networks that hold our communities together.

After Hurricane María, our neighbors, our families, and our local organizations stepped up physically to clean and clear debris. As we move beyond María and into the next hurricane season, the Estuario is even more committed to a Trash Free Watershed through community empowerment.

—Brenda Torres
Executive Director

San Juan Bay Estuario Program
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Estuario staff promoting recycling and proper trash disposal at the Fiestas de la Calle San Sebastian.

Photo courtesy of Eliezer Nieves

Tribes Dealing with Marine Debris

Tribes along the Pacific Coast are seeing the effects of marine debris and doing something about it.

Cleaning up the debris that ends up on coastal Tribal lands is a huge effort. The Coquille Tribe has partnered with NOAA, the Surfrider foundation, and Oregon environmental organizations to engage youth in community service learning projects for prevention and removal of marine debris along Oregon coasts. In Washington, the Quinalt Tribe and Stillaguamish Tribe (a member of the West Coast Marine Debris Alliance) have centered their initiatives on fisheries debris by working to survey and develop recovery programs for lost crab pots and removing the pots when possible. The Makah Tribe has held beach clean ups along Washington coasts and is working to remove abandoned vessels from the Neah Bay Marina. The Wiyot Tribe of California, and the Native Villages of Shishmaref, Wales, and Kotzebue have also led major efforts for marine debris removal along the North Pacific coasts.

Staying involved in marine planning for the protection of ocean ecosystems is just as important. Tribes with marine planning departments are increasingly involved in regional

and national planning efforts. When new Marine Protected Areas were proposed in California, the InterTribal Sinkyone Wilderness Council made sure Tribal input and protections were included. In 2017, representatives from the Confederated Tribes of Grand Ronde and the Confederated Tribes of Coos, Lower Umpqua and Siuslaw collaborated on the Oregon Marine Debris Action Plan. On a national level, 13 Tribes are represented in the West Coast Regional Planning Body to plan and manage ocean ecosystems. The Tolowa Dee-ni Nation in Northern California opened dialogue on Native management initiatives by coordinating the Indigenous Ocean Science Forum in 2013. Here, Pacific coast Tribes worked together to develop a Common Tribal Marine Planning Framework which incorporates Tribal values and Traditional Ecological Knowledge to guide sustainable ocean activities and management.

Excerpted from: "Tribal Initiatives in Marine Debris and Ocean Management," an article in *Full Circle: Newsletter for Tribes*, Institute for Tribal Environmental Professionals, March/April 2019, v. 10, issue 2.

Trash Free Piscataqua

The Piscataqua Region watershed encompasses 1,086 square miles and includes 42 communities in New Hampshire and 10 in Maine. Fortunately, there are many conservation and stewardship organizations actively engaged in reducing and removing debris in the watershed. Some groups, like Blue Ocean Society for Marine Conservation, have been cleaning beaches in New Hampshire and southern Maine since 2001. River advisory committees and the Conservation Law Foundation are also concerned with debris along our estuaries and freshwater tributaries.

Trash Free Piscataqua was born from a conversation between senior leadership from the Maine Department of Environmental Protection and the New Hampshire Department of Environmental Services. Both organizations recognized a need to reduce the flow of trash in the Piscataqua river that separates the two New England states. With support from the American Chemistry Council, a neutral facilitator was asked to design and guide a collaborative process to develop a short list of projects endorsed by the full range of area stakeholders.

Individuals and small groups were interviewed in late 2017 about policies, programs, technologies, and other efforts to control the flow of debris in the region. They represented government, conservation and stewardship groups, academia, and others well respected for their efforts to improve water quality. Through nearly 40 structured conversations, it became apparent that three waste streams were of greatest concern to local and regional leadership: single use plastics, derelict fishing gear, and pet waste.



Photo courtesy of Blue Ocean Society for Marine Conservation

Trash Free Piscataqua has been an opportunity to better coordinate among existing partners and think creatively and strategically about how to move beyond trash cleanup. Although we are still in the early stages, there is a palpable enthusiasm among partners as we work to keep each identified priority waste stream from entering our inland and coastal waters.

