2nd Virginia Marine Debris Summit

Summary Report

Watermen's Hall, Virginia Institute of Marine Science, Gloucester Point, VA
March 7th-9th, 2016

Virginia Coastal Zone
MANAGEMENT PROGRAM

2nd Virginia Marine Debris Summit—Summary Report

Prepared by

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Acknowledgments

The 2nd Virginia Marine Debris Summit was sponsored by the Virginia Coastal Zone Management Program with funding from the NOAA Office for Coastal Management. The Virginia CZM Program is a network of Virginia state agencies and coastal localities that implement the state's coastal management laws and policies. The Virginia Department of Environmental Quality (DEQ) serves as the lead agency for the network. The summit was coordinated by Clean Virginia Waterways of Longwood University with support from the summit's planning committee.

Summit Planning Committee

Sharon Baxter, Environmental Enhancement Division Director, Virginia Department of Environmental Quality
Donna Bilkovic, PhD., Research Associate Professor, Virginia Institute of Marine Science
Kevin Dubois, Executive Director of the Norfolk Environmental Commission
Kirk J. Havens, PhD, Director, Coastal Watersheds Program, Asst. Director, Center for Coastal Resources Management, Virginia Institute of Marine Science
Laura McKay, Manager, Virginia Coastal Zone Management Program at DEQ
Susan Park, PhD, Assistant Sea Grant Director, Virginia Sea Grant Program
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Executive Summary

The 2nd Virginia Marine Debris Summit, held March 7 through March 9, 2016, in Virginia, brought together more than 110 federal, state and local resource managers, scientists, community educators, non-profit members, citizens, and representatives of industry and commerce to share knowledge, evaluate progress, and craft next steps in the *Virginia Marine Debris Reduction Plan*. The summit organization was based on the plan's five goals, and included presentations, discussion sessions, informal networking, and collecting input from participants on priorities, resources, and next steps. Summit proceedings revealed the need to continue to promote coordination and collaboration at state and regional levels. Participants pointed to the need for an information hub of programs and activities, which in turn could help in assessing the progress of the plan as partners move more fully into plan implementation. Social marketing was highlighted as an effective tool for understanding and influencing behavior change related to litter prevention and waste minimization and management. Participants expressed a shared need for capacity building (i.e., more funding for their programs, training in social marketing techniques) and welcomed the idea of conducting an economic impact of marine debris in Virginia. Participants also discussed ways to integrate litter/trash programs with existing programs, like the MS4 permit process and the Chesapeake Bay cleanup efforts. Enforcement and awareness of existing laws would also have an impact.

The Virginia Marine Debris Advisory Team will meet later in 2016 to consider results and feedback from the 2nd Virginia Marine Debris Summit, specifically evaluating progress in implementation of the 2014 *Virginia Marine Debris Reduction Plan*.

2nd Virginia Marine Debris Summit

The 2nd Virginia Marine Debris Summit, held March 7 - 9, 2016, at the Virginia Institute of Marine Science, Gloucester Point, Virginia, brought together more than 110 federal, state and local resource managers, scientists, community educators, non-profit members, citizens, and representatives of industry and commerce.

The summit was hosted by the Virginia Coastal Zone Management (CZM) Program with funding from the National Oceanic and Atmosphere Administration (NOAA) Office for Coastal Management. The Virginia CZM Program is a network of Virginia state agencies and coastal localities that implement the state's coastal management laws and policies. The Virginia Department of Environmental Quality (DEQ) serves as the lead agency for the network. The summit was coordinated by Clean Virginia Waterways of Longwood University with support from the summit's planning committee.

The goal of the summit was to review the early accomplishments of the 2014 Virginia Marine Debris Reduction Plan, share ongoing research, explore emerging issues, and provide guidance for the continuing implementation of the VMDRP.

This summary report outlines the organization and planning for the summit, presentation highlights, and specific outcomes and the anticipated next steps.

Summary of the Event

The 2014 plan was an outgrowth of the first Virginia Marine Debris Summit, held in 2013, which also was sponsored by the Virginia Coastal Zone Management Program. Clean Virginia Waterways of Longwood University oversaw development of the plan in collaboration with the Virginia CZM Program, working with a group of stakeholders to identify goals and strategies for reducing marine debris in Virginia waters that were ultimately included in the written plan. Strategies were organized around five main goals:

- Leadership
- Prevention
- Interception
- Innovation
- Removal and cleanup

The plan states that Virginia will pursue a collaborative and coordinated approach to reduce marine debris from land- and water-based sources, and will establish a long-term, over-arching, results-oriented Virginia Marine Debris Advisory Team composed of federal, state, and local government partners as well as partners from relevant NGO's and private businesses.

Planning for the summit commenced following the March 2015 meeting of the Advisory Team. At that meeting, the team agreed that convening a second summit would be an effective way to ensure continued collaboration of efforts and would be timely for communicating new research on the impacts of marine debris, newly emerging marine debris threats, and successes in various programs being implemented in Virginia and beyond. Virginia CZM was able to offer to host a second summit as part of its five-year Ocean Strategy funded by NOAA. Clean Virginia Waterways agreed to coordinate speakers and summit logistics; and a planning committee (consisting of CZM staff and representatives from Virginia Aquarium, Clean Virginia Waterways, NOAA, Virginia Institute of Marine Science, Virginia DEQ, and Keep Norfolk Beautiful – see inside cover) developed the goals and agenda for the summit.

Clean Virginia Waterways worked closely with the Virginia CZM Program on promotion, registration, and handouts. One of the handouts was a 20-page document *"Virginia Marine Debris Reduction Plan: Summary and Look Ahead"* that summarizes marine debris issues, current progress and activities, and provides a brief outline of the 112-page 2014 Virginia Marine Debris Reduction Plan. The summary document is available at: *www.deq.virginia.gov/Portals/0/DEQ/CoastalZoneManagement/Virginia-Marine-Debris-Reduction-Plan-Summary-and-Look-Ahead.pdf*.

The summit agenda was built on the five main goals of the plan. The 25 presenters at the summit included national leaders in marine debris, scientists working to understand the impacts of marine debris on ecosystems and human health, social scientists developing ways to influence behavior change, and representatives from federal, state, and local governments and agencies working to reduce litter and marine debris. **Appendix A** provides a complete list of presentations and speakers, which are also posted on the CZM website: *www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/MarineDebris/2016VirginiaMarineDebrisSummit.aspx*

The summit offered multiple opportunities for presenters and participants to exchange ideas, including Q&A sessions following presentations, early evening receptions, suggestion boards for collecting ideas and feedback during the summit, and small group facilitated discussions ("Deep Dives") held the final morning of the summit. Following the summit, participants were invited to provide feedback on the summit and suggestions for future investigation and discussion through an online survey.

The summit participants represented more than 55 organizations and included state and local resource managers, community educators, and representatives of manufacturers and businesses. **Appendix B** includes the list of organizations represented and the names of the participants.

All summit materials were subsequently posted online at the CZM web site, where this summary and associated documents will also be posted. [See *www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/MarineDebris/2016VirginiaMarineDebrisSummit.aspx*].

More than 100 news outlets were contacted prior to the summit, resulting in good coverage by newspapers, radio, TV, and journal coverage during and after the summit**. Appendix C** provides details of media coverage.

Summit Outcomes

Information Sharing

The summit provided an opportunity for participants to become aware of recent marine debris science, tools, and programs, in many cases directly from lead scientists and program managers. The summit was an opportunity to provide the latest information to all participants, with ample opportunity for follow-up questions, networking, and brainstorming about possible solutions and next steps. Laura McKay, Coastal Zone Management Program Manager, noted that the summit marked a significant milestone in moving from the planning phase to the action phase of the marine debris reduction plan.

NEW TOOLS & RESOURCES

Noteworthy were several new tools and research articles being used by researchers and program managers to better understand the scope and impact of marine debris:

- **The Marine Debris Tracker:** This app for smart phones and tablets was developed by the University of Georgia in conjunction with NOAA. Using this app, anyone can easily report where they find marine debris or litter anywhere in the world (see http://www.marinedebris.engr.uga.edu/)
- **NOAA's Marine Debris Monitoring and Assessment Project** (MDMAP): The NOAA Marine Debris Program implemented MDMAP in order to collect baseline data and record of the amount and types of debris in the environment through regular monitoring using a set protocol. Data can be used by citizen scientists and program managers (see https://marinedebris.noaa.gov/research/marine-debris-monitoring-and-assessment-project)
- **Ocean Conservancy's Clean Swell:** This app for smart phones and tablets was developed by Ocean Conservancy. Using this app, anyone can easily report data about 19 types of marine debris (see http://www.oceanconservancy.org/do-your-part/about-clean-swell.html)
- **Impact of Plastic Pollution on Marine Wildlife**: This article uses expert elicitation to estimate the impacts of plastic pollution on marine wildlife. The data for this research came from 274 experts around the world, as well as 30 years of information collected by the Ocean Conservancy's International Coastal Cleanup program. This article can be downloaded from: http://www.oceanconservancy.org/our-work/marine-debris/threat-rank-report.html.
- **Chesapeake Bay Program's "Technical Review of Microbeads/Microplastics in the Chesapeake Bay."** This report, by the CBP's Scientific and Technical Advisory Committee, provides information on the fate and transport of microplastics, potential impacts on wildlife, treatment options and the urgency of the issue. http://www.chesapeake.org/stac/index.php
- ***Scientific Evidence Supports a Ban on Microbeads*** Article in Environmental Science and Technology. A PDF of this article can be downloaded from the CZM Program website.
- **Correction to *Scientific Evidence Supports a Ban on Microbeads*** Article in Environmental Science and Technology. A PDF of this article can be downloaded from the CZM Program website.

While nearly all of the presentations from the summit are available online, here are a few highlights. Presentations and other resources can be found here: *www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/MarineDebris/2016VirginiaMarineDebrisSummit.aspx*

Marine debris and water-borne trash are becoming more widely seen as "pollutants" in the regulatory sphere, as research shows the harmful impacts of plastics in waterways on wildlife, water quality, and possibly humans. Dr. Chelsea Rochman discussed the work of scientists around the globe to raise awareness of the toxic chemicals found in marine debris; Dr. Robert Hale (VIMS) warned that chemicals, including flame retardants, used in the manufacture of plastic objects can easily leach into the environment, including waterways.

At the summit, discussions and presentations emphasized trash and litter management through Municipal Separate Storm Sewer System (MS4) permit requirements, highlighted as an emerging tool for municipalities to limit litter that finds its way into freshwater, estuarine, and marine waterways. The summit's keynote speaker, David Paylor, director of the Virginia Department of Environmental Quality, spoke about the use of MS4 permits, but cautioned that—at least in Virginia—developing water quality impairment standards for trash-free waters using the Clean Water Act's Total Daily Maximum Load (TMDL) process would not confer any additional authority from DEQ beyond its existing authority.

However, municipalities in California have utilized the Clean Water Act and TMDLs to put the Los Angles River "on track to be free of trash from storm drains" in 2016. Some California cities have reduced trash discharges 97 percent to 99 percent using capture devices, public education, and street sweeping. Eben Schwartz, Marine Debris and Public Outreach Manager for the California Coastal Commission, described California's Trash Control Policy, the first in nation, which set a goal to reduce waste sent to landfills by 75 percent by 2020.

At the same time, summit participants learned from LeAnn Astin from the Stormwater Planning Division, in Fairfax County, Virginia, how that county is utilizing the voluntary component of its Phase I MS4 permit to reduce floatables in the stormwater waste stream and engage citizens in data collection.

One highlight of the summit was a presentation by the Ruling Robot Falcons, a group of middle school students who creatively demonstrated a keen understanding of the issues surrounding marine debris and commitment to tackle these issues. The young student-scientists shared information about their award-winning efforts to create balloons made of digestible substances that biodegrade quickly in the environment so as not to harm wildlife.

