

## DAY 1- December 6, 2023

## **Opening Remarks & Keynote Address**



<u>Moderator</u> <u>Virginia CZM Coastal Planner</u> William Isenberg



Executive Director of the Mid-Atlantic Regional Council on the Ocean Avalon Bristow



Maryland Department of Natural Resources Assistant Secretary of Aquatic Resources Kristen Fidler

## Keynote Speaker: Yugonda Sample-Jones



Yugonda Sample-Jones is the first generation of her family to be raised in Newport News, VA, she has deep Family roots throughout the Eastern Shore of Virginia and Maryland. Sample-Jones is the wife of Mr. Brandon Jones and mother of four adult children. She and her family have lived in the Eastend of Newport News for over 20 years.

In 2010, Yugonda was inspired to form "Royals", a program that focused on self-confidence, community service and advocacy for young women in her community. Through her partnership with the Phyllis Wheatley YWCA, the young women were encouraged and

taught how to be civically aware, then provided the tools to change their narrative into action. Changing school policies, speaking at School Board meetings, and influencing transportation schedules for safety.

Through her time working as a volunteer, AmeriCorps Vista, and community liaison for the Choice Neighborhood Initiative (CNI) grant, Sample-Jones found her passion for connecting services and resources. She began to bridge the gap in communication in her own disenfranchised neighborhood, by walking door-to-door discussing reliable resources, building relationships with neighbors, and inviting others to join. This work has been credited to decreasing the crime rate in one targeted community by 30%. She has also worked with elder community leaders, CNI partners and our Faith based community to establish community gardens to address the lack of access to fresh, healthy foods and bring attention to the environmental injustices of the area.

In 2019, Sample-Jones was inspired to create EmPower All, an organization whose mission is to Encourage, Expose, and Engage People living in marginalized communities to cultivate socioeconomic change. Presently her company works in collaboration with business owners, non-profit organizations, and quasi-government institutions to provide wraparound services to municipalities, connecting the dots between government and private programs, grassroots organizations, and the people they serve.

Recently, Yugonda has opened her first of many transitional homes, where her company houses women returning to society from incarceration and wraps them with encouragement, love, and support to heal and move forward with new skills and enthusiasm for life. Sample – Jones currently serves as the Newport News Choice Neighborhood Initiative, Citizens Advisory Committee, Chair, and the President of the Newport News Neighborhood Watch Coalition, using her position on both to drive the decisions making process and bring awareness and solutions to her city. She continues to spearhead engagement activities such as Community conversations, clean-ups, and information workshops. And is happy to serve as a board

member on the Newport News Board of Zoning Appeals and Enduring Keys Inc. Sample – Jones looks forward to beginning a journey in podcasting connecting and inspiring people all over the world.

## Session 1: <u>Microplastics & Nanoplastics: Implications on Humans, Wildlife and</u> <u>the Environment</u> *Implications for the Environment*



Christine Knauss (University of Maryland)- Impacts of Microplastics Ingestion on Oyster Larvae and Implications for Restoration Efforts.
BIO- Dr. Christine Knauss is a Postdoctoral Researcher at the University of Maryland Center for Environmental Science (UMCES) Horn Point Lab. Her current work focuses on developing a more efficient and accurate method for identifying microplastics from environmental samples using different types of light microscopy and machine learning. She is also co-leading an effort in the US to create an international network of plastic pollution

researchers, that aims to harmonize methods, support data sharing and database development, and foster more diversity in the field. Christine earned her Bachelors of Science in Chemistry and Biology from the University of Maryland College Park, where she also played Division 1 Field Hockey. She earned her PhD from UMCES in 2021, studying the effects of microplastics on oysters in the Chesapeake Bay.



**Todd Thoman(University of Delaware)**- *Transport of marine microplastic debris in Delaware coastal waters and implications for buoyant zooplankton* **Presentation Description:** In this talk, we will track the journey of microplastic debris from source tributaries of the Delaware Bay to shelf waters, highlighting flow features critical to transport and collection of this pollutant. High microplastic inputs are observed at the Delaware River and St. John's/Murderkill River tributaries. During migration to shelf regions, these microplastics are organized and collected into thin bands (tidelines) by tidal

interactions with the estuarine floor. Microplastics from the bay flush into coastal waters where intermittent recycling of brackish waters can hold these particulates near the Delaware Bay mouth. In coastal waters, microplastics can aggregate at salinity fronts of the outgoing river plume, and surface winds can reintroduce pollutants to the Delaware Bay. Co-occurence of this transport with that of zooplankton, such as blue crab larvae, can result in amplified biological exposure due to collection of suspended material in river plumes and offshore fronts. **BIO**-Todd Thoman is a sixth-year PhD student studying physical ocean sciences at the University of Delaware under the advisorship of Dr. Tobias Kukulka. His areas of research include the transport, organization, and dispersion of floating particulates, such as microplastics and zooplankton, in coastal environments. To date, Todd's published

works include studies of coastal transport of blue crab larvae and microplastics outside the Delaware Bay and mechanistic studies of particle dispersion by wind- and wave-driven mixing in shallow, coastal oceans, based on numerical models.

### Implications for Humans



**Carol Adrianne Smith (Morgan State University)-** The high content of degraded microplastics and volatile organic contaminants (VOCs) found in the Chrysaora chesapeakei of the Chesapeake Bay, MD, and its relationship to the aquatic food web.

Authors: Carol Adrianne Sauls-Smith, Natalie Drichko, Chunlei Fan, Samuel Mandal, Saroj Pramanik\*

**Presentation Description:**Microplastics and jellyfish are found within all aquatic environments, from Russia's cold seas to the United States' warm oceans. The Patuxent River, Chesapeake Bay, is no different in this aspect as it also carries vast amounts of microplastics, and thousands of the *Chrysaora chesapeakei blooms* from June through September months. We examine if these factors –the abundance of microplastics and

the seasonal thousands of jellyfish- impact each other. We show that the *Chrysaora chesapeakei*, the predominant jellyfish in the Patuxent River of Chesapeake Bay, MD, carries high amounts of degraded microplastic and volatile organic compounds. During the summer of 2021 and 2022, *C. chesapeakei* were collected from the Patuxent River using plankton nets (200 µm) and sterile glass jars. The *C. chesapeakei* gelatinous tissue was subject to gas-chromatography mass spectroscopy, Raman spectroscopy, and the optical microscope. High levels of microplastics and volatile organic compounds (VOCs) from diverse degraded microplastics were identified. Our results show that the gelatinous body captures harmful microplastics that can quickly enter the food aquatic web of the Chesapeake Bay, Patuxent River.

Microplastic contaminants of the jellyfish move through the human food chain because the jellyfish are consumed by fish and crabs, which humans frequently eat. Among the many jellyfish predators in the Chesapeake Bay and Long Island Sound that are then often consumed by humans are hermit crabs, tuna, sharks, swordfish, and flounder. The consumption of these fish shows a direct link to how microplastics can enter the human food web. Humans directly consume some jellyfish, such as the Moon Jelly (Aurelia), as a food source. Microplastics have even been found in the human placenta due to the mothers; eating habits.