—Abigail Lyon
Piscataqua Region Estuaries Partnership
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Expanding Trash Free Trinity

Stakeholders from Fort Worth to the east side of Houston can “point and click” using the Adopt-A-Spot online mapping tool to report trash locations and either adopt or foster streets, trails, paths and even esplanades—any location—up and down the Trinity River watershed. The project was created by a diverse group of stakeholders and is being led by the City of Fort Worth with the generous support of the American Chemistry Council. The project’s goal is to foster a litter-free environment in the Trinity River Basin by enabling community leaders to promote and track trash removal activities in their region.

Concerned citizens across Texas have requested that the tool be modified to include other watersheds. The Core Team has developed a five-year plan to achieve that goal, and first steps have been taken with the addition of the lower portions of three watersheds—the San Jacinto Brazos Basin, San Jacinto Basin, and Trinity San Jacinto Basin. These were integral in recent efforts to develop an action plan under the “Don’t Trash a Good Thing” program in the Houston Galveston area. Additionally, there are plans in the works to take the tool statewide as the Trash Free Texas project. For more information, visit trashfreetrinity.com or contact Doug Jacobson at jacobson.doug@epa.gov.



Courtesy of trashfreetrinity.com

EPA Region 3 Hosts Trash Free Waters Summit in Baltimore, MD

On March 27th 2018, EPA Region 3 held a Trash Free Waters Summit in Baltimore, Maryland. The Summit was hosted by the U.S. Geological Survey, a federal partner in the Baltimore Area Urban Waters Federal Partnership location. The summit, "Tackling Trash: How Communities are Finding Ways to Address Trash in the Urban Environment," was attended by over 50 participants from federal, state, county, city and local government agencies, as well as Non-Governmental Organizations (NGOs), representatives from the Region 3 National Estuary Programs, Urban Waters Federal Partners and other interested parties. The objectives of the workshop were to identify tools, resources, and strategies that support reducing trash in the urban environment, and to showcase practices that reduce trash runoff caused by storm water flows.

The summit began with a background on the Clean Water Act regulatory tools that address trash in the

urban environment; moved into regulatory obligations and implementation; and ended with discussion of non-traditional partnerships and inter-organizational collaborations at the local level. After each session, participants posed questions to panelists and the larger group to share information and challenges. Important themes discussed throughout the day included community-based social marketing, community knowledge dissemination, and practical applications for assessing, monitoring and removing land-based and aquatic sources of litter.

The summit was the first regionally-led meeting of its kind focused on trash in the urban environment. At the end of the summit, attendees were asked to provide feedback, comments and thoughts on how EPA can continue to engage and support the collective group to tackle trash.

The survey clearly showed that this will be the first of many conversations on the topic. The Region is



Photo courtesy of U.S. EPA Region 3

Lively discussions at Region 3's first Trash Free Waters Summit.

currently working to compile and evaluate the feedback to determine actionable next steps to continue the dialogue. It is reviewing opportunities such as workgroups, projects or products that support trash free efforts in the region.

For more information on the summit and the outputs and outcomes of the event, contact Region 3's Trash Free Waters Coordinator Kelly Somers at 215-814-2719 or somers.kelly@epa.gov.

PLANning for Environmental Justice

On October 30, 2017, EPA Region 3 announced the award of an Environmental Justice Small Grant to the Patapsco Latino Action Network (PLAN). PLAN will be using the \$30,000 grant to (1) organize four clean-ups and three neighborhood beautification events in the Brooklyn/Curtis Bay areas of Baltimore, MD; (2) survey community members on perception of marine debris and other environmental issues; (3) develop Spanish language outreach materials; (4) conduct educational outreach to PLAN partners on marine debris and other environmental challenges in the neighborhoods; and (5) develop a marine debris mitigation action plan. The Templo de Ablanza y Restauracion (TAYR) congregation, the Maryland Port Administration, the Living

Classrooms Foundation, and the U.S. Fish and Wildlife Service will be involved throughout the project, along with community members. The Brooklyn and Curtis Bay neighborhoods are located near high levels of industrial activity and the impaired Patapsco River branch of Baltimore Harbor.