Ann Jennings from the Chesapeake Bay Commission—a tri-state legislative body representing Virginia, Maryland, and Pennsylvania—warned that any legislative solution to any water quality or environmental issue must be carefully crafted and analyzed during development and passage, lest it give rise to unintended consequences or miss its intended impact. Fresh on the minds of many participants was the recent enactment of the Microbead-Free Waters Act of 2015[1], which bans rinse-off cosmetics that contain intentionally-added plastic microbeads beginning on January 1, 2018, and bans the manufacturing of these cosmetics

[1] *www.congress.gov/congressional-record/2015/12/7/house-section/article/H9021-1*

beginning on July 1, 2017. While the act is generally seen as a positive step forward, it leaves significant gaps in management of microbeads, which are in turn only a small subset of plastic marine debris.

Alison Hammer Weingast, NOAA Marine Debris Division Deputy Chief, Office of Response and Restoration, spoke about the importance of raising public awareness about marine debris before pursuing legislative solutions.

Jason Rolfe, NOAA Mid-Atlantic and Caribbean Regional Coordinator for the NOAA Marine Debris Program covered three urgent and emerging projects: regional efforts to address marine debris, marine debris that results from disasters (e.g. floods, hurricanes, etc.) and vessels that are abandoned or become derelict.

The summit showcased the use of social marketing campaigns to address the source of one deadly type of marine debris: balloons that are intentionally released into the air during celebrations, memorials, and sporting events. This work—identified during the development of the marine debris reduction plan as "high impact" and "doable" in Virginia—is one component of the first phase of implementation of the plan. Virginia CZM and its partners have had success in encouraging the adoption of native plants to increase wildlife habitat using social marketing techniques, and the balloon social marketing campaign is expected to have similar results.

Participants learned about various marine reduction programs that are gaining traction in Virginia: the "Beachy Clean" litter prevention campaign in Virginia Beach, the Hampton Roads Cigarette Litter Prevention Project, the Pearl Home & Pearl School reward programs to influence daily habits, and the Pearl Faith Communities program in Hampton Roads that includes trash and litter reduction as a part of programs designed for houses of worship engaged in "creation care." The American Canoe Association (headquartered in Fredericksburg, VA) has a "Streams to Sea" initiative that equips paddlers to monitor and collect trash during paddling trips on Virginia waterways and the Chesapeake Bay.

Links to the programs mentioned above:

- Beachy Clean: www.longwood.edu/cleanva/beachyclean.html and https://beachycleanvb.org/
- Hampton Roads Cigarette Litter Prevention Project: http://askhrgreen.org/reducing-cigarette-litter/
- Lynnhaven River Now Pearl Programs:
    - Pearl Home: www.lynnhavenrivernow.org/pearl-homes/
    - Pearl School: www.lynnhavenrivernow.org/pearl-schools/
    - Pearl Faith: www.lynnhavenrivernow.org/pearl-faith/
- American Canoe Association's Streams to Sea: www.americancanoe.org/?page=StreamtoSea

Innovation also can play a role in reducing plastic in our waterways as outlined by Dr. Kirk Havens of VIMS who discussed making shotgun wads that will biodegrade using the same biodegradable plastics that are used to make "ghost" crab pots less deadly.

Finally, summit organizers offered a wrap-up presentation that outlined several of the "emerging issues" in marine debris reduction. The issues highlighted included:

- "Leave on" personal care products, not covered by the 2015 act, that include microbeads.
- Use of body glitter for personal adornment.
- The impact of nanoplastics (less than 100 mm in size), likely to pose a threat to marine organisms.
- Micro or nano-plastics entering the water and air from synthetic clothing in washing machines and dryers.
- Microplastics entering the aquatic and marine environment from the land application of sewage sludge.
- The increasing use of polystyrene in commercial and residential building projects, resulting in waste fragments entering the environment.
- An increasing number and wider variety of events utilizing balloon releases, e.g., tying a baby teething device to a balloon when it is time for a child to stop using pacifiers.
- Increase use of single-use packaging including K-cups (single-use coffee brewing containers) that are increasingly being found in beach cleanups.

On the positive side, the following programs were cited:

- Waste to worth programs, such as the "Left-Behind" program for beaches in Galveston, Texas, where beach goers can leave (in designated areas) items for other beach visitors to use in the future. This "free-cycle" program collects items that otherwise could become trash (boogie boards, lounge chairs, beach toys).
- Companies that turn marine debris items into toys, clothing, skateboards and other useful items.
- Technological innovation for intercepting trash, such as the Baltimore "trash wheel."
- Cleanup technologies, such as screening (sifting) devices for cleaning microplastics from beaches.

Speakers also cited the need for clear definitions of plastic waste, microplastics, and types of personal care products tied to legislative and regulatory solutions, as well as the need for funding to address marine debris prevention and reduction programs.

Planning and Implementation

The summit was organized around the five goals of the plan, which served to inform participants of programs and developments in Virginia and beyond that were addressing strategies[2] outlined in the plan. There was an emphasis on prevention and interception, the first lines of defense against litter and debris entering waterways.

NOAA's Jason Rolfe said that he has used the *Virginia Marine Debris Reduction Plan* as an example in working with other states, including Florida, to help them develop their own

[2] Plan strategies fall into these categories: influencing individual behaviors; fostering collaboration; increasing knowledge; securing adequate funding; and improving regulations.

reduction plans. The 2016 summit, he said, was a validation that the planning process made sense. He noted that the more diverse stakeholders and the continued involvement of participants at the summit shows that Virginia's collaborative process is working. Summit attendees were asked to make suggestions and recommendations for how to leverage the plan to enhance existing programs and improve collaboration among organizations for more effective marine debris reduction in Virginia waters. The final day's "Deep Dives" were small group, facilitated sessions designed to share ideas, identify barriers to success, and foster further collaborative efforts. These sessions were organized around the following themes:

- **Multi-state partnerships:** collaboration toward regional approaches to marine debris reduction
- **Single-use consumer items:** voluntary and mandatory approaches; where to go next in Virginia.
- **Microplastics:** in light of the recent federal ban on microplastic in personal care items—what is next?
- **Engaging a wider audience:** how to get beyond "preaching to the choir"
- **Derelict fishing gear and abandoned and derelict vessels:** building capacity in Virginia for removal (authority, policy, funding)
- **Building capacity and funding:** exploring funding sources (use fees, litter tax, public/private partnerships, etc.) to address many marine debris prevention and mitigation projects
- **Social marketing:** brainstorming future social marketing campaigns; discussion of the steps; building capacity
- **Cigarette litter prevention:** successes, challenges, how to implement in your community

Notes from the Deep Dive sessions were reviewed and, together with feedback during the summit and survey responses after the summit, the following ideas emerged as possible next steps for implementation of the plan. (**Appendix D** is a compilation of notes from the Deep Dive sessions. **Appendix E** is the post-summit survey results.]

<u>Next Steps Identified For Implementation of the Marine Debris Reduction Plan</u>

Several themes emerged from comments made during summit presentations, during the Deep Dive sessions, and post-summit survey input:

1. **Assess progress of the plan.** With near-term goals and strategies of the plan underway, it is important now to assess progress towards achieving these goals and effectiveness of the strategies outlined in the plan. This assessment will help managers adapt the goals and strategies based on progress and successes, as well as identify the mid-term goals of the reduction plan.

2. **Regional planning.** Participants identified support for enhancing and clarifying regional planning efforts. NOAA's Marine Debris Program office is facilitating discussions for a mid-

Atlantic regional plan, inspired by Virginia's methodology that would include coastal states from New York to Virginia. At the same time, the Mid-Atlantic Regional Planning Body (which addresses ocean waters off Virginia, Maryland, Delaware, Pennsylvania, New Jersey and New York) has incorporated development of a regional marine debris reduction strategy(ies) into its draft Mid-Atlantic Ocean Action Plan (*http://www.boem.gov/Ocean-Action-Plan/*). In addition, the Chesapeake Bay Program, whose watershed approach to pollution prevention and reduction, includes the inland watersheds of New York, Pennsylvania, West Virginia, Maryland, Delaware, Virginia and the District of Columbia may be another logical partner to include in a regional effort. Summit participants noted the need for identifying lead organizations, but also clarifying the role of regional vs. state vs. local governments and organizations.

3. **Promote more coordination and partnerships**. The summit provided opportunities for more extensive collaboration, with representation of important constituencies: local government, Virginia state parks, youth-focused groups and faith communities. Attendees recognized other partnerships that would be beneficial: retail (including big box) business sector; tourism interests; and volunteer service organizations, such as Master Naturalists.

4. **Provide an information hub.** Summit participants acknowledged the importance of knowing who was doing what. Often similar programs go by different (or local) names. Creating an accessible information hub for all activities, programs, and scientific investigations that are taking place in or affect marine debris reduction in Virginia would help the Advisory Team understand where the gaps are regionally and strategically. The information hub could utilize the organizational goals of the plan and further serve to assess progress towards stated goals.

5. **Shared need for capacity building.** Participants confirmed that there is considerable interest in increasing capacity of partners to apply *social marketing techniques* as well as to share experiences and lessons learned applying these techniques. Participants acknowledged the need for more tools to more effectively "tell the story" about marine debris and engage a wider audience, e.g., general public or other stakeholder groups (via mass media, social media, or other multi-media venues). The Chesapeake Bay Program is developing Citizen Stewardship Indicator[3] as a way to establish a baseline from which a local jurisdiction can guide its efforts and measure progress for meeting its education and outreach goals and requirements. This tool may provide a way for local jurisdictions to evaluate a trash and marine debris knowledge base and waterway

With confirmation that partners are very interested in learning more about social marketing, the Virginia CZM Program is funding a two-day community-based social marketing training workshop with Doug McKenzie-Mohr in Richmond on June 5-6, 2017 for invited practitioners in Virginia and its Mid-Atlantic partners.

[3] *http://chesapeakestormwater.net/wp-content/uploads/dlm_uploads/2016/05/Achieving-Citizen-Stewardship-Webcast-FINAL.pdf*

stewardship along with other pollutants of concern (e.g., nutrients and sediment).

Also, the Chesapeake Bay Trust is building the Chesapeake Bay Outreach Campaign database, which may be useful for identifying key elements of successful campaigns, potential program partners, and gaps in existing outreach programs in Virginia.

6. **Funding.** A common theme throughout the summit was the need for more funding for programs and activities— at the federal, state and local levels. In Virginia, there may be opportunities to encourage marine debris prevention through use fees (e.g., plastic bag laws/fees); stormwater utility fees; the Virginia litter tax; NOAA Marine Debris Program Grants, and public/private partnerships. Several EPA grants were cited as possible avenues for funding large-scale projects, especially if marine debris can be classified as a form of water pollution.

7. **Economic impacts of marine debris.** There were several calls for undertaking a rigorous economic impact study keyed to Virginia interests that could be used for outreach efforts and legislative initiatives as well as obtaining funding.

8. **Integrating litter/trash programs with existing programs**. Summit participants heard presentations about integrating waste and litter reduction programs with other existing regulatory and voluntary programs, such as the MS4 permit requirements and designation of local waters impaired due to trash. Opportunities exist to partner with local and regional nonprofits and local and state agencies (such as Virginia Department of Conservation and Recreation) to help them integrate litter prevention and cleanup activities into existing programs. For example DCR State Parks staff reported on their adoption of a "no balloon releases" policy within state parks.

9. **Focus on single-use items and single-issue campaigns.** Conference participants continue to express interest in focusing, in part, on "single-use" items (beverage containers, straws, fast food packaging); cigarette butts; and balloon releases. Post-conference survey participants, especially, hoped for increased attention to controlling cigarette butt waste.

10. **Enforcement (and awareness) of existing laws.** Marine debris reduction of certain items may be radically improved through improved awareness and better enforcement of laws that already exist in Virginia, such as those that govern large-scale balloon releases, littering, and illegal dumping.