**BIO**-Carol Adrianne is currently pursuing her Ph.D. in bioenvironmental science at Morgan State University Pearl Laboratories in Baltimore, Maryland. Her research focuses on microplastic contaminants and microbes in various species like Bay Nettle (Chrysora Chesapeake), Lion mane (Cyanea capillata), Moon Jellyfish (Aurelia), and comb jellies (Ctenophores) found in Chesapeake Bay and Long Island Sound is groundbreaking. She has been honored multiple times for her exceptional work, including the prestigious 2023 Morgan State Graduate Presentation 1st Prize scientific award. Some of Carol's research has been reported in Oxford Publications and several newspapers. Her academic background includes a Bachelor's degree in Integrative Biology from the University of California Berkeley and a Masters's Degree from the University of Maryland College Park in Chemical Life Sciences.



Britta Baechler (Associate Directory Ocean Plastics Research, Ocean Conservancy)-*Microplastics in the U.S.: Public knowledge, concerns and food exposure from commonly-consumed protein products* **Presentation Description:** Plastic pollution is a global threat that requires urgent and coordinated action to mitigate further ecological and human impacts. While studies regarding the presence and impacts of plastic pollution are growing in number, our understanding of both public perceptions of the issue and exposure to plastics-particularly microplastics- are lacking. Here we present the results of a 2021

nationally-representative survey of U.S. adults on their knowledge and concerns of plastic pollution and microplastics, and support for solutions to the issue. Data on U.S. adult protein consumption garnered from the survey were paired with data on microplastics in 16 commonly-consumed U.S.-sourced protein products (seafoods, terrestrial meats, plant-based proteins) to generate annual estimates of U.S. adult microplastic exposure from consumption of these products. Results from both our survey and microplastics in foods research can help stakeholders including policymakers, educators, researchers and industry members in the U.S. advance future efforts to curb plastic pollution and reduce our exposure to microplastics found in foods.

**BIO:** Britta serves as the Associate Director of Ocean Plastics Research at Ocean Conservancy and is based in Portland, Oregon. In her role, Britta works across Ocean Conservancy programs to develop a policy-relevant research agenda and contribute new insights to the growing body of science on ocean plastics. She leads primary research on varied topics related to the impacts of plastic pollution, including the prevalence of microplastics in the human food system, animal benefits of plastic cleanups, movement of trash from inland out to sea and public knowledge and perceptions of the issue. Britta also serves as adjunct faculty at University of Toronto and Portland State University. Britta earned her undergraduate degree at Lewis & Clark College and doctorate at Portland State University researching the ecological and social dimensions of microplastics in Pacific Northwest shellfish. She has more than a decade of experience in fisheries management and marine conservation, having served in roles including Assistant Area Management Biologist for Shellfish in the Bering Sea/Aleutian Islands region of Alaska and Marine Protected Area Coordinator in Saipan, Northern Mariana Islands.

### Implications for Wildlife



**Hayden Boettcher (University of Delaware)-** Effects of Polyethylene Terephthalate Microfibers on Mud Crab Panopeus herbstii Throughout Larval Development **Presentation Description:** The emerging threat of marine microplastics (mp) has quickly led to a growing body of research seeking to understand their biological impacts. In a crucial step towards understanding the effects of microplastic exposure on larval development, mud crab larvae (n=90/treatment) were reared through their five developmental stages (z1, z2, z3, z4 and megalopae) under four treatment levels of 50 µm polyethylene terephthalate fibers (0, 0.1, 1, and 10 mp/mL). Three experiments were conducted, each with a unique duration of microplastic exposure: (i) full exposure (z1-megalopae), (ii) early exposure (z1-z3), and (iii) late exposure (z3-megalopae). These exposure durations allowed us to assess the vulnerability of specific developmental stages and differentiate between acute and chronic effects of microplastic exposure. Survival, body size, and stage duration were recorded throughout each experiment. To further investigate potential sublethal effects we conducted an additional experiment which measured larval grazing and respiration rates when exposed to microplastics or similarly sized sand particles.

Our research findings indicate a decrease in body size as microplastic concentrations increased. Furthermore, results indicate that the time spent at each developmental stage increased in treatments with higher microplastic concentrations. Both effects occurred throughout all developmental stages. Body size effects were observed while plastic was present and disappeared upon the subsequent molt once plastic was removed. Conversely, stage duration delays remained consistent after larvae were exposed to high levels of microplastics. These results lend additional evidence to the hypothesis that microplastic exposure may impact an organism's energy budget. Ingestion rates of microplastic fibers were low, suggesting that the cause of these effects cannot be explained by ingestion alone. To this end, we observed a slight decrease in food intake when larvae were exposed to sand particles, and a greater decrease when exposed to microplastics. Furthermore, respiration rates increased in the same manner, slightly when exposed to sand, and greater when exposed to microplastics. Overall, these results suggest that high levels of microplastic exposure can impact the energy budgets of crab larvae with sublethal impacts on their growth and development.

**BIO-** Hayden earned dual degrees in Zoology and Conservation Biology from the University of Wisconsin Madison before moving to the east coast to pursue a career in marine science. Under the direction of Dr. Jonathan Cohen, professor of marine science and policy at the University of Delaware, he has spent the past five years working to characterize microplastic pollution and its impact on local wildlife in the Delaware Bay Estuary.



**Bob Murphy(TetraTech)**- Development of an Ecological Risk Conceptual Model for Microplastics and Striped Bass in the Potomac River Estuary **Presentation Description:** Plastic debris adversely affects aquatic and terrestrial organisms as a physical entanglement hazard, source of gastrointestinal effects, and potential for toxicity/ adverse biological effects following uptake of smaller pieces through oral ingestion, inhalation/gills, or contact with external body surfaces. The ecological risk of these plastics, specifically those in the size range of microplastics (5 mm - 1000 nm [1µm]) and nanoplastics (1 nm - <1000 nm [1µm]) is largely unknown. This project expanded upon the needs identified in the Microplastics Expert Workshop Report (USEPA 2017) and developed a preliminary conceptual ecological risk assessment model to identify pathways, sources, effects, and unknowns related to environmental plastic debris, specifically microplastics and smaller, in the tidal portion of the Potomac River using striped bass as the biological endpoint. **BIO-** Mr. Murphy is a marine ecologist who specializes in fish ecology and habitat assessment & restoration with extensive experience in freshwater and coastal systems. His work has focused largely on examining how aquatic habitat alteration affects changes in biological communities, using fish as model organisms. He has worked closely with state and federal government resource managers, in addition to academia, to develop new approaches to habitat assessment and restoration in watersheds. Mr. Murphy initiated the workshop funded by the Chesapeake Bay Program to evaluate the state of the knowledge, gaps in data, and potential management solutions for microplastics in the Chesapeake Bay watershed in 2019. He was lead author of the workshop report. He continues to serve as an expert in microplastic occurrence in the aquatic environment, including field studies evaluating abundances in fish, SAV habitat, source tracking, and trophic transfer.

### **LUNCH- Poster Session**



### EeShan Bhatt, PhD Institution: Applied Ocean Sciences

Abstract: Current testing methods for microplastics in water are slow, expensive, and laborious. Rapid microplastic monitoring is becoming increasingly important for both observational research and for remediation strategies in human health systems like drinking water and wastewater effluent. We have created a prototype low-cost benchtop ultrasound-based microplastics sensor that produces a bulk abundance measurement of microplastic concentration in near-real time. We present data from a battery of validation

tests that suggest the sensor can (1) differentiate between microplastics and biological materials of the same size distributions and concentrations and (2) detect a mixture of microplastics at concentrations as low as 0.05 g/L, with a majority of particles sized between 25 and 75 microns. With future iterations, we hope to modify transducer design and signals to be sensitive to smaller particle concentration and sizes and develop a low-cost option for widespread use. This work was sponsored by the National Science Foundation America's Seed Fund program.