The Environmental Justice Small Grants are awarded to projects designed to empower and educate vulnerable communities so they can reap environmental and public health benefits. By assessing trash pollution and creating mitigation action plans, communities can achieve water quality gains, build their stakeholder networks, improve community knowledge, and better tackle other public and environmental issues. Since trash pollution can be addressed through a variety of approaches, this project will allow PLAN's stakeholders to decide which mitigation

actions will provide the most benefit to the community.

By leveraging the EPA's Environmental Justice Small Grants, the Patapsco Latino Action Network is setting an example for other community groups looking to use trash pollution prevention as a gateway to fostering stewardship for all natural, public spaces. For more information on the Environmental Justice Small Grants, visit www.epa.gov/environmentaljustice/environmental-justice-small-grants-program.



Photo courtesy of Eric Vance, U.S. EPA

The Rapids: News Drops

NEWS / EVENTS

Call for Abstracts: 11th National Monitoring Conference

Sponsored by the National Water Quality Monitoring Council, this conference provides many opportunities for water stakeholders—federal, state, tribal and local water professionals, non-profits, academia, and volunteer citizen scientists—to network, develop new skills and partnerships, and exchange information. The National Monitoring Conference will be held in Denver, CO on March 25-29, 2019. The Council is issuing a call for abstracts for oral presentations, posters, and extended sessions covering topics related to rivers and streams, lakes, wetlands, coastal waters and estuaries, ground water and drinking water. Trash and microplastics monitoring fit under several conference themes. *Abstracts are due August 15, 2019.* Details about submitting abstracts can be found on the conference web site at <http://acwi.gov/monitoring/conference/2019/index.html>.

Patrick H. Hurd Sustainability Award

On May 21, EPA Region 9 announced the winner of the Patrick H. Hurd Sustainability Award. Melanie Quan, a high school freshman from Walnut Creek, CA, was selected from nearly 1,800 student scientists competing in the Intel International Science and Engineering Fair. Melanie's project is titled "Microplastics, Macro Problem: A Novel Technique to Remove Microplastics from Water Using a Modified Electrostatic Filter." It is a novel microplastics filtration system with a variety of applications to minimize microfiber from laundry loads to commercial or industrial uses. The filter, a proof-of-concept research project, uses the concepts of ionization and attraction. "Microplastics can have a devastating impact on our nation's waterways," said Mike Stoker, EPA's Region

9 Administrator. "It is important to find innovative ways to remove this pollution that affects our water resources and the aquatic animals that live in it."

MICRO 2018 Call for Abstracts

Micro 2018 Fate and Impacts of Microplastics: Knowledge, Actions and Solutions is an international conference to be held November 19-23, 2018 in Lanzarote, Spain. *The deadline for abstract submissions is June 21, 2018.* Some of the main themes will be marine ecosystems; freshwater bodies; social change and behavior; human health; and policy. For more information, visit the website: micro2018.sciencesconf.org/.

FUNDING OPPORTUNITIES

National Geographic Reducing Marine Plastic Pollution Grants

Deadline: July 10, 2018

The goal of this RFP is to measurably reduce plastic pollution before it reaches the ocean. To support scientists working to fill key knowledge gaps around the flow of plastic from their sources into the ocean, they seek innovators, including conservationists, educators, and storytellers who can develop solutions to effect behavior change. Well-developed proposals can include innovative solutions to help stop plastic from reaching waterways through improved recycling, waste management, or other means. You can also aim to implement innovative methods that engage stakeholders to create solutions that dramatically reduce plastic use and/or input into watersheds. Proposals should be less than \$30,000, but can be up to \$100,000. Preference will be given to projects with higher potential for scaling and impact. For more information, visit: www.nationalgeographic.org/grants/grant-opportunities/reducing-marine-plastic-pollution/.

David and Lucile Packard Foundation Grants*Deadline: Rolling*

The David and Lucile Packard Foundation offers over \$40 million annually through their Ocean program grants. The program aims to eliminate IUU fishing, ensure fisheries are sustainable, and protect shorebird and seabird habitat—none of which is possible without addressing trash pollution in our environment. New project proposals could build off the research theme from last year, “American Millennials: Plastic Pollution as a Gateway to Engaging the Next Generation of Ocean Conservationists.” For more information, visit: www.packard.org/what-we-fund/ocean/.