Recommendations For a Third Summit

There seems to be genuine interest in having a third marine debris summit in Virginia with representatives of an even wider variety of interests and sectors. Participants mentioned groups that they believed were missing or under-represented and that they hoped to work with: emergency response teams and marine-based law enforcement (local and state marine police); industry; retail businesses; local governments including parks and recreation staff;

college students and more young people in general. The majority of the attendees at the 2nd Virginia Marine Debris Summit were federal, state, and local government representatives (from Virginia and other states) in spite of conference organizers' attempts to encourage attendance from other sectors.

Specific topics suggested for future summits included:

- Seafood impacts from plastic and chemical leaching
- Marine debris education ideas
- Establishing marine debris reduction objectives and actions that can and must be addressed through the legislative process and regulatory arena
- Economic model for river and marine litter reduction
- Outreach and engagement throughout Virginia including population centers as well as less populated areas.
- Efforts to decrease marine debris through a fee on single-use plastic shopping bags.

NEXT STEPS

The Virginia Marine Debris Advisory Team will meet later in 2016 to consider results and feedback from the 2nd Virginia Marine Debris Summit, specifically evaluating progress in implementation of the 2014 *Virginia Marine Debris Reduction Plan*.

APPENDICES

Appendix A. Summit program, presenters, and presentations.

The Virginia Marine Debris Summit Program (PDF), includes the full agenda and also abstracts of all presentations. PDFs of most presentations from the summit are posted here: http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/MarineDebris/2016VirginiaMarineDebrisSummit.aspx

Below are direct links to the presentations:

Monday, March 7, 2016

Welcome to VIMS - Dr. John T. Wells, Dean & Director, VIMS

Leadership in Marine Debris: Virginia Coastal Zone Management Program & Partners
Laura McKay, Program Manager, Virginia Coastal Zone Management

Young Scientists: Up to a Marine Debris Challenge (skit)
Ruling Robot Falcons

The Virginia Marine Debris Reduction Plan: A Cleaner Ocean Through Leadership, Prevention, Interception, Innovation, and Removal
Katie Register, Executive Director, Clean Virginia Waterways of Longwood University

Planning for Success: Regional Efforts, Disaster Marine Debris, and Abandoned/Derelict Vessels
Jason Rolfe, Mid-Atlantic and Caribbean Regional Coordinator, NOAA Marine Debris Program

Framework for this Summit: the Five Strategies in The Virginia Marine Debris Reduction Plan
Katie Register, Clean Virginia Waterways

Influencing behavior change on many levels

Communication & outreach: raising awareness about marine debris before legislative solutions are pursued
Alison Hammer Weingast, NOAA Marine Debris Division Deputy Chief, Office of Response and Restoration

Overview of Social Marketing
Erin Ling, Program Coordinator, Virginia Household Water Quality Program, Biological Systems Engineering Department, Virginia Tech and Virginia Cooperative Extension

Social Marketing Research in Action: Understanding The Motives Behind Mass Releases of Balloons
Steve Raabe, OpinionWorks

Reducing Cigarette Litter by Speaking Smokers' Language: Methods and Results of the Hampton Roads Cigarette Litter Prevention Project
John Deuel, Environmental Sustainability Consultant, GreenQuest, LLC

Tuesday, March 8, 2016

KEY NOTE by David K. Paylor, Director, Virginia Department of Environmental Quality (no PowerPoint)

Influencing behavior change on many levels: Exploring voluntary changes

Taking Aim: Making Shotgun Wads That Won't Last Forever
Kirk J. Havens, PhD, Director, Coastal Watersheds Program and Asst. Director, Center for Coastal Resources Management, Virginia Institute of Marine Science

Helping Park Guests Consider Consequences of Balloon and Sky Lantern Releases
Irene C. Frentz, PhD, District Resource Specialist, Virginia State Parks, Virginia Department of Conservation and Recreation

*Incentives That Influence Daily Habits: The Pearl Home & Pearl School Reward Programs*Karen Forget, Executive Director, Lynnhaven Now

Pearls of Faith: Engaging the Faith Communities in Stewardship
Pam Northam, Pearl Home and Pearl Faith Coordinator, Lynnhaven Now

Keep It Beachy Clean: Building Partnerships Reach Beach Visitors
Christina Trapani, Owner, Eco Maniac Company, Marine Debris Researcher & Consultant, Virginia Beach Clean Community Commission

Increasing collaboration among Virginia litter and marine debris prevention and removal projects/ Data collection and analysis

Community Awareness and Engagement: Making The Stormwater Connection
LeAnne Astin, Ecologist II, Stormwater Planning Division, Fairfax County, Virginia

Citizen Science & data collection: tracking tools – standardize data collection
Katherine Shayne for Jenna Jambeck, PhD, Associate Professor, College of Engineering, University of Georgia (virtual connection)

Increasing the marine debris knowledge base

Ecological Threats Posed by the Most Persistent Items of Trash
Allison Schutes, Trash Free Seas Program, Ocean Conservancy

New Stormwater Permit Requirements: Motivating Cities to Take Action to Reduce Marine Debris
Eben Schwartz, Marine Debris and Public Outreach Manager, California Coastal Commission

Economic Impacts of Derelict Crab Pots
Andrew Scheld, PhD, Assistant Professor, Fisheries Science, Virginia Institute of Marine Science

Microplastics and Human Health: Searching For Links
Robert C. Hale, PhD, Professor of Marine Science, Virginia Institute of Marine Science

Developing regulations to reduce the sources of marine debris

Findings from the Chesapeake Bay Commission's review on microplastics and standards of biodegradability (available soon)
Denice Wardrop, PhD, Senior Scientist & Professor of Geography and Ecology and Director, Sustainability Institute, Pennsylvania State University

Effective policy papers: a scientist's contribution
Chelsea Rochman, PhD, Marine Ecologist/Ecotoxicologist, Aquatic Health Program, University of California Davis

Scientific Evidence Supports a Ban on Microbeads Article in Environmental Science and Technology (PDF)
Correction to *Scientific Evidence Supports a Ban on Microbeads* Article in Environmental Science and Technology (PDF)

Words Matter
Ann Jennings, Virginia Director, Chesapeake Bay Commission

EPA Support for Source Reduction (no PowerPoint)
Bob Benson, Senior Program Advisor, EPA Office of Water EPA Trash Free Waters Program

Emerging Issues in Marine Debris
Katie Register, Clean Virginia Waterways & Christina Trapani, Marine Debris Research Consultant

Wednesday, March 9, 2016

Deep Dives
Summit participants choose between several options for an in-depth discussion of the issue.

Wrap-up & Next Steps

Meeting of the Virginia Marine Debris Advisory Team

Appendix B. Organizations (agencies, universities, and institutions) represented at the summit and attendees.

Organizations (agencies, universities, and institutions) represented at the Summit

i. Accomack-Northampton Planning District Commission
ii. American Canoe Association
iii. American Chemistry Council
iv. Arthur Morgan School
v. Assateague Coastal Trust
vi. California Coastal Commission
vii. Chesapeake Bay Commission
viii. Chesapeake Bay National Estuarine Research Reserve-VA
ix. City of Norfolk - Keep Norfolk Beautiful
x. City of Virginia Beach Department of Parks & Recreation
xi. Clean Virginia Waterways, Longwood University
xii. Clearwater Mills, LLC
xiii. Consultant, researcher
xiv. Daily Press Newspaper
xv. DCR-Virginia State Parks
xvi. Delaware Coastal Programs
xvii. District Department of Energy and Environment
xviii. Environmental Resources Planning, LLC
xix. Fairfax County, Stormwater Planning
xx. Glasdon, Inc.
xxi. Gloucester Mathews Gazette-Journal Newspaper
xxii. GreenQuest, LLC
xxiii. Hampton Roads Sanitation District
xxiv. James City County
xxv. James River Association
xxvi. KCI Technologies, Inc.
xxvii. Keep Virginia Beautiful
xxviii. Longwood University
xxix. Lynnhaven River Now
xxx. Mid-Atlantic Regional Council on the Ocean
xxxi. Maryland Department of Natural Resources
xxxii. National Aquarium
xxxiii. NOAA Marine Debris Program
xxxiv. Northern Neck Planning District Commission
xxxv. Ocean Conservancy
xxxvi. Old Dominion University
xxxvii. OpinionWorks LLC
xxxviii. Ruling Robot Falcons
xxxix. The Nature Conservancy
xl. Tides Inn
xli. U.S. Environmental Protection Agency
xlii. U.S. Fish and Wildlife Service
xliii. University of Delaware
xliv. University of Georgia
xlv. University of Maryland

xlvi. VIMS Marine Advisory Services / VA Sea Grant
xlvii. Virginia Aquarium & Marine Science Center
xlviii. Virginia Coastal Zone Management Program
xlix. Virginia Conservation Network
l. Virginia Department of Environmental Quality
li. Virginia Department of Forestry
lii. Virginia Department of Game and Inland Fisheries
liii. Virginia Institute of Marine Science
liv. Virginia Marine Resources Commission
lv. Virginia Master Naturalist
lvi. Virginia Tech/Virginia Cooperative Extension
lvii. Writer and Program Consultant

Attendees:

	First Name:	Last Name:	Organization/Affiliation:	Title/Role:
1	Shannon	Alexander	Accomack-Northampton Planning District Commission	Coastal Resources Program Manager
2	Hannah	Andersson	Arthur Morgan School	
3	Kory	Angstadt	Virginia Institute of Marine Science CCRM	Marine Scientist
4	LeAnne	Astin	Fairfax Co. Stormwater Planning	Ecologist
5	April	Bahen	Virginia Coastal Zone Management Program	Outreach Specialist
6	Sean	Baker	American Chemistry Council	Director, Marine & Environmental Stewardship
7	Laura	Bankey	National Aquarium	Director of Conservation
8	Mike	Baum	Keep VA Beautiful	Executive Director
9	Sharon	Baxter	Virginia DEQ	Director, Division of Environmental Enhancement
10	Bob	Benson	U.S. Environmental Protection Agency	Senior Program Adviser, Trash Free Waters Program
11	Donna Marie	Bilkovic	Virginia Institute of Marine Science	
12	Peg	Boarman	James City County	Clean County Commissioner
13	Emily	Bodsford	Lynnhaven River Now	Programs Assistant
14	Ruth	Boettcher	VA Dept. of Game and Inland Fisheries	Coastal Biologist
15	Pamela	Braff	VIMS	Graduate Student
16	Jane	Bren	Virginia Conservation Network	Board Member
17	Karl	Bren	Virginia Conservation Network	Board Member
18	Elizabeth	Bricher	City of Norfolk - Keep Norfolk Beautiful	
19	Ethan	Burks	Ruling Robot Falcons	
20	Irina	Calos	Virginia Dept. of Environmental Quality	
21	John	Deuel	GreenQuest, LLC	Owner/Consultant
22	Tamara	Dietrich	Reporter, Daily Press	
23	India	Dixon	Clearwater Mills	
24	Tabitha	Eddy		