### Miranda Keefer, Early Career Professional University of Delaware - School of Marine Science & Policy

<u>**Title:**</u>Evidence of In Situ Microplastic Ingestion in Early Life Stage Atlantic Blue Crabs Callinectes sapidus

Abstract: Despite the growing body of research seeking to understand the impacts of microplastics (mp) on

zooplankton, we have yet to measure how these interactions are occurring in the natural environment. In this study we present a detailed characterization of in situ interactions between microplastics and Atlantic blue crab larvae, a species of great ecological and economic importance in the mid-Atlantic region.Utilizing paired field observations of microplastics and blue crab larvae, we measured: (i) the distributions of microplastics and blue crab larvae in the water column, and (ii) the occurrence of in situ microplastic ingestion by early-stage blue crab larvae. Microplastics and blue crab larvae were simultaneously collected through a series of net tows covering the Atlantic inner continental shelf off Delaware, USA in order to calculate and compare their distributions (pieces m -3 and larvae m -3 ). A subset of z1 zoeae collected from a high-MP station and a low-MP station (based on surface net tow analysis) were analyzed for evidence of in situ microplastic ingestion. We observed evidence of microplastic ingestion in all sample replicates (n= 3 groups of 20 zoeae per station), with a mean ingestion incidence of 1.4 microplastics individual -1 . Polymer types were confirmed via FTIR analysis. Interestingly, there was no difference in microplastic ingestion between zoeae collected in high-MP versus low-MP stations. Together, these observations provide evidence that surface trapped microplastics and larvae are being aggregated along the Delaware coast, and that in situ ingestion of microplastics is occurring just days after larvae hatching.



## <u>DAY 2</u>

# Nicole Trenholm from University of Maryland Center for Environmental Science, Horn Point Lab. #215-208-4464

### PhD student and non-profit director of the Ocean Research Project

<u>Title:</u>Ocean Research Project's Pilot Study to Grade Chesapeake Bay's Marine Debris Pollution: Near-surface Microplastic

**Abstract:** The first bay-wide marine microplastic concentration survey of all 15 Chesapeake Bay Health Report Score Regions kicked off in October taking 7 days to complete. The Ocean Research Project 501c3 owned, sailboat, Marie Tharp conducted continuous sampling using a custom flow-through system around the

clock with tight boat lab contamination controls for sample handling and microscopy analysis. Their Impact grant from Woodward & Curran Foundation will allow a thorough investigation of the magnitude of microplastic pollution across the bay, a baseline study for a future bay water quality indicator. Near-real-time analysis was conducted for an optimized data collection to results project. University of Maryland Center for Environmental Science graduate students and Integration and Application Network faculty conducted synchronous research and science communication. while onboard. A second cruise is planned for repeat sampling during a high rainwater discharge period in March of 2024 with near-realtime virtual analysis planned by students and communal engagement at Baltimore Underground Science Space during a post cruise activity. Preliminary data of the concentration of plastic particles per cubic meter is highlighted in the poster.

## Session 2: <u>Coastal Storm Debris: Preparing for & Responding to Marine Debris</u> <u>Generated During Natural Disasters</u>



John Gallagher (Director of Hydrographic Operations, Maryland DNR)-Hydrographic Operations Debris Removal Efforts Due to 2018 Post Storm Impacts.

**BIO-** John is presently the Director of Hydrographic Operations for Maryland's DNR, the division places thousands of buoys and markers

delineating boating channels, hazards and natural resource areas. Hydrographic Operations removes hazards to navigation such as abandoned vessels and debris. Additionally, it has three ice breaking capable vessels.

John joined DNR in 2008, previously he worked for the USACE Debris Unit in Baltimore, and is a retired US Coast Guard Chief Petty Officer.



Kathleen Bergin (Program Manager for Field Operations, DNREC
Division of Watershed Stewardship- Case Study: Hurricane Sandy and the continued impacts of marine debris in Delaware.
BIO- Kathleen graduated from Hood College in 2009 with a B.A. in
Environmental Science and Policy, minors in Coastal Studies and
Archaeology. She has worked in various positions with the State of
Delaware since 2017 and has been actively managing marine debris for the state since 2021. She currently is the Program Manager for Field
Operations with the Delaware DNREC Division of Watershed Stewardship,

Shoreline and Waterway Management Section. This program manages 62 miles of shoreline and 120 navigable miles of state-maintained waterway.



William A. Burket, Jr.(Senior Director, MIRT and Business
Continuity Virginia Port Authority)- Assessing Debris within the waterways of the Commonwealth of VA after severe weather.
BIO- Bill Burket, Senior Director, Maritime Incident Response Team and Business Continuity for the Port of Virginia is responsible for emergency management within the VA Port Authority. He is tasked with ensuring partnerships within the port emergency response community are maintained to provide for an effective and safe response to all hazards

incidents within the Port of Virginia. Bill participates on multiple AMSC committees including serving as Chairperson of the Hampton Roads Port Readiness Committee.

## Session 3: Community Engagement for Marine Debris Reduction & Education



**Laura Jean Checki**- Education and Public Outreach (EPO): What we do here means everything there

**Presentation Description:** This session will provide alternative approaches to traditional teaching methods that will address the

needs of people with various disabilities. The presenter will share firsthand experiences, which will serve to demonstrate proven strategies to address, interact, accommodate, and be sensitive to a multifaceted audience. Participants will learn how to "modify on the fly" and understand how crucial that concept is in all educational settings including formal, informal, public, and private. Sharing experiences affords us the opportunity to learn what could have been done differently while allowing us to gain a better understanding of alternative strategies that were developed, implemented, and found to be effective. Please join us as we review the importance of Universal Instructional Design (UID) and share strategies that will help you make necessary adjustments to your outreach approach so that you can develop inclusive and spherical programming that has the ability to reach the largest number of individuals at your event or in your school. **BIO-** Laura is the President and Director of Disability Programming at Interstellar Inspirations, LLC. She is an accessibility consultant advising organizations on how they can alter their programs, and venues, to accommodate diverse audiences. She is a Science Education and Public Outreach Specialist and an effective Motivational Speaker. Laura is currently an Environmental Specialist of Educational Programs and the Deputy Clean Communities Coordinator for the Bergen County Department of Health Services. She is an avid volunteer focusing her efforts on NASA, the American Museum of Natural History, accommodating those with disabilities, supporting veterans, transporting and rescuing wildlife, and exposing the world of science to everyone she meets.



Diana Burich (NY & NJ Sea Grant)-Community Science to Address
Microplastic Pollution in Environmentally-Underserved Urban Watershed
Communities in New Jersey and New York
BIO-Diana Burich is a passionate and dynamic science educator with more
than 25 years of experience in formal and nonformal settings. As the

Director of Education at New Jersey Sea Grant Consortium, she manages a suite of programs that educates more than 20,000 students and thousands more lifelong learners annually. While her ongoing efforts to increase environmental literacy aim to provide educational opportunities that are diverse, equitable, inclusive, just, and accessible, her most recent focus has

been to develop programs and partnerships that introduce students to ocean-related careers that support the current and future needs of NJ's coastal communities and ecosystems.