Fred A. and Barbara M. Erb Family Foundation Grants*Deadline: Rolling**Geographic focus: Metropolitan Detroit Area*

Non-profits in the Great Lakes area are encouraged to submit Letters of Intent to the Fred A. and Barbara M. Erb Family Foundation for funding related to improving water quality in the Great Lakes Ecosystem. Projects may focus on environmental justice, green infrastructure for stormwater management, engagement and education through watershed-wide activities, and/or supporting binational cooperation between U.S. and Canadian policy efforts to improve water quality. For more information, visit: www.erbff.org/how-to-apply/.

EPA National Wetland Program Development Grants*Deadline: June 21, 2018*

EPA is soliciting proposals from eligible non-profit non-governmental organizations, interstate agencies, and intertribal consortia to develop or refine state/tribal/local government wetland programs as a whole, or individual components of those programs. Projects must be on a national scale or affect state/tribal/local wetland programs in two or more EPA Regions. This Request for Proposals (RFP) centers around *Core Elements of an Effective State/Tribal Wetlands Program Framework*. The authority for this grant program is section 104(b)(3) of the Clean Water Act (CWA), which restricts the use of these grant funds to improving wetland programs by conducting or promoting the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution. The federal portion of the awards for projects selected will range from \$75,000 to \$200,000. This RFP is open through *June 21, 2018, 11:59 pm EDT* and can be found on grants.gov or at epa.gov/wetlands/fy-2018-and-fy-2019-national-wetland-program-development-grant-request-proposals. For information, contact Myra Price at price.myra@epa.gov.

CONTESTS**Bow Seat 2018 Ocean Awareness Student Contest***Deadline: June 18, 2018*

Middle and high school students from around the world are invited to create works of art, poetry, prose, or film that speak to this year’s theme —Ocean Pollution: Challenges & Solutions. Students need an adult sponsor to submit to the Contest, and the Contest is completely free to enter. Students can earn awards up to \$1,500 in each category, and Bow Seat also grants Sponsor Recognition awards of \$750 for outstanding teachers, parents, and mentors who help a student submit to the Contest. For more information, please visit: fromthebowseat.org/contest.php.

Bow Seat 2018 Marine Debris Creative Advocacy Competition*Deadline: June 18, 2018*

This competition challenges middle and high school students from the U.S. to implement real-world advocacy projects in their schools and communities, with the goals of educating the public about marine debris, inspiring people to change their behavior, and engaging them in activities that reduce or prevent marine debris. Students need an adult sponsor to participate in the competition, and the competition is free to enter. Students can earn awards up to \$5,000. For more information, please visit: fromthebowseat.org/advocacy-competition.php.

Ocean Exchange Call for Solutions*Deadline: July 31, 2018*

Ocean Exchange is an international nonprofit that focuses on sustainable solutions that improve economies, health and the environment while respecting local cultures. Its Call for Solutions is now open for entries for the WW Orcelle® Award 2018 and the Neptune Award 2018. The Neptune Award is given to the solution that advances our understanding of the ocean and helps minimize our impact, resulting in more resilient bodies of water including healthy marine life and coastlines. Visit www.oceanexchange.org for more information.

Ocean Exchange BIG Pitch Competition*Deadline: September 8, 2018*

The BIG Pitch Competition seeks undergraduate and graduate innovations that improve economies, health, and the environment, fitting under the sustainability theme. The contest is sponsored by Georgia Southern University and Ocean Exchange. Eight finalists will be invited to present at Ocean Exchange on October 7th, in front of 150 delegates from business, NGOs, academia, and government. Delegates will vote on who receives one \$10,000 cash award. Registration fee. Visit www.oceanexchange.org for more information.

Have a TFW Story to Share?

The Flow is always looking for TFW articles, news, and event information. Contact the editor at mayio.alice@epa.gov for submission deadlines.