25	Brent	Esenberg	City of Virginia Beach Department of Parks & Recreation	Park Assistant
26	Karen	Forget	Lynnhaven River Now	
27	Irene	Frentz	DCR-Virginia State Parks	District Resource Specialist
28	Taylor	Goelz	Virginia Institute of Marine Science	Graduate Student
29	Kaity	Goldsmith	MARCO	Project Coordinator
30	Christine	Gyovai	Dialogue + Design Associates	Dialogue + Design Associates
31	Rob	Hale	Virginia Institute of Marine Science	Professor, Aquatic Health Sciences
32	Alison	Hammer Weingast	NOAA Marine Debris Program	Deputy Director
33	Barbara	Hannah	University of Delaware	Student
34	Kirk	Havens	Virginia Institute of Marine Science	Director, Coastal Watersheds Program
35	Joshua	Haverland-logan	Arthur Morgan School	
36	Ben	Hawkins	James River Association	
37	Matthew	Heim	Assateague Coastal Trust	Outreach Director
38	Kimberly	Hernandez	Maryland Department of Natural Resources	Coastal Management Fellow
39	John	Horne	James City County	General Services Director
40	Rachel	Host		
41	Sylvan	Huber-feely	Arthur Morgan School	
42	Paul	Hunter	Clearwater Mills	Director of Sales an Marketing
43	Page	Hutchinson	VA DOF	State Coordinator Project Learning Tree
44	Robert	Isdell	Virginia Institute of Marine Science	
45	Jenna	Jambeck	University of Georgia	Associate Professor
46	Lisa Renee	Jennings	City of Norfolk - Keep Norfolk Beautiful	Public Service Coordinator
47	Terri	Johnson	US EPA	
48	Janae	Jones	Longwood University	Intern
49	Wilke	Kate	kate.wilke@tnc.org	
50	John	Kellett	Clearwater Mills, LLC	President
51	Sarah	Kollar	Ocean Conservancy	
52	James	Landon	City of VA Beach, Parks and Recreation	Supervisor
53	Amanda	Laverty	Old Dominion University	Graduate Student
54	Benjamin	Lewis	Northern Neck Planning District Commission	Litter Control Coordinator
55	Erin	Ling	Virginia Tech/Virginia Cooperative Extension	Sr. Extension Associate
56	Rahul	Madhusudanan	U.S Environmental Protection Agency	Research Fellow
57	Luke	Marston	Ruling Robot Falcons	
58	Amanda	May	Hampton Roads Sanitation District	Supervising Specialist, Boater Education and Pump Out Program
59	Laura	McKay	Virginia CZM Program	Program Manager
60	Marcus	Meiring	James City County	Clean County Commissioner

61	Leslie	Middleton	Writer and Program Consultant	Writer
62	Geralyn	Mireles	USFWS	Wildlife Biologist
63	Bill	Nachman	Gloucester Mathews Gazette-Journal	Reporter
64	Alicia	Nelson	Virginia Marine Resources Commission	RFAB/Artifical Reef Coordinator
65	Joshua	Nichols	Ruling Robot Falcons	
66	Pam	Northam	Lynnhaven River NOW	Community Outreach
67	Sarah	Nuss	CBNERR-VA	Education Coordinator
68	Alison	O'Connor	Virginia Institute of Marine Science	Graduate Student
69	David	Paylor	Virginia Department of Environmental Quality	Director
70	Stormy	Pearson	Tides Inn	Marina Director
71	Meghann	Quinn	Virginia Department of Environmental Quality	Manager, Office of Pollution Prevention
72	Christopher	Raab	American Canoe Association	Director of Stewardship and Public Policy
73	Steve	Raabe	OpinionWorks LLC	President
74	Katie	Register	Clean Virginia Waterways, Longwood University	Executive Director
75	Summers	Robert	KCI Technologies, Inc.	Senior Scientist
76	Matt	Robinson	District Department of Energy and Environment	Anacostia Trash TMDL Coordinator
77	Chelsea	Rochman	University of California Davis and University of Toronto	Marine Ecologist/Ecotoxicologist
78	Nicole	Rodi	Delaware Coastal Programs	
79	Jason	Rolfe	NOAA Marine Debris Program	Mid-Atlantic and Caribbean Regional Coordinator
80	Zoe	Rosenblum	US EPA Office of Wetlands, Oceans and Watersheds	ORISE Research Participant
81	Mike	Rowinsky		
82	Ari	Rufino	Arthur Morgan School	
83	Autumn	Sadoff	Arthur Morgan School	
84	Lucia	Safi	Virginia Institute of Marine Science	Graduate Student
85	Julia	Schaefer Gomez	US EPA	
86	Andrew	Scheld	Virginia Institute of Marine Science	Assistant Professor, Department of Fisheries Science
87	Liz	Schotman	University of Maryland	Teaching Assistant, Graduate Student
88	Allison	Schutes	Ocean Conservancy	Director, Trash Free Seas
89	Eben	Schwartz	California Coastal Commission	Marine Debris Program Manager
90	Kristen	Sharpe	CBNERR-VA	Education Specialist
91	David	Singletary	Virginia Master Naturalist	member
92	Phyllis	Singletary	Virginia Master Naturalist	member

93	Anne	Smith	VIMS Marine Advisory Services / VA Sea Grant	Virginia Clean Marina Program Coordinator
94	Tom	Sprehe	KCI Technologies, Inc.	Sr. Vice President
95	David	Stanhope	Virginia Institute of Marine Science	
96	Steven	Stein	Environmental Resources Planning, LLC	Principal
97	Jason	Sterling	Arthur Morgan School	
98	Valerie	Thomson	Virginia Department of Environmental Quality	Director, Division of Administration/Environmental Enhancement
99	Burton	Thrift	Omega Protein	Environmental Coordinator
100	Christina	Trapani	Consultant, researcher	Independent Marine Debris Researcher
101	Kelley	Uhlig	Virginia Institute of Marine Science	Graduate Student
102	Zoe	Vickers	Arthur Morgan School	
103	J. D.	Villegas	Glasdon, Inc	VP of Sales
104	Denice	Wardrop	Chesapeake Bay Commission	
105	Camilla	Warren	Arthur Morgan School	
106	John	Wells	Virginia Institute of Marine Science	
107	Virginia	Witmer	Virginia Coastal Zone Management Program	Outreach Coordinator
108	Justin	Worrell	Virginia Marine Resources Commission	Environmental Engineer
109	Josh	Young	American Chemistry Council	Sr. Government Affairs Director
110	Ruth	Zakelj	Arthur Morgan School	
111			Lynnhaven River NOW	
112			Lynnhaven River NOW	
113	6 Family members		Ruling Robot Falcons	

Appendix C. Media coverage and press release.

http://wtop.com/virginia/2016/03/marine-pollution-brings-together-scientists-in-virginia/

http://www.washingtontimes.com/news/2016/mar/7/marine-pollution-brings-together-scientists-in-vir/

http://www.thevirginiabeachnews.net/index.php/sid/242034371

http://www.dailypress.com/news/science/dp-nws-marine-debris-changing-behaviors-20160309-story.html

http://www.thevirginiabeachnews.net/index.php/sid/242034371 (syndicated The Daily Press story ("preventing litter in waterways …") on Weds, March 9.

Gloucester-Mathews Gazette-Journal http://www.gazettejournal.net/index.php/news/news_article/action_needed_to_stem_growing_problem_of_marine_debris

The Clay Center Dispatch (Clay Center, Kansas) picked up the AP story:
Marine pollution brings together scientists in Virginia
http://www.ccenterdispatch.com/news/state/article_0bfa76d9-22b1-5d68-b529-8a169ea99e7a.html

Bristol Herald Courier (AP story picked up)
http://www.heraldcourier.com/news/marine-pollution-brings-together-scientists-in-virginia/article_0581ad5e-3e7d-5606-bc0a-5c5bd115e0d2.html

Radio: WXGM-FM Gloucester, Virginia, serving the Northern Neck:
https://webcache.googleusercontent.com/search?q=cache:eCkbFeZpvrQJ:https://xtra99.com/marine-debris-summit-convenes-at-virginia-institute-of-marine-science/+&cd=14&hl=en&ct=clnk&gl=us

NOAA published this:
http://response.restoration.noaa.gov/about/media/virginia-marine-debris-summit-held-virginia-institute-marine-science-vims.html

The NPR station that serves the VA Beach area also talked about the summit on Monday, March 7, 2016.

Bay Journal: (May 2016 issue)
VA advances plan to reduce marine debris from bits to boats: Summit participants share, coordinate practices to persuade public not to litter:
http://www.bayjournal.com/article/va_advances_plan_to_reduce_marine_debris_from_bits_to_boats

Latest weapon to reduce marine debris? Biodegradable shotgun wads
Plastic would disappear before it could enter the food web:
http://www.bayjournal.com/article/latest_weapon_to_reduce_marine_debris_biodegradable_shotgun_wads (from presentation at the Summit)

Press Release about the Summit

Contacts:
Katie Register, Clean Virginia Waterways at (434) 395-2602
Bill Hayden, Department of Environmental Quality at (804) 698-4447

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FOR IMMEDIATE RELEASE
March 3, 2016

Marine debris summit to accelerate Virginia coastal and ocean cleanup efforts

3-day summit will advance Virginia's Marine Debris Reduction Plan

Gloucester Point, VA – Marine debris is one of the most widespread pollution problems, not only in Virginia, but also in the world's oceans and waterways, impacting wildlife, human health and safety, habitats, and economics.

Starting Monday, March 7, more than 90 scientists, policy makers, and educators will convene for the 2nd Virginia Marine Debris Summit led by the Virginia Coastal Zone Management (CZM) Program and Clean Virginia Waterways. The Summit will be held at the Virginia Institute of Marine Sciences in Gloucester Point.

"Marine debris is one of the most visible – and preventable – forms of pollution," said Katie Register, executive director of Clean Virginia Waterways of Longwood University, one of the conference organizers, "but it requires a multi-faceted effort of many organizations."

The summit will offer information about the latest science and best practices for reducing litter and debris that pollute waterways. Topics include using social marketing to influence behaviors, reducing cigarette litter and balloon releases, and the human health impacts of microplastics in our environment.

The Department of Environmental Quality (DEQ) serves as the lead agency for Virginia's CZM Program, which is a network of state agencies and coastal localities. As David Paylor, Director of DEQ, noted, "The Virginia CZM Program is naturally suited to this type of collaborative, multi-partner effort and this summit will highlight and advance work begun through the Virginia Marine Debris Reduction Plan. That plan was completed in October 2014 and was the first of its kind on the East Coast."

Speakers include marine debris experts from the Virginia Dept. of Environmental Quality, NOAA's Marine Debris Program, The Ocean Conservancy's Trash Free Seas Program, Chesapeake Bay Commission, and the Virginia Institute of Marine Science.

Location: Virginia Institute of Marine Science, Waterman's Hall, Greate Road, Gloucester Point, VA 23062

Starts at **1 pm** on Monday, March 7; ends 12 noon on Wednesday, March 9. Agenda here: http://www.longwood.edu/cleanva/images/Agenda_VA_MarineDebrisSummit_2016.pdf

Appendix D. Compiled notes from the "Deep Dive" sessions.

Deep Dive Notes 1-1

Multi-state partnership: collaboration toward regional approaches to marine debris reduction

Notes about this Deep Dive session were taken by the facilitator: Laura McKay, Virginia CZM Program and the note taker: Chase Long, VIMS. (There were no post-it notes from attendees on this topic.) The views expressed are from workshop participants but have been summarized and do not necessarily reflect the views of NOAA, DEQ, the Virginia CZM Program or Clean Virginia Waterways.

EXISTING REGIONAL EFFORTS

- The Mid-Atlantic Regional Council on the Ocean (MARCO) is a five-state Governors' Agreement that includes Virginia, Maryland, Delaware, New Jersey and New York. It has four priorities, one of which is improving water quality. For the ocean, primary water quality concerns are acidification and marine debris. MARCO is currently considering what type of regional marine debris strategy could be most effective.
- MARCO also supports the Mid-Atlantic Regional Planning Body which is responsible for developing an Ocean Action Plan. The planning body includes the five MARCO states plus Pennsylvania, eight federal agencies, two federally-recognized Mid-Atlantic tribes and the Mid-Atlantic Fishery Management Council. The draft Ocean Action Plan includes development of a regional marine debris reduction strategy(ies). The draft plan was released on July 6, 2016 (after the summit was held). The 60-day public comment period ends September 6, 2016. A public webinar was held on July 11 and a public open house was held July 12 at the Virginia Aquarium. Once the Mid-Atlantic Ocean Action Plan is approved by the National Ocean Council, the planning body will begin work on a regional marine debris reduction strategy.
- NOAA suggested that a group that NOAA convened last year (VA, MD, D.C. and DE) to work on these regional questions could be expanded to include New York and New Jersey.
- NOAA regions are not the same as EPA regions. Also, definitions of "Mid-Atlantic" may differ among different organizations.
- The Great Lakes alliance is a similar concept for a group looking at marine debris issues.