## Johanna Guardado (Programs Coordinator Defensores de la Cuenca)- La Academia de Defensores

**BIO-** Johanna Guardado is the Programs Coordinator for Defensores de la Cuenca, which is a Latinx led non-profit organization that connects the Latinx community to the environment. She works with Latinx community members to learn about the watershed and develop leadership skills so that they can implement a capstone project. Before

her time at Defensores she used to be a Chesapeake Conservation Corps (now known as the Chesapeake Conservation and Climate Corps) member with the Maryland Department of Natural Resources under the Chesapeake and Coastal Service unit. There she was able to develop communication, organizational and environmental education skills.



### Nancy Morales

BIO-Nancy was born and raised in Prince George's County, Maryland. She's always had a passion for helping people, and animals, in any way she can. Since childhood, her dreams for the future always included assisting others - varying from wanting to be a fireman, marine biologist, or perhaps a social worker.

Currently, Nancy is fulfilling her childhood goals in a different way, through working with La Academia cohorts to support and execute capstone projects. In addition, she is studying for a B.A. in Anthropology. One day,

she hopes to earn her PhD. When not working, she enjoys the company of her two Halloween cats, Salem and Pumpkin.

## DAY 2- December 7, 2023

## Session 1: <u>Marine Debris Reduction: Large Scale Removal</u>

### Abandoned/Derelict Vessels Panel



**Karen Wilson Forget-***Bringing Regional Partners Together to Remove* AdVs and Forge a New Statewide Approach

**BIO-** Karen's interest in the environment started early growing up on an organic farm in Indiana. She has a bachelor's degree from Purdue University and a master's from theCollege of William and Mary and has enjoyed living in the Hampton Roads area since1976. She immediately fell in love with the natural beauty of this area and the manyties to the water.

Her first three years in Virginia were spent living on a sailboat and learning about the natural history and beauty of the Chesapeake Bay. Karen came to Lynnhaven River NOW (LRNow) after thirty years as a science teacher and Headmaster of a private school. She first became

involved with Lynnhaven River NOW was as a citizen oyster gardener.

Since 2005, Karen has been working full time with Lynnhaven River NOW first as the Education and Outreach Coordinator and since 2007 as the Executive Director. During Karen's time as Executive Director, LRNow has received a Letter of Commendation from the Virginia General Assembly, The Governor's Environmental Excellence Gold Award, a Coastal America Award, and the Garden Club of Virginia Dugdale Award. In 2015, Lynnhaven River NOW was honored to be highlighted in a new publication, The Case for Grassroots Collaboration.

Karen serves on various city and regional committees including the Green Ribbon Committee, Norfolk Environmental Commission, and the Virginia Beach Energy Advisory Committee. She also serves on Representative Kiggans Chesapeake Bay Committee, the Board of Virginia Forever, and the Albemarle-Pamlico National Estuarine Citizens Advisory Committee. She is the President of the Virginia Conservation Network Board and was a Virginia Natural Resources Leadership Institute Fellow in 2012.

She has four sons and six grandchildren.



### Alanna Keating- Boat U.S. Foundation

**BIO**-Alanna Keating is the Director of Outreach at BoatUS Foundation. For nearly 20 years, Alanna has worked with the recreational boating community on behavior changes around safe and clean boating. Alanna currently heads up BoatUS Foundation environmental efforts including a national fishing line recycling program and the recently awarded NOAA Marine Debris Program grant for a national Abandoned and Derelict Vessel education and removal program. From invasives species to life jacket wear, Alanna works with the nation's boaters and hundreds of partner organizations to make boating better.

Leveraging Partnerships in Addressing Abandoned and Derelict Vessels (ADV) Nationwide Alanna Keating will discuss the BoatUS Foundation's emerging ADV removal and education program. In 2023, BoatUS Foundation was awarded a \$10 million from NOAA's Marine Debris Program. This presentation will touch on where this grant is now and where we're headed in the months to come.

### Abandoned & Derelict Fishing Gear



**Ward Slacum, Jr. (Executive Director, Oyster Recovery Partnership)-** Use of VIMS Survey Data, Watermen's Perspective, and successful removal projects in MD

**BIO-**Ward Slacum leads the organization's initiative to strengthen coastal communities through

oyster restoration and sustainable seafood initiatives. As the region's Oyster Expert, the Oyster Recovery Partnership works with seafood stakeholders to implement sustainable solutions designed to expand the region's blue economy while improving the health of the marine ecosystem. Under Ward's

leadership, ORP has doubled its capacity to implement oyster restoration, strengthened its partnerships, and expanded its outreach and expertise through the newly formed sustainable fisheries program that includes derelict fishing gear removal. Ward has a proven record of building partnerships to address environmental challenges facing the seafood industry. He has a broad background in marine and estuarine science and has supported Bay restoration through applied research and cooperative programs for the past 30 years. He earned a Master's degree in Fisheries Science from the University of Maryland MEES Program and a bachelor degree in Environmental Science from the UMD Eastern Shore campus.



## **Brittany Haywood (Delaware Sea Grant)-** Derelict Crab Pots in Delaware's Inland Bays

**Presentation Description:** Delaware's Inland Bays are host to thousands of derelict or abandoned crab pots. As an area that is only crabbed recreationally and the average depth is approximately three to eight feet, there are challenges to retrieving and curtailing the issue of derelict crab pots. Delaware Sea Grant in conjunction with many partners have been

investigating the causes, organizing volunteer clean-up events to assist with removal efforts, and hosting educational events and activities to raise awareness of the issue. **BIO-** Brittany Haywood, a Coastal Ecology Specialist at Delaware Sea Grant, is driven by her commitment to the preservation and enhancement of coastal environments. Her fascination with diverse ecosystems and their contemporary challenges inspired her academic journey, culminating in a B.S in Biology and a Master's in Geographic Information Systems. Brittany has a wealth of experience, featuring a background that spans project management, education, ecosystem restoration and monitoring, SAV and wetlands, marine debris, and water quality. She has contributed her expertise across both the state and university sectors, assisting in the ongoing efforts to safeguard and nurture coastal ecosystems.



### Steve Evert (Director for Stockton University's Marine Field

**Station)-** 10 years of DFG removals in New Jersey coastal bays – the keys to success depend on fisher involvement.

**Presentation Description:** Faculty and staff from Stockton University's Marine Field Station have been conducting DFG mapping and removal programs throughout New Jersey coastal bays since 2012. A primary key to success for the Stockton program has been strong engagement with the commercial fishing community (blue crab pot fishery). The Stockton team specializes in training fishers to utilize recreational-grade

side scan sonar units to recover DFG through funded programs in the off-season. These efforts have led to substantial recoveries in-season by the trained partners, resulting in a decrease in annual gear loss and reduced financial hardship resulting from lost gear and catch potential. New funding from the NOAA Marine Debris Program with funding from the Inflation Reduction Act will help create a technology-support hub for fishers from multiple industries and also begin to address ADV issues in NJ coastal waters.

**BIO-** Steve Evert is the Director for Stockton University's Marine Field Station in Port Republic, NJ. Steve holds a B.S. in Biological Oceanography, an MA in Instructional Technology and a 100-ton near-coastal USCG Merchant Mariner credential. His duties at Stockton include management of the Marine Field Station's daily operations including oversight of a fleet of small research vessels (20' – 36' LOA) and hydrographic survey instrumentation. Steve has been co-PI and supporter of several NOAA marine debris awards focusing on DFG removals in New Jersey's coastal bays with an emphasis on involvement of the commercial fishing industry. Steve supports the side scan survey work and commercial partner engagement components of Stockton's marine debris work and is particularly passionate about helping the industry decrease gear loss using side scan sonar.



