Pacific Northwest Consortium on Plastics Annual Teleconference

The Pacific Northwest Consortium on Plastics held their annual teleconference virtually on April 15th. It was attended by over 130 consortium members from PNW as well as California, Hawaii, and even Europe. The meeting kicked off with presentations from several research groups from the United States, as well as from Norway, on the creation of reference materials for laboratory research on the fate and effects of micro and nanoplastics. Then the group segued into an exciting presentation and demonstration from groups in California putting together a global database of microplastic effects studies. Meeting attendees were able to use the new database to evaluate impacts across the biological hierarchy in aquatic organisms, as well as mammalian species used to study effects in humans. Finishing up with a review of modeling studies being performed at Western Washington University, it was several hours well-spent connecting stakeholders with cutting-edge tools that will move us closer to reducing the impacts from plastic pollution. The PNWC’s next quarterly meeting will be held in July. Head to our website at pnwmicroplastics.org or follow us on Twitter and Instagram @pnwmicroplastics for updates.

PNWC Quarterly Conference

July 15, 2021
9:30 to 11:00 AM PST
Link to sign up on pnwmicroplastics.org

Pacific Northwest Consortium on Plastics Quarterly Summer Teleconference

At our July teleconference, we’ll be hearing all about trash monitoring efforts on the West coast...

Big Trash Data Sets and Applications
Presenter: Win Cowger - PhD student and NSF graduate research fellow at the University of California Riverside

Abstract: Trash data is challenging to use because data standardization is in its nascency. Data science can help turn trash data (not trashy data) into knowledge and propose standards. The California Water Boards have hosted a series of trash “datathons” to advance fundamental applications and datasets for trash monitoring and management. This presentation will discuss some of the results of those datathons which leverage big data tools (open data, Trash Taxonomy, AI, machine learning, web applications …) to turn data into action.

The California Trash Monitoring Methods Playbook
Presenter: Shelly Moore – Scientist at the San Francisco Estuary Institute and Executive Director at the Moore Institute for Plastic Pollution Research

Abstract: The Playbook is a reference for trash monitoring practitioners and agency staff interested in learning more about the considerations for selecting a suitable trash monitoring program. Management and scientific questions, accuracy, precision, and resources play an essential role in determining the method. The methods from the handbook will increase the comparability of the data collected so that spatial and temporal comparisons are possible.

The Next Threat For California’s Ocean Habitats: Microplastics

A new report produced by the California Ocean Science Trust suggests proactive measures that need to be taken to prevent further damage to ocean habitats by microplastics. Plastic is extremely common in the marine environment where it ensnares marine organisms, forms “plasticrusts” on the shore, and is even consumed by shellfish and corals once disintegrated. Read more at about this effort, which Dr. Susanne Brander co-chaired the science advisory team for at (beav.es/3WK).

Effect of Nanoplastic Type and Surface Chemistry on Particle Agglomeration over a Salinity Gradient

A publication led by the Harper lab examined the agglomeration of nanoplastics in waters, which can alter their transport and fate in the environment. Agglomeration behavior of 4 nanoplastics differing in core composition (red- or blue-dyed polystyrene) and surface chemistry (plain or carboxylated poly(methyl methacrylate) [PMMA]) was investigated across a salinity gradient. Read more at (beav.es/3Wz).

Submit an article to a special issue in Frontiers in Water on “Microplastics in Water and Potential Impacts on Human Health,” co-edited by Drs. Rafael Trevisan, Susanne Brander, and Scott Coffin

This Research Topic aims to create a virtual environment to discuss the challenges and impacts of microplastics as potential disruptors of water quality and human health. Articles will address major questions or topics in the field of small plastic particles (micron and sub-micron sized) and human health, including (i) the toxicity profile of microplastics in response to particle characteristics such as size, shape, composition, concentration, and corona, (ii) characterization of routes of exposures to waterborne microplastics, (iii) absorption, bioaccumulation, and translocation of microplastics in human tissues and organs, (iv) mechanisms of toxicity and characterization of Adverse Outcome Pathways, (v) plastics as vectors of pathogens and environmental pollutants, (vi) toxicity of real-world “environmental” plastics, and (vii) effects of aging or weathering on microplastics toxicity. Ultimately, by bringing together key researchers from across the globe to discuss this theme, this Research Topic also seeks to provide and compile scientific evidence for risk assessment, policy-making, and mitigation projects. More information at (beav.es/3my).