REGIONAL ISSUES TO CONSIDER:

- A "big picture" body of willing partners is needed to coordinate efforts of member entities to look comprehensively at marine debris and be tasked with various aspects of implementing a plan.
- The Mid-Atlantic Regional Planning Body and MARCO could then choose the most appropriate goals for each of them to address and other entities could address other goals.

- EPA also wants to see a group working on this, but noted that members may have different goals, making it challenging to agree on specific directions. Thus it may be necessary to set up sub-groups that can agree to work on different specific strategies.

- If the goal is to create a multi-state partnership, then goals should be identified and agreed to first and then interested parties could be brought in to address each different goal.
- We'll need to begin with the end points in mind, foster partnerships, and develop an integrated approach.
- Ships, animals and other things move or migrate between the ocean and estuaries, so this must be taken into account in any regional marine debris reduction plan or strategy that is developed.
- Identifying a focus for regional efforts will be a key first step in developing a regional plan or strategy.

IDEAS FOR CONNECTING AND LEVERAGING:

- Each Mid-Atlantic state is also a member of an estuary program (e.g. Chesapeake Bay program, Delaware Bay Program, Long Island Sound Program) which may or may not be dealing with marine debris issues. It will be important to connect estuary management efforts with regional ocean management efforts.
- Estuary programs have tended to focus on nutrients, not debris, but perhaps debris could be included as a water quality or water pollution issue.
- Discussions revolved around how to connect and leverage existing groups like Chesapeake Bay Program, MARCO, Mid-Atlantic Regional Planning Body and others and how to build marine debris prevention into their agendas. The planning body could help put this issue on the radar of all the existing interested parties and groups.
- While it is important to increase efficiency by partnering with regional entities, we have to be aware of what different entities have already accomplished and where the gaps may be. For example, as MARCO was searching for a marine debris focus, it found that some states wanted to focus on microbeads, but other states had already banned them.
- A useful strategy may be to target existing organizations where people are already working together on water quality and then try to promote marine debris as a water quality issue (and a human health and safety issue) that could be added to their agendas.
  Existing partnerships:
  National Estuary Programs
  National Estuary Research Reserve Systems
  Mid Atlantic Sea Grant Programs
  River basin commissions
    - Chesapeake Bay Program
    - Mid-Atlantic Regional Council on the Ocean
    - Mid-Atlantic Regional Planning Body
- If it becomes too complex to create an overarching marine debris plan coordinated by a single entity, an option could be to create separate specific plans for specific marine debris sources with specific partners.
- The West Coast Alliance created one big master plan, but has no emphasis on specific actions.
- Washington D.C. is very anxious for improved inter-jurisdictional cooperation on this issue.
- Given that so much marine debris is generated inland, there may be value in creating an inland version of MARCO with ad-hoc participation of upstream partners.

- Details of what we would include in a regional plan need to be developed and agreed upon.
- From work done by Delaware for MARCO we know that in the Mid-Atlantic, the top sources of marine debris items of concern are: cigarette butts, plastic bags, balloons, etc.
- Two suggestions for action items: 1) micro-level, local analysis to determine hot spots for litter; 2) build a public tide of interest about what litter pickup costs, versus prevention costs.
- Virginia has a plan already—could it be expanded to a regional scale? Or serve as a model for a regional plan?
- Characterization of marine debris items (including derelict fishing gear) can inspire focused action targeting specific problems
- If we increase the use of social marketing techniques as well as build awareness about marine debris issues, this could create more interest within the Virginia General Assembly to address some of the sources of marine debris.

"AH HA" thoughts

- The Mid- Atlantic RPB may not need to create an all-encompassing plan. Given its mandate, its work needs to be ocean-specific. It could simply focus on one or a few specific strategies to address sources of particular concern in the ocean.
- Leverage existing regional partnerships and build litter prevention into their agendas as a problem solving barrier busting initiative, not as a new project
- Delaware, Maryland, Virginia and D.C. have already been meeting with NOAA. Some entity with regional authority is needed to convene meetings quarterly, to discuss accomplishments, goals and partnerships
- NOAA is focused on coastal instead of upstream, so partnerships can help broaden the scope
- Coastal tourism interested parties (e.g., hotels) could be great partners as clean beaches are vital to their businesses
- NOAA does want to do biannual meetings/conference calls
- It will be important to get people to see the same message about marine debris and to see it frequently in order to drive the message home
- EPA thinks business community needs to buy in 100% in order for any plan to succeed
- Private sector has to have a stake
- Everyone should be talking to private interests in their areas (e.g. tourism in coastal areas)
- Possible funding source: the Five Star and Urban Waters Restoration Program Grant, managed by National Fish and Wildlife Foundation. Trash removal can be part of a grant project. This could be a good route for urban waters; another RFP will be announced in November.
- Leverage the *Mid-Atlantic Marine Debris Assessment* (drafted by Nicole Rodi, Delaware Natural Resources in 2015); add in research on economic costs
- Keep America Beautiful is constantly looking at impacts of their trash prevention efforts (economics)
- NOAA-funded CZM Programs in the Mid-Atlantic must complete assessments of marine debris in their states every 5 years under Section 309 of the CZMA.

Deep Dive Notes 1-2

Consumer single-use items: voluntary & mandatory approaches & where to go next in Virginia.

Notes about this Deep Dive session were taken by the facilitator, Christina Trapani, independent researcher, as well as a note taker and post-it notes from attendees. The views expressed are from workshop participants but have been summarized and do not necessarily reflect the views of NOAA, DEQ, the Virginia CZM Program or Clean Virginia Waterways.

Several voluntary and mandatory approaches to decrease marine debris were discussed.

Goals

- Clean-ups
  - Great, but need to address the sources
- Focusing on interception, prevention, and innovate
- Need to make sure to involve restaurants through restaurant associations
- Define what a single-use item is
  - Items that are intended for a single use, but can be reused, vs. items that are non-functional after the first use
- Prevention
  - Trex recycling at schools for plastic bags
- Innovation
  - Beachy Clean (a program that reaches beach visitors and the hospitality industry) for education
  - Reusable bag design
  - Design items for reuse
- Interception
- Lead
  - Require retailers to provide recycling

- How do we change consumer behavior?
- Education before legislation
  - Law makers need to know the issues before being asked to vote
  - Educated citizens can demand law from policy makers
- There are multiple consumers along the supply chain
  - Need to build social pressure for change
- Motivation for changing behavior:
  - We need to remember that not everyone is motivated by the same things
  - Motivations include financial rewards, concern about litter, animal welfare, human health and safety, incentives and disincentives (carrots and sticks)
  - Are inland populations less concerned about ocean health?
- The American Chemistry Council has partnered with Hawaiian Restaurant Association to reduce take-out packaging wastes, and putting anti-littering messages on it
- Work with food trucks in Hampton Roads to switch from automatically providing single-use, non-biodegradable items, and offer biodegradable, and/or reusable items for “brand” loyalty
- National Restaurant Association is working on coming up with a best management practices statement to disseminate to its members

- Need to engage more people who are part of the supply chain (other stakeholders) in these discussions
- Can retailers offer alternatives? Can the manufacturers offer alternatives? Can they design projects that aren't so wasteful?
- Training programs for managers to reduce automatic single-use item offerings
    - Let the consumer ASK for things like straw – don't make it automatic.
- Plastic bags and straws heavily focused on for first hour
    - Most likely items to see reductions
- Make the FREE stuff harder to get to
    - Let the consumer know why retailer is trying to reduce waste
- Be careful with the idea of "bioplastics"
    - Doesn't mean they are biodegradable. They still need to be disposed of correctly after use.
- Chances of greater litter issue when items are labeled as biodegradable
    - Think about connection to people thinking cigarette butts are biodegradable
    - Marketing issues

Summary

- Focus on the sources. Reduce the amount of waste on the manufacturing level.
- Education at all links along the supply chain is critical
- Demonstrate potential cost savings to restaurants associated with not automatically offering disposables
- Switch from automatically dispensing disposables to asking if the consumer would like item X (e.g., Do you need a bag, straw, fork, etc.?)
- Remove barriers to recycling, reuse, and proper disposal
    - Increase recycling receptacles and waste bins
    - Incentivize bringing personal cup, straw, utensil, etc.
- Grassroots support may be more effective than legislation

Post-it notes from attendees

Plastic bag related:

- Ban plastic bags
- Put a fee on plastic bags. Use all proceeds for litter cleanup and prevention.
- Have more places to recycle plastic bags
- Get large chain store to push reusable bags
- Train employees at stores to sell and use reusable bags
- Pass a law requiring groceries and retailers with a minimum sale to provide option for plastic bag recycling at their store and standard signage to educate customers
- Establish a reusable shopping bag week for retailers to have their sales clerks and cashiers ask consumer if they would like to buy a reusable bag at a discount to encourage use of less plastic

Other items of concern:

- Compile a list of alternatives to balloon releases: ceremonies that include tree plantings, giant bubbles, dedication of a park bench, etc.
- Have stricter balloon release laws in Virginia (example: 50+ make it 10+ to be illegal).
- Get the word out at stores that sell balloons to let their customers know the laws and effects

- The issue of addressing debris with more potential debris (e.g., pocket ash tray, handouts, stickers, flyers). Let's challenge ourselves to tackle the issue without creating more "stuff"
- Bioplastic or tax on packaging more PET recycling containers
- Create a "local marine debris prevention technical support team" to provide solicited help to local government and NGO's on using more effective litter prevention strategies and procedures
- Invent a market competitive biodegradables straw, cup, lid, twist tie plastic bag. Seed the market place with funding to build corporate and consumer support
- Pass a law that requires waiters and bartenders to ask if their customers want a straw before giving them one
- Establish a consortium of Virginia based corporations, under KVB's guidance to develop a set of biodegradable packaging standards to be voluntarily adopted by the food and beverage industry
- Train employees
- Establish an award and competition for developing a marketable, reliable, cost competitive biodegradable candy and food wrapper for candy, fast foods, snacks.

Deep Dive Notes 1-3

Microplastics: in light of the recent federal ban on microplastic in personal care items-what is next?

Notes about this Deep Dive session were taken by the facilitators Kirk Havens and Donna Bilkovic, VIMS and the note taker, Kelley Uhlig, VIMS graduate student as well as post-it notes from workshop attendees. The views expressed are from workshop participants but have been summarized and do not necessarily reflect the views of NOAA, DEQ, the Virginia CZM Program or Clean Virginia Waterways.