**Renee Sanders (VIMS)-** Nationwide Fishing Trap, Removal, Assessment, and Prevention (TRAP) Program.

**BIO-** Renee Sanders is a Senior Marine Scientist with the Center for Coastal Resources Management (CCRM) and Project Manager for the Nationwide Fishing Trap Removal, Assessment, & Prevention (TRAP) Program. Renee has several years of experience in wildlife biology, environmental policy, and natural resource management, including efforts involving the mitigation of negative impacts to local resources, communities, and economies. She has worked at the Virginia Institute of Marine Science (VIMS) for approximately three years on a multitude of local and regional environmental science and policy research efforts funded by the National Oceanic and Atmospheric

Administration (NOAA). Before coming to the Chesapeake Bay, Renee worked across a spectrum of ecosystems: as a Wildlife Biology Specialist in the Sierra Nevada Mountains of California on ecosystem health and wildfire mitigation projects, for the U.S. Fish and Wildlife Service and for a wildlife rehabilitation and conservation center in the Sonoran Desert of Arizona, and as a researcher studying the viability of non-native tree plantation operations in the

grasslands of Argentina. She has an M.S. in Environmental Sciences and Policy from Northern Arizona University, a B.S. in Parks and Recreation Management from Arizona State University, and a B.A. in International Affairs from Marshall University. Renee has a deep commitment to coastal communities and endeavors to work with a variety of researchers and stakeholders on real-world solutions to improve local livelihoods and ecosystems. In her spare time, Renee can be found seeking out adventurous excursions in National Parks or in far-flung international destinations, curling up with a good book, or catering to her felines.

## Session 2: <u>Marine Debris Prevention Campaigns & Marine Debris Capture</u> <u>Technology</u>



**Trey Sherard (Anacostia RiverKeeper)**-*Trash Capture Technologies in the Anacostia River Watershed* **Presentation Description:** We'll discuss Anacostia Riverkeeper's experience managing all eight Bandalong Litter Traps in the watershed, including siting, permitting, and installing these traps in the District of Columbia as well as in Montgomery and Prince George's Counties in Maryland. We will also discuss the traps' use for data collection and green jobs benefits before touching on a pilot

with Seabins and a new grant managing all the traps in District including Bandalongs, booms, and a trash cage system.

**BIO-**Trey Sherard, Anacostia Riverkeeper, grew up in and on the ocean in coastal North Carolina, and is wrapping up his twelfth year now with Anacostia Riverkeeper. Recognized by River Network as a 2022 River Hero, he is DC Vice-Chair of the Anacostia Watershed Community Advisory Committee and continues to serve on the Mayor's Leadership Council for a Cleaner Anacostia River. He is an experienced community organizer who has increased engagement and volunteer activity in Anacostia River communities through a variety of partnerships. He helped found Anacostia Riverkeeper's water quality monitoring program, and still helps coordinate Clean Waterways cleanups and Friday Night Fishing in addition to managing the eight Bandalong litter traps in DC and MD, runs ARK's green infrastructure program, and has given many of the Anacostia River Explorer boat tours each year since they began. B.S. Biology Duke University, USCG 100 ton Captain on Inland Waters.

Marina Feeser & Mandi Wells (OC Surfrider & Ocean Friendly Restaurants)-

**Presentation Description-**The Ocean Friendly Restaurants is an offshoot of Surfrider's Rise Above Plastic Program, where restaurants can get recognized for using practices that reduce single use plastics and help the environment in other ways.

Plastic is a problem before it reaches the beach. Single-use plastic is particularly detrimental as bags, bottles, straws, expanded polystyrene foam, and food wrappers consistently top the list of items our volunteers collect at cleanups. Plastic fragments are even displacing plankton as the base of the food chain. It's not just ocean life at stake - plastic contains toxic chemicals that can transfer from containers, cups, cutlery, and straws directly into the food we eat. While the problem may be complex, the solution is simple - **we need to stop plastic at the source!** The Surfrider Foundation's Ocean Friendly Restaurants (OFR) Program does just that. Restaurants that are "Ocean Friendly" pledge to reduce or replace these items from their businesses. The Surfrider Foundation- Ocean City Chapter, in turn, would promote these Ocean Friendly Restaurants and encourage the community to support their efforts. For more detailed information about the OFR criteria, visit the link found

here: http://www.surfrider.org/programs/ocean-friendly-restaurants .



**BIO- Marina Feeser, Chair, Surfrider Foundation Ocean City Chapter** Marina has been volunteering with the Surfrider Foundation since 2017, but has loved being near or on the water since childhood. Since then she has become a voice for protecting our local waterways and has been chair of the Ocean City chapter of the Surfrider Foundation for about 3 years. Our chapter works toward clean water and healthy beaches for all, through a variety of programs centered around preventing plastic pollution and advocating for public beach and water access, ocean protection and

coastal preservation. Marina also serves on the City of Salisbury's Green Team to help the city advance its sustainability efforts, while protecting our city's beloved Wicomico River, tributary of the Bay. Marina also works as a development specialist for the Delaware Center for the Inland Bays, protecting, preserving, and restoring 3 of the state's beautiful Inland Bays. In her spare time you'll almost always find her out enjoying the water on her paddleboard.



**BIO- Mandi Wells, Secretary, Surfrider Foundation Ocean City Chapter** Mandi has been a member of the Surfrider Foundation since 2018, but has always loved protecting the oceans and beaches. She has been the secretary of the Ocean City Chapter of the Surfrider Foundation for almost 3 years. The OC chapter works toward clean water and healthy beaches for all, through a variety of programs centered around preventing plastic pollution and advocating for public beach and water access, ocean

protection and coastal preservation. Mandi is also the advisor of the Stephen Decatur High School Surfrider Club, where she has been a member of the faculty for the past 24 years. Her two favorite activities to do with the club are beach cleanups and attending Coastal Recreation Hill Day. a day of ocean protection advocacy with state and federal representatives in Washington DC. Mandi's hobbies include family fun time on her boat and on the beaches of OC.



**Dr. Christy Tyler (Rochester Institute of Technology)**- *Mitigation of stormwater debris in the Great Lakes.* 

**Presentation Description:** The majority of debris in freshwater and marine ecosystems originates on land. However, input estimates are coarse and we know little about the source, composition or fate of watershed-derived debris. To close this gap, we are sampling debris input across a rural to urban gradient in the Rochester, New York, region. We use three techniques to capture debris: modified manta

trawls in tributaries, LittaTrap storm drain inserts in suburban and urban stormwater systems, and SeaBins at river mouths. Our preliminary results suggest that debris composition is highly spatially and temporally variable. Of the three techniques, the LittaTrap is a more effective debris-interception technology and it can also be used as an effective community engagement tool.

**BIO**-Christy Tyler is a professor of Environmental Science at the Rochester Institute of Technology. She is an ecosystem ecologist and has worked across coastal marine and freshwater ecosystems on issues related to biogeochemistry, biodiversity, invasive species, and restoration. Her most recent work focuses on input, fate and impact of plastic debris.

## LUNCH- Marine Debris Art Display in Exhibit Hall

- Marc Emond- Local Artist of Stinky Beach Studio
- Prince George's Soil and Water Conservation District Marine Debris
   Sculpture
- <u>Assateague Coastal Trust Marine Debris Art Table</u>
- NOAA Marine Debris Art submitted by students

## Session 3: <u>Marine Debris Policy</u> *Part 1*



Robin Dunbar (PhD Candidate)- Policy Approaches to Marine Debris Removal: A Qualitative Study of Virginia's Elizabeth River Presentation Description:From Homer's The Odyssey, Jules Verne's 20,000 Leagues Under the Sea and Rachel Carson's Silent Spring to the Save Our Seas Act of 2020 the environmental movement and policies in the United States has continued to grow. Unfortunately, the marine debris (litter) and plastics in our ocean and rivers has also grown along with gaps in knowledge for sustainable solutions. Robin Dunbar, PhD Candidate at Old Dominion University in Public Administration and Policy will combine art and science to review the U.S. environmental policy – with a special focus on her research on marine debris in industrial ports and estuaries.

BIO-With an academic goal to become a professor and researcher, she is an Old Dominion University PhD candidate in the Strome College of Business in Public Administration and Policy and is studying environmental policy and watershed management with a focus on marine debris (litter) in industrial ports and rivers. Her research is titled Multisector Stakeholder Views and Policy Approaches to Marine Debris Removal: A Qualitative Case Study of Virginia's Elizabeth River. In addition, for twenty-three years, she has worked for the nonprofit Elizabeth River Project as the Deputy Director of Education and created and led award-winning environmental education programs to inspire youth to help restore one of the most polluted rivers of the Chesapeake Bay. Her education platforms include the water based, 120' x 32' Dominion Energy Learning Barge that is powered by the wind and sun, known as America's Greenest Vessel, and that was designed in partnership with the University of Virginia School of Architects. Her land-based platform includes the 40-acre Paradise Creek Nature Park that includes an ADA accessible kayak launch, a maritime forest, a River Academy, and a natural playground that she designed. She has managed over 2.7 million dollars in grant and dozens of awards including from the Whitehouse and the National Science Foundation, the 2019 Presidential Award for Science, Mathematics, Engineering, and Mentoring and she was recognized as a Local Legacy in 2000 during the Bicentennial of the Library of Congress, by the Late Congress Sisisky. She has presented to hundreds of audiences including a Congressional Briefing to the Environmental Protection Agency as a 2011 award recipient for the People, Prosperity, and the Planet Program. She also founded the nonprofit Hampton Roads Alliance for Environmental Educators that keeps over 500 members up to date through a monthly e-newsletter and with a goal to think big, foster partnerships and increase communication. In addition, she is a certified National Geographic educator, participated in team science transdisciplinary capacity-building with the Alan Alda Center for Communicating Science and served as an Earth Watch scientist in an expedition in the Andorran Pyrenees Mountains in France. Her career reflects the fusion of art and science, and she enjoys sculpting, painting, glass bead work, and outdoor explorations along coasts.

# **Dr. Nancy Lauer & Michelle Nowlin, J.D. (Duke University)-** *Data Driven, Local Policy for Reducing Marine Debris*

**Presentation Description:** This talk will cover the measures that inland cities can take to reduce marine debris, including through reduction policies and stormwater controls.



**BIO- Dr. Nancy Lauer** is a lecturing fellow and staff scientist with the Duke Environmental Law and Policy Clinic. Since joining Duke Law in 2018, Dr. Lauer has worked on a wide range of

environmental policy matters including drinking water quality, children's exposure to toxic chemicals, hazardous waste remediation, and single-use plastics. Dr. Lauer has contributed to the successful passage of new regulations requiring North Carolina child care centers to test

their water for lead, an effort that received the Roy Family Award for Environmental Partnership and the Mutual of America Community Partnership Honorable Mention. She has also worked with the City of Durham on measures to reduce plastic pollution through stormwater controls and reduction policies.

Dr. Lauer is a classically trained environmental geochemist with expertise in water quality, contaminant tracing, and radioactivity. Prior to coming to Duke Law, her research focused on the environmental health implications of mismanaging waste products from hydraulic fracturing, conventional oil and gas extraction, and coal combustion. Dr. Lauer's research uncovered the legacies of soil and water contamination from years of spills and inadequate treatment of oil and gas wastewater in the Bakken region of North Dakota and the Marcellus region of Pennsylvania. Her research is featured in 12 publications in leading scientific research journals, including Environmental Science & amp; Technology, Science Advances, and Earth and Planetary Science Letters, among others.

Dr. Lauer received her PhD from the Duke Nicholas School of the Environment in 2018 and her Bachelor of Science in Geology and Minor in Environmental Science from the College of William and Mary in 2013.



**BIO- Michelle Nowlin** is the co-director of the Environmental Law and Policy Clinic at Duke University School of Law and the Nicholas School of the Environment. She supervises clinic students from the Law School and the Nicholas School of the Environment in their work for nonprofit and community-based organizations. Since joining the Clinic faculty in 2008, Nowlin has worked with students on a range of matters, including the development of a precedent-setting settlement with the state of North Carolina to protect endangered sea turtles, filing an

amicus curiae brief with the U.S. Supreme Court on behalf of low-wealth communities challenging mountaintop-removal mining practices, collaborating with community partners for innovative approaches to reduce marine debris and plastic pollution, and crafting measures to protect children from lead poisoning hazards. Nowlin enjoys engaging students in research and policy development to address current environmental problems, and has designed research-based classes such as Regenerative Grazing to Mitigate Climate Change and the Conservation of Migratory Marine Species to complement her clinic work. She is also engaged in several working groups on plastic pollution. Nowlin currently serves a faculty advisor for the Duke Environmental Law and Policy Forum and chairs the faculty advisory committee on Public Interest/Pro Bono. She is a past chair of the American Association of Law School's Food and Agriculture Law Section, and currently serves on the AALS' Environmental Law Section executive council. She received the University's Faculty Award for Outstanding Leadership in Sustainability in 2013.

Nowlin has dedicated her career to the protection of natural resources and public health through the practice of environmental law. Prior to joining Duke's faculty, she was a senior attorney with the Southern Environmental Law Center in Chapel Hill where she led the organization's initiative to develop and implement pollution control programs for Concentrated

Animal Feeding Operations, developed a template for integrating water resource and water quality planning, and litigated cases pursuant to the Clean Water Act, Endangered Species Act, and National Environmental Policy Act. For her advocacy work, she was named an Honorary Warden by the North Carolina Audubon Society in 2006, and received the Bill Holman Award for Environmental Advocacy, awarded by the Conservation Council of North Carolina, in 1997. Nowlin is a member of the North Carolina Bar and the D.C. Bar and is admitted to practice in the state and federal courts of North Carolina, the U.S. Fourth Circuit Court of Appeals, and the U.S. Supreme Court. She has served on the boards of directors of several nonprofit and civic organizations, including a term as chair of the Environment, Energy and Natural Resources Law Section of the North Carolina Bar Association. She was named a Neighborhood Hero by Durham's Inter-neighborhood Council in 2007, in recognition of her community work. Nowlin earned her B.A. with Highest Honors from the University of Florida, where she was also inducted into Florida Blue Key and Phi Beta Kappa. She earned a dual J.D./M.A. from Duke Law School and the School of the Environment in 1992.