1. *In light of recent federal ban on microbeads in personal care products - what is next?*
    a. What is missing from the legislation?
        i. Everything that is not rinse off
            1. Make up
            2. Sunscreen
            3. Non-personal care product applications
    b. Expand federal legislation
        i. Federal law now overrides state-bans
            1. States cannot pass any more bans
        ii. Expand the products covered under the law to be more than just personal care products
    c. Why microbeads anyway?
        i. Cheap
        ii. Manufacture with desired qualities
            1. "Texture" - ball bearing effect
    d. Unintended consequence: harder for smaller companies to transition

2. *Next steps:*
    a. **Fibers from clothes - next piece of low-hanging fruit? How do we tackle the problem of synthetic/plastic fibers from clothes being released to the environment through washing machines and dryers?
        i. Pharrel, Patagonia, etc., using recycled plastics in clothes as artificial fibers. Great to recycle, but now clothing becomes a source of plastics in our waters.
            1. Current "filters" for washing machines are labor intensive
                a. Need better engineering to make them easy, inexpensive, self-maintaining or low-maintenance
            2. Reach out to washing machine manufacturers and companies like Patagonia
        ii. Bridging the gap between nondurable clothing made out of natural fibers or something that is durable but shedding fibers
            1. What would a filter loaded with fibers look like?
        iii. Social justice issue

1. Socioeconomic circumstances preventing installation of fiber filters

iv. Ocean Elders group as motivators
1. Sponsor engineering competition
2. Face of the issue

b. Other primary microplastics
i. Sandblasting
1. Especially shipyard operations
ii. Grit/texture in paint products
iii. Cleaning products - i.e. Scrubbing Bubbles
iv. Glitter and products containing glitter
v. Styrofoam in building construction
1. Potential solution: treat as a sandblasting operation?
2. How often is Styrofoam board used as a construction material? What industries would this impact?

c. How do you influence policy?
i. Public perception is key in addressing these less "known" uses
1. Distinguish microbeads from microplastics
a. Public perception might be that the issue has been "solved" by Microbead-Free Waters Act
ii. The act is a good door opener for other legislation
iii. Try to get large non-profits involved in these other issues as they were key in passing the act
iv. Shellfish ingestion of plastics as a way to raise awareness
1. Creative marketing - Bring it back to fibers
a. Inadvertently hurt the oyster industry

d. Manufacturer campaigns to redesign packaging
i. Ikea packaging made out of mushrooms
ii. Ways to incentivize the use of degradable/eco-friendly packaging

3. What research is still needed?

a. Survey of Chesapeake Bay to know what is out there and what it's form is
b. What is happening in the wild?
c. Is it really a human health issue?
i. Do people accumulate toxic chemicals?
1. Plastic body burden?
a. Silicone passive samplers

d. Further research needed regarding wastewater treatment
i. Plastics in land applied biosolids
1. Potential to runoff into creeks, waterways

4. What can Virginia Marine Debris Reduction Plan implementers do?

a. List of "best practices" and companies engaging in
i. Certify as "Marine Debris Free"

b. Encourage restaurants to switch to paper/cardboard takeout boxes
    i. Discourage straws
        1. Switch to paper straws
        2. Degradable straws/lids
c. Pursue a plastic bag ban
    i. Virginia Beach and other localities as a good candidate
        1. What are the barriers?

Post-it notes from attendees

- Microplastics- redesign containers those products come in
- Can microplastic ingestion by humans through shellfish (not even related to toxicity) be a good attention hook for the general public?
- Medical studies on toxicity of ingested microplastics are needed
- Need prediction of break down rates of plastics
- What about plastic (micro and nano sized) in wastewater and biosolids? What happens when sludge is spread on farmland?
- The new national microbead ban has loopholes – like "leave on" suntan lotions are not in the ban (VERIFY THIS)
- More policy efforts!
    - Chelsea and Denice noted that microbeads used for cleaning ship hulls, etc. are not included in the bead ban. (This is particularly problematic since these beads are reused and absorbing heaving metals).
- Reconsider adding extended producer responsibility to the Virginia Marine Debris Reduction Plan. Without changing the way products (building materials, flame retardants, chemical additives) are made, we will not reduce microplastics in the environment.
- Spread the word that many producers and manufacturers are eliminating or reducing the risk of their products to the environment. They are removing harmful additives, making them biodegradable, etc. Reward companies by publicizing the positive attributes to the public.

NOTE FROM THE EDITORS:
Patagonia, the manufacturer of clothing, commissioned a study to look at microfibers that come from washing fleece. The study, performed by the University of California, Santa Barbara, found that during laundering, a single fleece jacket sheds as many as 250,000 synthetic fibers. Learn more:
www.outsideonline.com/2091876/patagonias-new-study-finds-fleece-jackets-are-giant-pollutant
www.ecouterre.com/synthetic-fleece-including-its-own-is-a-major-ocean-pollutant-says-patagonia/

Deep Dive Notes 1-4

Engaging a wider audience: how to get beyond "preaching to the choir"

Notes about this Deep Dive session were taken by the facilitators, Sharon Baxter and Meghann Quinn, DEQ as well as post-it notes from workshop attendees and from the speaker for the Deep Dive: Leslie Middleton. The views expressed are from workshop participants but have been summarized and do not necessarily reflect the views of NOAA, DEQ, the Virginia CZM Program or Clean Virginia Waterways.

- Find a Virginia "face of marine debris" (don't wait for national spokesperson)
- Cultivate Master Naturalists, Master Gardeners, Tree Stewards (create training programs for them for continuing education/volunteer hours); programs at annual state and regional meetings
- Question – what kind of content can agencies repurpose? Fine line between regulatory and advocacy roles
- What is the "voice" of this message – some use a message of "hope," others are more authoritative (e.g., Don't Mess with Texas")
- Ask – what partners are not at the table?
- Trash cleanups often done by prisoners; note I-64 has become more noticeably trashy since prison program funding has been reduced
- Pay attention to cultural differences ("I need a bag to prove that I bought these items", e.g. racial profiling)
- Make the link between Zika virus health concerns and trash which can collect small pools of water for breeding mosquitos
- Millennials, especially, want to know the "why"?
- Make it fun, easy, more popular
- Need many different "elevator speeches." Different messages for different audiences.
- Need to reach diverse audiences, so need multiple messages (think "Beachy Clean" campaign, had different messages)
- Balloon-iversity - see http://ballooniversity.com/ - place to do education
- "We are all in the same choir"
- Different strategies for intentional littering vs. unintentional littering
- Pharell – ocean plastic clothing line, Raw for the Oceans
- No one is "for" marine debris, so we have that going for us
- There are positive associations to be made – trash coordinator now called "clean community coordinator"
- There is a problem with "too many certifications" out there for citizens and groups to be aligned with, e.g., RiverStar Homes, Bay Star Member, Pearl Schools – some are more local than others; we are losing opportunities by not having a more regional or state approach – need to scale up efforts
- CZM – could be information hub – help partners navigate through segmented/ specific information and programs
- Ocean Conservancy's "Skip the Straw" campaign
- Messaging – people respond when it can be shown that the person *before you* took an action; help establish behavior as a norm

Partnering with existing groups to get the message(s) out

- Boys and Girls Clubs
- Virginia Green program - www.virginia.org/green/
- The Alliance for the Chesapeake Bay's Businesses for the Bay (B4B) https://allianceforthebay.org/category/our-work/connecting-people/businesses-for-the-bay/
- Link to Chesapeake Bay Program's Toxics Workgroup (Water Quality Goal Implementation Team)
- Look for ways to involve local governments (CBP's Local Government Advisory Committee, Virginia Municipal Stormwater Association, Virginia Municipal League, Virginia Association of Counties

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Engaging the Media (Presentation by Leslie Middleton)

- What kind of story is it? News? Feature? What is the time element?

- What's the point? (The "so what" factor)
  - Report just released that people think will inform policy
  - Summit just occurred, revealing new research, forging new partnerships
  - Larger issues (feature article) – e.g., the federal law has problems

- Building the "so what" case –
  - It's a problem because...
  - Marine debris has a lot of "Wow" factor statistics (tons of garbage, etc.)
  - Things you'd never think of (... body glitter)

- What you think is a story, reporters/editors may not think of as story
  - Your best/latest accomplishment to date might not garner the attention you think it deserves

- Different news cycles for different outlets
  - How recently was the story covered?
  - Type of news outlet (radio, TV, print, daily, weekly, monthly, web only)
  - Smaller venues that have few or no reporters are hungry for content if you supply it

- Cultivate relationships with reporters/editors
  - Be trustworthy
  - Understand their constraints and needs (deadlines, photo, video)
  - Be squeaky wheel, but a thoughtful one
  - Help them get the word out (e.g., re-Tweet)
  - Thank them!

Post-it notes from attendees and flip chart notes from the Deep Dive

- Develop an action plan to engage and partner with three to five non-traditional, non "choir" demographic groups or organizations. Some suggested:
  1) Tourism, travel
  2) Convenience store association

3) Faith congregations
4) Sports and concerts venues
5) Auto dealers and manufacturers

- As many times as needed to educate the public
- Involve private sector business.
  1) Real estate and commercial
  2) Reverse logistics for packaging manufactures
- Unlike sewage and air quality issues. Trash can be quickly cleaned up! This is a solvable issue that everyone (even children) can engage in.
- Create a youth engagement program to increase educations and commitment; and gain their new ideas, innovations and energy for the VMDMP
- Help spread the "Pearl Faith" program (Lynnhaven River Now) statewide or to certain regions. Call it a Virginia Green Faith program. Use Lynnhaven River Now's model to establish a training module. Learn how much hands-on interaction the Lynnhaven River Now's staff provides with the faith communities.
- Role of visual media (story maps, documentaries, short YouTube videos, popular music, etc.) in reaching new audiences?
- How do you interest people in non-coastal countries in this topic? They may think, "This does not apply to me."
- The term "Marine Debris" makes many people think that the sources are from boats, ships, etc. People need to better understand the inland sources. It is their problem too.
- Attitudes about litter may depend on age (variation among generations)
- We probably all hear from people who want to be more involved in marine debris solutions beyond participating in a cleanup. How can we encourage these citizens to become debris stewards in their communities? Educational materials? Outreach handouts? Clearinghouse of stewardship events?
- Virginia Department of Conservation and Recreation – state parks
  What can be learned about success/road-blocks from campaign to keep firewood out of parks (emerald ash borer issue)?
- Are there cultural differences (within US as well as outside US) with regard to balloon releases?
- Pearl Homes- is there value in having a name that is not immediately associated with clean water? ("Pearl")? Is there a term that would work statewide or multi-state?
- Positive language may help
- Content and timing are important – saturated? Time to try again?
- Make the "so-what" factor clear to new audiences
- Wow factor is important
  - Marine debris-power of statistics to reach new audiences
  - Charismatic species that are impacted
  - Glitter bears- lead with high impact image issue
- Humility- not everyone agrees that this is a wow issue
- Smaller media venues are hungry for content
  - Give it to them
- Relationships are key—reporters want reliable sources
- Environmental psychology may help our work (social norms)
- Which partners do we need to engage- each has a role (individual and institutional)
  - Need to be collaborative

    - Maybe try new types of partners
- Cultural differences (some community cleanups are done by prisoners, some people live far from the ocean)
    - Find thought leader/role models
    - Transient populations (students, military)
    - Cleanup events
    - T-shirts pro-Earth messages
    - Connect trash and waste generation with marine debris and impacts
- Don't overload people with info—figure out what is appropriate
- Catch phrases of Beachy Clean are good
    - Is there a preferred methodology to getting them out (timing, targeting, etc.)?
    - Can Beachy Clean become a single message for beach communities all over? Maybe modify the animals in the Beachy Clean posters so they are appropriate for each community.
- Info hub (don't re-invent the wheel) with sharing and collaboration element
- Plan to engage three to five new audiences (churches, businesses, youth groups, sports venues, convenience store association, etc.).
- Appeal to common decency in most people through messaging.
- Balance positive news with negative
- Crossover between policy and science (Chesapeake Bay Commission report on microplastics for example)
- Should trash be on the level of nutrients and sediment in Chesapeake Bay restoration?
    - Can we involve advocacy groups more directly?
- Look for examples in other countries (Brazil)
- Engage some people and make them eco-heroes (restaurant cigarette butt example)
- Engage businesses though a recognition program (Virginia Green, B4B)
- Some marine debris imagery turns people off
- Government agencies have limitations in their outreach
- Nonprofits may have more flexibility, and that role is powerful
- Research who is a "trusted messenger." For example, studies show that people trust aquariums.
- Choose your voice (National Aquarium –voice of hope)

Deep Dive Notes 2-1

Derelict fishing gear (DFG) and abandoned and derelict vessels (ADV): building capacity in Virginia for removal (authority, policy, funding)

Notes about this Deep Dive session were taken by the facilitator, Jason Rolfe, NOAA and the note taker, Robert Isdell, VIMS graduate student. There were no post-it notes on this topic. The views expressed are from workshop participants but have been summarized and do not necessarily reflect the views of NOAA, DEQ, the Virginia CZM Program or Clean Virginia Waterways.