### Abdulai Fofanah (NYC Dept. of Environmental Protection)-

Addressing Trash in the City of New York's Stormwater **Presentation Description:** The New York City (City) MS4 SPDES permit requires the City to develop and implement a floatable and settleable trash and debris management program. The objectives of the program are to determine the loading rate of floatable and settleable trash and debris from the MS4 to water bodies listed as impaired for floatables in the MS4 areas and to assess and implement strategies to reduce floatable and

settleable trash and debris to water bodies listed as impaired for floatables in the MS4 areas. To address these permit requirements, the City is implementing a robust floatables control program, including street sweeping; catch basin hoods and maintenance; booms and nets that catch materials discharged from outfalls; and open water skimmer vessels that collect floatables from booms, nets and surface waters. Additionally, the City administers a variety of public awareness campaigns, education and outreach, as well as public participation programs that encourage the public to help manage trash and debris. The City also administers a variety of rules and regulations to keep the streets clean and free of litter. Per permit requirement, the City is currently implementing a floatables loading rate study to estimate loading rates for specific waterbodies as well as the whole MS4 area of the City. After analyzing the results of the loading rate study, the City will propose a methodology for siting, selecting, and sizing additional controls to reduce floatables from the MS4. This method will identify and prioritize areas for additional controls and may consider factors such as waterway characteristics, neighborhood characteristics, and existing controls. The City also has an ongoing floatables monitoring program that is based on observations of the presence/absence of floatables from monitoring sites throughout New York Harbor.

The presentation will highlight the challenges the City faces in controlling floatables, existing floatables control programs, ongoing floatables monitoring and loading rate study, and the next

steps in controlling floatables from MS4 areas.

**BIO-** Abdulai Fofanah is a Managing Director and Administrative Engineer with over 20 years of water resources engineering and MS4 permitting experience. Since 2016, he has been employed with the Department of Environmental Protection of the City of New York. Prior to that, Mr. Fofanah spent fifteen years working at Louis Berger Group, Inc. (now WSP). He has a bachelor's degree in civil engineering and a master's degree in water resources engineering. In addition to being a registered professional engineer in the states of New York and New Jersey, he is also a certified Diplomate, Water Resources Engineer (D.WRE) of the American Academy of Water Resources Engineers (AAWRE) and a Certified Floodplain Manager (CFM). He enjoys reading, traveling, and volunteering.

## Part 2



Zach Huntington (Exec. Director, Clean Virginia Waterways)- Using Voter Surveys to Inform Public Policy & Education Campaigns Presentation Description: In the spring of 2022, Clean Virginia Waterways, the Virginia Coastal ZoneManagement Program, and OpinionWorks completed a survey of registered Virginiavoters to develop a better understanding of what marine debris and plastic pollution reduction policies Virginia voters are most likely to support. The survey contributes to the understanding of Virginian's attitudes toward plastic pollution and what policies they would like to see pursued and enacted going forward.

The information gained from the voter perception survey provides valuable insight forClean Virginia Waterways and partner organizations, allowing us to tailor our priorities and subsequent action plans on policies and solutions with the most public support. For organizations with limited budgets, truly understanding what will galvanize and mobilize community members ensures the priorities they invest in are the most likely to be achievable and resonate with the public.

The survey is identified as a near-term goal of the Virginia Marine Debris Reduction Plan and continues to be a successful joint effort that produces meaningful results. **BIO-** Zach Huntington is the Executive Director of Clean Virginia Waterways and works to enhance the health of Virginia's water resources through

pollution prevention, education and stewardship activities. His work focuses on using data and graphical analysis to identify strategies to address plastic pollution and marine debris challenges that are environmentally and economically sustainable. Zach has a Master of Business Administration (MBA) in Sustainability and Environmental Compliance and a Bachelor of Science in Natural Resources and Conservation.



**Steve Raabe (OpinionWorks)**- Current Project: CBSM Barriers Assessment and Policy Analysis for 3 Marine Debris Types **Presentation Description:** Opinion researcher and behavior change expert Steve Raabe will present results of a new baseline study of public perceptions across the five Mid-Atlantic states. He will discuss impressions of marine debris, public policy preferences to help address the problem, and the public's motivations and barriers related to five behaviors that contribute to marine debris. This benchmark study will provide the foundation for behavior change and policy initiatives across the region over the coming year and beyond.

**BIO-** Steve Raabe is president of OpinionWorks LLC, an independent research firm based in Maryland. Hefounded OpinionWorks in 2001 to apply social science-based research practices to foster behavior change and constituent engagement in environmental stewardship, public health, education, and charitable giving. He measures the public's priorities and attitudes for state and local agencies from Oregon to Delaware. Active in Mid-Atlantic marine debris efforts since 2015, he also is the author of the EPA's ChesapeakeBay Stewardship Index, and is a principal contributor to ChesapeakeBehaviorChange.org. Since 2007, he has been the public opinion pollster for The Baltimore Sun newspaper. He offers his social science expertise nationally to behavior change initiatives for The Recycling Partnership, the Bill & Melinda Gates Foundation, and others, and has conducted brand awareness studies for two dozen colleges and universities from coast to coast. Steve is founding Board Chair of the original Watershed StewardsAcademy in Anne Arundel County, Maryland.



**Claudia Davis (Campaign Associate, Oceana)**- Working with the Business Community to pass New York City's "Skip the Stuff" Bill **Presentation Description:** In late 2022, Oceana's National Business Coalition for the Oceans teamed up with the Reusable NYC coalition to drive business testimony in support of a Skip The Stuff policy in its third iteration. Citing cost savings, waste diversion, and protections for marine ecosystems, the business community

made the strongest case yet for common sense plastic reduction in New York City. **BIO-** As the coordinator of Oceana's National Business Coalition for the Oceans, Claudia supports business leaders whose livelihoods depend on a clean coast as they advocate for policy victories that protect and restore the world's oceans. A Georgia native with a longstanding love for marine life, Claudia is thrilled to stand alongside others in the fight for ocean conservation every day.



Maryland State Senator Malcom Augustine- Extended Producer Responsibility for Packaging Materials Legislation in Maryland Presentation description: Maryland SB 222 starts the process of aligning packaging decisions made by producers with our desired environmental and economic outcomes. An example is the economic and environmental implications of a simple packaging material decision of two nearly identical cups. Many material recycling facilities lack the infrastructure or market to recycle #6 plastic (polystyrene) cups. A #6 cup costs the jurisdiction \$135 per ton to remove from the recycling stream and dispose. On the other hand, a nearly identical #1 plastic (polyethylene terephthalate) cup can easily be recycled and sold for a profit of \$375 per ton. However, producers currently have no incentive to choose #1 plastic over #6 plastic and taxpayers are left footing the bill. Producer Responsibility Programs seek to remedy the problem by incentivizing the Producers who make the packaging decisions to do so with total cost in mind.

**BIO-** Senator Malcolm Augustine is a Marketing Executive with 30 years of experience. First elected to the Senate in 2018 to represent district 47 from Prince George's County, Senator Augustine has been a Member of the Senate since January 9, 2019. Within the Senate, Senator Augustine is Senate President Pro Tempore; Member of the Committee on Education, Energy, and the Environment; Chair, Energy Subcommittee of the Committee on Education, Energy and the Environment; Senate Chair, Special Joint Legislative Committee to Select the State Treasurer; Member, Legislative Policy Committee; Member, Joint Committee on Children, Youth, and Families; Member, Legislative Black Caucus of Maryland; Associate Member, Maryland Legislative Latino Caucus. Outside the Senate, he voluntarily serves on the Boards of Progressive Cheverly, Maryland Patient Safety Center & amp; The State Alzheimer's Council. Senator Augustine is an usher at St Ambrose Catholic Church and is a proud Life Member of Kappa Alpha Psi with a Bachelor of Arts from Harvard.

Collaboration makes all the difference! We hope you'll make some new connections and friendships to help combat marine debris! Please email <u>info@midatlanticocean.org</u> if you need assistance getting in contact with any of this year's presenters!