Overall, the group discussed actions that can be summarized as better education and outreach efforts on the topics of DFG and ADVs. Many of the actions that were proposed require additional funding or legislation to be successful.

ADV-focused discussion

- Include marine patrol law enforcement officers to improve the actions and discussions this group develops
- Involve the public and police earlier – Ask them to be aware of and looking for ADVs
- Get the media involved early in an attempt to locate the owners of ADVs
- Determine recycling options available for boats
- Consider hosting a free/ amnesty day to turn in boats that are no longer wanted
- Improve boat ownership tracking capabilities – link an owner with a vessel better. Look at car vehicle numbers as a model.

DFG-focused discussion

- Improve education and outreach around the monofilament recycling bins, advertise their locations and intended uses, consider adding cast nets to the items recycled.
- Install new/better signs at marinas/boat ramps/fuel docks to inform recreational boaters about specific marine debris issues.
- Engage/target outreach to fishing clubs. Ensure they understand the debris issues and pass those messages along to their members.
- Sell recreational blue crab pots with the turtle excluder devices (TEDs) and by-catch reduction devices (BRDs) already installed.
- Develop a share-able list of locations/vendors/distributors of the BRDs
- Target recreational boaters in many ways. Some messages with pictures of entangled animals don't affect decisions of everyone. Some are more motivated by money so figure out message that gets to the point of how much it will cost the recreational boaters to repair their vessel/props when they snag in DFG.
- Add marine debris prevention tips to BoatUS Foundation's on-line boating safety course. The course is free and it is approved by the VA Department of Game & Inland Fisheries. *http://www.boatus.org/virginia/*
- Leverage existing outreach programs and messaging – Virginia Aquarium has a lot that can be used.

Specific notes

- *Abandoned vessels*
    - In Virginia, complaints about ADVs, Virginia Marine Patrol establishes contact with the owner, ADV must be removed within 30 days or go straight to court
    - Owner often difficult to identify
    - Agency doesn't have money to remove vessels on its own
    - If the owner can't be identified, can work with the locality to remove it
  - Virginia Marine Resources Commission (VMRC) doesn't have an inventory, but has a good idea of where the issues are
    - Simply don't have the funding to remove
    - Has to be sunken on state-owned bottom for VMRC and VMP to have legal grounds for requiring removal
  - Getting media involved seems to facilitate removal
    - Letting the community know that they can be involved early on to report potential ADVs, or future ADVs
  - Issues of keeping a database of ADVs at VMRC could be problematic because it couldn't do anything about them
    - Could work better if you only incorporate active investigations
  - Abandonment issues are biggest with the private docks and yard storage. Boats that use marinas must be current on their registration
  - Contractor work barges have absolutely no markings, and it's unclear whether a barge is abandoned or staged
  - Lack of state funds is really the biggest issue
    - Maryland's ADV program is funded from the state Waterway Improvement Fund that is generated from the one-time 5 percent excise tax paid to the state when a boat is purchased and titled in Maryland.
  - Decreasing the time before public notification for ADVs
  - Recycling options, something like the prescription collection days?
    - U.K. has a great vessel recycling option
  - Incorporating law enforcement in this discussion in the future
    - Outreach opportunities
  - Knowing whose jurisdiction the ADV is in is important
  - Following up with owners to keep track of vessels
- *Derelict fishing gear*
  - Recreational casting nets
    - Method for acquiring bait fish
    - If the string breaks, they just leave them
    - Major entanglement issues in Virginia Beach
    - Might be a bigger issue at night, just because it's harder to enforce
  - Monofilament, gill nets, etc.
    - Only disincentive is the standard litter fine, unknown if it's ever been enforced for this
  - Lack of education for recreational boaters for the issues associated with derelict gear
    - Currently no groups have engaged Virginia Beach in on site education
    - Signage could be useful
    - VMRC and DGIF have monofilament and gill net recycling programs, but it doesn't reach the tourists and "individual" fishermen
      - Effective with the fishing groups/clubs, Boy Scouts, etc.
    - Ocean Conservancy has the boater trash bags that come with some info

        - For boaters, prop fouling (e.g., burning out a boat's motor due to entanglement) may be a more effective message than wildlife entanglement and habitat issues.
        - Could do more outreach through the Virginias Aquarium and other "trusted messengers"
    - *Issues with crab-pot loss*
        - Need to improve by-catch reduction device availability
        - Notification of commercial crabbers, were something to come up, is very easy through VMRC because they already have to contact it about various things
        - Removal program made the participants advocates for pot removal and clean up
        - There is a process in place to remove potentially derelict pots

Take-aways

- *ADVs*
    - Get the media and community involved early
    - Interception and prevention are better than enforcement
    - Incorporate law enforcement in these discussions
    - Potential "Amnesty Day" for derelict vessel return
    - Tracking boat ownership more like car ownership
- *DFG*
    - Incorporating cast nets into the education campaign for monofilament recycling
    - Increasing outreach to fishing groups
    - Targeted signage at hotspots of community use like marinas and beaches
    - Crab pots
        - Assemble list of by-catch reduction device distributors
        - Put pamphlet about derelict pot impacts and by-catch reduction devices directly into the pot at the dealers

Deep Dive Notes 2-2

Building capacity and funding: exploring funding sources (use fees, litter tax, public/private partnerships, etc.) to address many marine debris prevention and mitigation projects

Notes about this Deep Dive session were taken by the facilitators, Bob Benson, EPA and Katie Register, Clean Virginia Waterways and from the note taker, Kelley Uhlig, VIMS graduate student. The views expressed are from workshop participants but have been summarized and do not necessarily reflect the views of NOAA, DEQ, the Virginia CZM Program or Clean Virginia Waterways.

The goal for this session was to define the problem, come up with possible funding resources, brainstorm ideas, and come up with suggested steps.

1. **How is capacity building perceived?**
    a. Defined as: coming up with resources/stakeholder support to get things to happen, not just piloting, but establishing foundations
    b. Barriers experienced:
        i. Labor/workload changes
        ii. Stakeholder buy-in
        iii. Lack of funding source knowledge
        iv. Funding that is available for supplies, but not staff
        v. Broader definitions of funding sources - remedial v. prevention
        vi. “Tradition” limiting expansion of new ideas/new avenues
        vii. Confusing education with service
2. **How does the topic relate to the Virginia Marine Debris Reduction Plan?**
    a. One of the five strategies is funding
        i. Funding provides the resources needed
3. **What funding resources are available? - Pots are there, need to raise awareness**
    a. NOAA (Marine Debris Program grants, funding to CZM for ocean resources and planning)
    b. 319 EPA
    c. Five Star and Urban Waters Restoration Program (managed by National Fish and Wildlife Foundation)
        i. Trash removal can be part of a grant project. But proposals lacking
    d. Public/private partnership
    e. One priority is “pollution from stormwater runoff” and degraded shorelines caused by development. International/corporate sponsors
        i. Need to make obvious connection in communities
        ii. Funding split between education/prevention
        iii. Keep America Beautiful as delivery mechanism and source of ”best practices” (but of limited scope: mostly cigarette litter prevention)
    f. Fees on single-use disposable items (bags) and stormwater utility fees

i. For education, outreach, trash catchers, street sweeper
ii. But: need to ensure that any funds raised from these fees are dedicated to litter prevention (keep it out of general fund).

g. Virginia Litter Tax Act
i. Hasn't been adjusted for inflation since being passed in 1977
ii. Needs to come from groundswell (local governments who receive the litter funds. They haven't received more funding for decades, yet there are more people and more disposables and litter. Also, more new stormwater laws that need funding.)

h. Big-box stores, such as Home Depot/Lowes
i. Rather than supporting local litter prevention on a store-by-store basis, could these businesses commit to a national/regional policy?

4. What resources are needed?

a. Need to take advantage of pre-existing local coalitions to champion needs for funds
i. Louisiana as a template for addressing trash in rural communities

b. Central repository of ideas, projects in the state. This could be a simple survey/matrix to help build capacity.
i. Who needs funding and who can provide funding?
ii. What kinds of projects do the NGOs do? (E.g., education, cleanups, research, social marketing, etc.)
iii. What PROPOSED projects do these NGOs have that need funding?
iv. Where to host?
1. Coastal Zone Management, or one of its partners?
2. Leadership team to determine
v. This would help NGOs and industry to work together
1. Dow to fund collection of derelict and old nets, ship, and remake as carpet fibers

c. Information sharing between NGOs, foundations, private citizens about how to start relationship that could lead to funding
i. Localize to bridge gap

d. Funding for permanent staff--issues of sustainability

e. Not enough funding to "trickle down" to trash-issues but to relate "top" issues to trash
i. Language in permits to have line item about trash to build capacity
ii. Make a case for trash with larger issues
1. Need to work together to get this message across

f. Solid waste management beyond "landfills" and a controlled system
i. Protecting resources, even downstream

g. Poverty and socioeconomic status of communities need to be addressed/considered
i. Fix community blight, fix trash issue (and vice versa) and encourage capacity building
ii. Diverse strategies to engage diverse communities

5. **Role of partnerships and building on existing programs**
    a. Regional multi-state partnerships could lead to more capacity and funding.
        i. Example: MARCO and the Mid-Atlantic Regional Planning Body. Laura McKay chairs MARCO this year and next and worked to include development of a marine debris strategy(ies) into the Mid-Atlantic Ocean Action Plan.
        ii. Example: NOAA MDP's recent meetings in Mid-Atlantic
        iii. Washington D.C. sees urgent need for inter-jurisdictional cooperation in the region. Watersheds bring litter from other legal jurisdictions.
    b. Build on existing programs, plans, partnerships, and successes.
        i. Virginia CZM's support: Model for other states?
            1. Monthly monitoring through grant to Virginia Aquarium (NOAA funding)
            2. Creation and implementation of the Virginia Marine Debris Reduction Plan
            3. Continued commitment to coordinating marine debris efforts in Virginia
            4. Continued commitment to funding implementation of selected marine debris prevention research; e.g., the social marketing campaign to reduce balloon releases.
        ii. Use monitoring data to identify urban waters for hot spot assessment. Do micro-monitoring at local level for sources.
        iii. Beachy Clean project: look at potential of using this unified message in a multiple-state program to reach coastal tourists and hospitality businesses. Has great potential.
    c. Seek to engage new partners to integrate litter prevention into existing programs
        i. Potential new partners:
            1. Chesapeake Bay Program
            2. National Estuary Program and NEP regional
            3. River Basin Commissions
            4. Urban Waters
            5. Regional planning commissions
        ii. Build marine debris prevention into existing programs
            1. Rather than one "all-inclusive plan," build marine debris reduction into many plans

Other thoughts

- Tie in cost analysis
- Do an inventory of existing monitoring projects and cost data
- Stakeholder buy-in has barriers--perception and lack of champion
- How to access non-traditional funding sources and overcome the "rut of tradition- always done one way"
- Make use of Chelsea Rochman's data: 78 percent of Clean Water Act pollutants are tied to plastic pollution.
- Inventory/research the impacts of bag fees for revenues (D.C. and other places)
- Stormwater utility fees—do any of the communities that have these fees use part of the revenue on litter prevention, cleanup, or interceptions of litter?
- Could local communities in Virginia build a coalition to ask the state for local autonomy for ordinances?