## <u>Summit Goal</u>

The 2023 Mid-Atlantic Marine Debris Summit seeks to bring together Mid-Atlantic regional entities working on marine debris (including litter that becomes marine debris) - including state and federal agencies, tribes, nonprofit organizations, academia, and other groups - to i, facilitate coordination between regional organizations, discuss current and emerging marine debris fields, highlight solutions to marine debris prevention and reduction, and identify opportunities to incorporate diversity, equity and inclusion into marine debris efforts.

# Summit Objectives

- Foster meaningful coordination among stakeholders, encourage interdisciplinary collaboration, and strengthen partnerships
- Incorporate and emphasize diversity, equity, inclusion, justice, and accessibility principles throughout the summit agenda and experience
- Identify barriers to progress, and opportunities for improvement across Mid-Atlantic marine debris cross-sector initiatives
- Provide a platform for sharing current research, emerging trends, innovative approaches, and highlighting best practices and successful solutions

### Day 1 Agenda

### Wednesday, December 6 9:30 Registration Opens

### 10:00-10:30 PM: Welcome, Opening Remarks & Keynote Address

- Moderator: Will Isenberg
- MARCO Executive Director: Avalon Bristow
- Maryland Department of Natural Resources Assistant Secretary of Aquatic Resources: Karen Fidler
- Keynote Speaker: Yugonda Sample-Jones

10:30-12:30PM: <u>Microplastics & Nanoplastics: Implications on the Environment</u>, <u>Humans, and Wildlife</u>

- Christine Knauss (University of Maryland)- Impacts of Microplastics Ingestion on Oyster Larvae and Implications for Restoration Efforts.
- Todd Thoman(University of Delaware)- Transport of marine microplastic debris in Delaware coastal waters and implications for buoyant zooplankton

### 5 Min Q&A

- Carol Adrianne Smith (Morgan State University)- The high content of degraded microplastics and volatile organic contaminants (VOCs) found in the Chrysaora chesapeakei of the Chesapeake Bay, MD, and its relationship to the aquatic food web. Authors: Carol Adrianne Sauls-Smith, Natalie Drichko, Chunlei Fan, Samuel Mandal, Saroj Pramanik\*
- Britta Baechler (Associate Directory Ocean Plastics Research, Ocean Conservancy)-Microplastics in the U.S.: Public knowledge, concerns and food exposure from commonly-consumed protein products

#### 5 Min Q&A

- Hayden Boettcher (University of Delaware)- Effects of Polyethylene Terephthalate Microfibers on Mud Crab Panopeus herbstii Throughout Larval Development
- Bob Murphy(TetraTech)- Development of an Ecological Risk Conceptual Model for Microplastics and Striped Bass in the Potomac River Estuary

### 5 Min Q&A

### 12:30-1:30PM: Lunch & Poster Presentation in Main Room

- EeShan Bhatt, Institution: Applied Ocean Sciences
- Miranda Keefer, Early Career Professional University of Delaware School of Marine Science & Policy
- Nicole Trenholm from University of Maryland Center for Environmental Science, Horn Point Lab. #215-208-4464 PhD student and non-profit director of the Ocean Research Project (Will present on Day 2)

### 1:30-2:30PM: Coastal Storm Debris-Preparing for and Responding to Marine Debris

### **Generated During Natural Disasters**

- John Gallagher (Director of Hydrographic Operations, Maryland DNR)- Hydrographic Operations Debris Removal Efforts Due to 2018 Post Storm Impacts.
- Kathleen Bergin (Program Manager for Field Operations, DNREC Division of Watershed Stewardship-Case Study: Hurricane Sandy and the continued impacts of marine debris in Delaware.
- William A. Burket, Jr.(Senior Director, MIRT and Business Continuity Virginia Port Authority)-Assessing Debris within the waterways of the Commonwealth of VA after severe weather.

### 2:45-4:45PM: Community Engagement Initiatives in Marine Debris

- Laura Jean Checki- Education and Public Outreach (EPO): What we do here means everything there
- Diana Burich (NY & NJ Sea Grant)-Community Science to Address Microplastic Pollution in Environmentally-Underserved Urban Watershed Communities in New Jersey and New York

**COFEE BREAK** 

• Johanna Guardado (Programs Coordinator Defensores de la Cuenca)& Nancy Morales - La Academia de Defensores

### 4:30PM: Closing Remarks

6:00PM: Marine Debris Trivia Night at Seacrets!

### Day 2 Agenda

## Thursday, December 7

### 8:30 Registration Opens

### 9:00-9:15AM: Opening Remarks

### 9:15-11:20AM: Marine Debris Reduction: Large Scale Removal Projects

- Karen Wilson Forget-Bringing Regional Partners Together to Remove AdVs and Forge a New Statewide Approach
- Alanna Keating- Boat U.S. Foundation

### 10 Min Q&A

10 Min Coffee Break

- Ward Slacum, Jr. (Executive Director, Oyster Recovery Partnership)- Use of VIMS Survey Data, Watermen's Perspective, and successful removal projects in MD
- Brittany Haywood (Delaware Sea Grant)- Derelict Crab Pots in Delaware's Inland Bays
- Steve Evert (Director for Stockton University's Marine Field Station)- 10 years of DFG removals in New Jersey coastal bays the keys to success depend on fisher involvement.
- Renee Sanders (VIMS)- Nationwide Fishing Trap, Removal, Assessment, and Prevention (TRAP) Program.

10 Min Q&A

### 15 Min Coffee Break

### 11:20-12:30PM: Marine Debris Prevention Campaigns & Capture Technology

- Trey Sherard (Anacostia RiverKeeper)-Trash Capture Technologies in the Anacostia River Watershed
- Marina Feeser & Mandi Wells (OC Surfrider & Ocean Friendly Restaurants)

• Dr. Christy Tyler (Rochester Institute of Technology)- *Mitigation of stormwater debris in the Great Lakes.* 11 Min Q&A Panel Discussion

### 12:30PM: Lunch & Art Display in Main Hall

- Marc Emond- Local Artist of Stinky Beach Studio
- Prince George's Soil and Water Conservation District Marine Debris Sculpture
- Assateague Coastal Trust Marine Debris Art Table
- NOAA Marine Debris Art submitted by students

### 1:30-4:00PM: Marine Debris Policy

- Robin Dunbar (PhD Candidate)- Policy Approaches to Marine Debris Removal: A Qualitative Study of Virginia's Elizabeth River
- Dr. Nancy Lauer & Michelle Nowlin, J.D. (Duke University)- Data Driven, Local Policy for Reducing Marine Debris
- Abdulai Fofanah (NYC Dept. of Environmental Protection)- Addressing Trash in the City of New York's Stormwater

### 15 Min Q&A

### 5 Min Break

- Zach Huntington (Exec. Director, Clean Virginia Waterways)- Using Voter Surveys to Inform Public Policy & Education Campaigns
- Steve Raabe (OpinionWorks)- Current Project: CBSM Barriers Assessment and Policy Analysis for 3 Marine Debris Types
- Claudia Davis (Campaign Associate, Oceana)- Working with the Business Community to pass New York City's "Skip the Stuff" Bill
- Maryland State Senator Malcom Augustine- Extended Producer Responsibility for Packaging Materials Legislation in Maryland

### 4:00PM: Closing Remarks

5:00PM Post Conference Happy Hour at DRY 85 OC!