- Business engagement--big untapped resource. But can they contribute by systemically decreasing the amount of waste that is produced? Not just make this a consumer problem to solve.
- Interview foundations and share information on the kinds of projects they are interested in funding. Also whom/how to contact

6. Post-it notes from attendees

- New funding mechanisms for disruptive technology "transition funding."
- Compile data on cost of prevention/intervention/cleanup
- Funding for litter pickups, or trash infrastructure should be included in cost of products.
- Industry responsible for cleanup, which will lead to innovation.
- Find some champions in local governments who can pursue having the Virginia litter tax "indexed" and "adjusted" for inflation. It should be about $40 per store per year now (not $10 as it was in 1977). This would make the annual revenue ~$8 million instead of the current $2 million.
    - Could some of the increase be committed to fund statewide marine debris projects—not just local ones?
- High early implementation costs for most solutions
- Private sector involvement
    - Direct investment
- Set up "special benefit districts"
    - "Special purpose districts are generally created through the county legislative authority to meet a specific need of the local community. Some are created by city legislative bodies. The need may be a new service, a higher level of an existing service, or a method of financing available through the creation of a special purpose district."
- Consider shopping center tax
- Recognize the rule of "diminishing returns" as solid waste management improves. Budget accordingly.
- Develop a metric to measure reduction in marine litter using consistent locations that are doing certain combinations of prevention methods adjacent to the watershed.
- Ask EPA to conduct a forum to educate local stormwater officials to build in litter/marine debris reduction into their permits
- Establish a litter item specific working action group to study and implement litter specific behavior and change programs to reduce marine debris litter
- To better gain support from local government storm water divisions, ask the EPA Trash Free Waters group to lead a forum for local government officials on how to include "floatables" interception and prevention strategies in their MS4 permits.

Deep Dive Notes 2-3

Social Marketing— brainstorming future social marketing campaigns; discussion of the steps; building capacity

Notes about this Deep Dive session were taken by the facilitators, Virginia Witmer, Virginia CZM Program and Steve Raabe, Opinion Works as well as from the note taker, Chase Long, VIMS and post-it notes from attendees. The views expressed are from workshop participants but have been summarized and do not necessarily reflect the views of NOAA, DEQ, the Virginia CZM Program or Clean Virginia Waterways.

Handouts: social marketing techniques, quick reference: community-based social marketing, questions for how to think about starting a social marketing campaign

- How to change the way people live their everyday lives – ingrained behavior that has detrimental results for the individual and the community? How do you change a social norm? Social marketing can help.
- Social marketing borrows from commercial marketing; it is an audience-centered approach requiring pre-campaign research in order to:
    - listen to and get to know your target audience(s)
    - identify why they behave the way they do
    - determine what barriers prohibit them from engaging in positive behavior
    - explore what messages and social marketing techniques might be most effective in bringing about a change in behavior
    - understand how best to reach the target audience with the campaign message and influence a change in their behavior
- Research can be expensive; prioritization of the problems and the behaviors to be targeted is especially necessary
- Is the behavior one time or continuous?
- Are there competing behaviors that have to be taken into consideration?
- Target audience:
    - Native plant example: single family homeowners
    - Pick out lowest hanging fruit, and start there
- Barriers and benefits:
    - Secondary research - looking at other people's surveys
    - Primary research - your own surveys or focus groups
    - Barriers - sometimes there are a lot of barriers, these need to be prioritized
    - Externalities – e.g., lack of availability of native plants
    - Competing benefits
- How to do leverage your resources and do social marketing "on the cheap"?
    - Look to partners for resources – financial and staff – identify what they can contribute to the campaign – e.g., research experience, graphic design, communications etc.

- Colleges and universities may have students or interns who can do work for experience, class project, or for less money
- Go to funders and pitch ideas (e.g., getting citizens to build rain gardens)

$10k was enough to start an Eastern Shore native plant campaign - Virginia Tech Cooperative Extension staff donated their expertise in conducting qualitative and quantitative research

- Social marketing is an investment in skills and time but it can be done with more limited financial resources – what is most important is following the steps, particularly the need for pre-campaign research – and not making assumptions about your audience

<u>Research BMPs</u>

- Privacy concerns about findings? Confidentiality? Are these concerns a component of how research is conducted or presented? Names are not connected to research findings. When work is done with a university, there is a need to get approval from the "institutional review board." Informal and very formal ethical standards are adhered to. Privacy is not just researcher-participant, but also participant-participant.
- Everything about how research is conducted and the findings should be shared so that future research can be done more efficiently and better.
- While not revealing individuals, it is important to reveal characteristics about people for the research to have an impact.
- Good recruitment is a very important aspect of research—participants need to be vetted.
- Separating people into groups with like characteristics helps to flesh out information that is hidden when groups are more blended.
- When focusing on youth, it is important to hire a group that does that kind of research regularly and knows the rules and authorizations required to work with children, and because there is a level of skill and finesse needed to exact appropriate information from children.
- Sometimes you screen out people with strong views, because they can dominate the conversation. You want everyone at the table to feel equal, so that they share equally.
- Lay a foundation for equality among participants, and they will share their thoughts more willingly.
- At the beginning of focus groups, care is taken about revealing the sponsor or purpose of the group. Important for members not to know what they are being asked about at first, so they are more honest. At the very end, reactions to different organizations are gauged, and finally the purpose and sponsor are revealed.

<u>Measuring behavior change/campaign evaluation</u>

- Identify the metrics you will use to measure behavior change and assess the impact of your campaign at the beginning. Evaluation is an important component of a social marketing strategy.
- Focus on end behavior goal.

<u>Observations and next steps</u>

- Strategy developed for campaign to reduce helium balloon release could be somewhat universal due to the similarity across regions of the groups that release balloons.

- Create a database where different projects can be posted (e.g., native plants, balloons, etc.).
    - Database can have information about target audience (Virginia Beach vs. Eastern Shore populations).
- Over time, as studies accumulate, lessons will be learned that can help new campaigns perform better.
- Break campaigns down into parts so that other campaigns can use the parts that are helpful to them.
- Virginia CZM is interested in building the capacity of its partners to apply social marketing.
- Partners attending this Deep Dive session are extremely interested in an intensive training in social marketing techniques.

Post-it notes from attendees

- Develop a way to measure the impact on marine debris reduction from the great NOAA education and outreach initiatives. What method works best with what audience? What actually changes behavior?
- Balloon releases not allowed at state parks—is this possible?
    - Educational materials explaining why
- This session on "influencing behavior change" was anti-litter focused which makes sense. But is it worth campaigning for other behavior change like not putting your trash in an over-flowing bin?
- What if our target audience is very broad and can't be specified? Like all of the volunteers who participate in an international cleanup event?
- Hot spot identification through social media
- Use the upcoming Chesapeake Bay Marketing Test Program to study the impact of litter prevention messages and methods on litter specific and audience specific littering behavior.

Deep Dive Notes 2-4

Cigarette litter prevention: successes, challenges, how to implement in your community.

Notes about this Deep Dive session were taken by the facilitators: John Deuel, Green Quest, and Christina Trapani, independent researcher. Additional notes were taken by Janae Jones, Longwood University, CVW Intern and post-it notes from attendees. The views expressed are from workshop participants but have been summarized and do not necessarily reflect the views of NOAA, DEQ, the Virginia CZM Program or Clean Virginia Waterways.

- Boater education:
    - Talk to marinas to offer cup holder ash trays
    - Find out if cigarette litter is a part of BoatUS education program
    - Boaters in Virginia must take an on-line safety training course by BoatUS Foundation and/or Virginia Department of Game and Inland Fisheries. Could this course include litter prevention messages? Make the connection between safe boating and not littering (stress impact of nets, etc., on boat props.)
    - Make sure clean marinas are teaching and practicing cigarette litter prevention
- Prison inmates: wear vests with proactive message about litter prevention. “I’m helping to clean up the Earth.”
- “Diagram of a filter” and impact visual education on facts that cigarette is litter
- Partnerships with major restaurants and convenience store association on training and encouraging use of best practices.
- Revisit modifying laws to enable a littering ticket or fine instead of a “class one misdemeanor”
- Car and truck drivers:
    - Partnership with Virginia auto dealer association, AAA, government auto agencies, and auto manufacturers
    - Establish a dialogue with car dealers to distribute car cup holder ashtray to car buyers and service desks that are smokers
    - Put a sign in dealerships that offers a car cigarette bucket for free.
    - On the sign include impact and importance of proper cigarette litter disposal
    - Have bucket ash receptacles for any car customer or auto parts dealers and auto repair businesses.
    - Institute a statement for new and reissued license holders to acknowledge the law for littering out of a vehicle, also hunting and fishing licenses.
- Hunters and fishermen:
    - Institute a statement for new and reissued hunting and fishing licenses to acknowledge the law for littering (maybe also mention forest fires)
- Develop a partnership with the Virginia Department of Health to include cigarette litter prevention methods training during a restaurant’s health inspection
- Establish a peer-to-peer clean smoker ambassador program. The program would enlist volunteer smokers to talk to other smokers about proper disposal and distribute pocket ashtrays
- Develop a campaign to distribute a pocket ashtray to smokers at point of purchase during one month at targeted cigarette retail stores.
- Develop ways to capture cigarette butts before they go into the storm drains.

- Some cities have a litter tax on the sale of each pack of cigarettes (San Francisco is one). The funds go to litter cleanup and prevention. Learn: How much do they raise? Could Virginia communities do this too?
- Expand the Cigarette Litter Prevention Program to other regions in Virginia, particularly coastal areas. Propose a grant to Keep America Beautiful
- Explore a way to offer a clean smoker discount to any smoker returning a full pocket ashtray to retailers. Discounts initiated by cigarette distributer.

TOPIC: Crafting effective laws

Note: the following are post-it notes about crafting effective laws. This topic was NOT a "Deep Dive" session.

Post-it notes from attendees

The views expressed are from workshop participants but have been summarized and do not necessarily reflect the views of NOAA, DEQ, the Virginia CZM Program or Clean Virginia Waterways.

- Floatables and trash laws exist in Virginia already. They need the following:
    1) Metrics such as tons/month with goals.
    2) TMDL's with limits vs. goals if water quality attainment is not met.
    3) Reporting and data analysis to determine progress and costs.
    4) Enforcement of compliance
- Conduct a statewide education program of police officers on the state and local litter laws and penalties; include pedestrian, auto/truck and dumping laws.
- Continue working toward balloon and plastic bag bans.
- Establish and disseminate a "letter of commitment" for local and state organization and governments to sign on to demonstrate their support and awareness of the Virginia Marine Debris Reduction Plan and indicate which actions they will do.
- Make legislators less comfortable with the status quo
- Index the business tax for inflation
- Explore trash TMDLs
- Virginia water quality standards require: (9VAC23-260-20) "state waters, including wetlands shall be free from substances…which are inimical or harmful to human, animal, plant or aquatic life." "Specific substances to be controlled include, but are not limited to: floating debris, oil, scum and other floating materials…" Why floating debris control is not required by Virginia MS4 and industrialized stormwater permits? Maryland has these requirements in MS4 permits for Baltimore City, Prince Georges and Montgomery counties in the DC suburbs. Why doesn't Virginia do the same in its D.C. suburbs, Norfolk, Hampton Roads, Richmond etc.? It would be a real boost to Virginia's Marine Debris Reduction Plan.
- Prevention: more than just targeting consumer behavior. Equally, if not more important, is to address policy/manufacturing mechanisms and creation of single-use items in the first place.
- Document how much money is collected with fees on plastic bags (DC, etc.). Share this with local governments. This might convince them to ask the state government for permission to enact local regulations. Virginia, as a Dillon Rule state, has given local governments authority for other actions, so why not fees on plastic bags?
- Meet with law enforcement leaders (sheriffs, chiefs of police, State Police, VMRC, and DGIF) to show the need for strict littering enforcement.
- If we had as much success with litter enforcement as MADD. Wow
- No one likes visible trash, but how to convince policy makers about the potentially deleterious effect of microplastic/micro trash?
- Get a lawmaker to reintroduce enabling legislation to allow localities to establish a littler ticket or fine for littering vs. class one misdemeanor
- Multi state:
    - Establish an effort to legislate definitions and limitations for use of plastics in manufacturing approved by FDA/FTC patents, etc.

- Better laws: Move toward developing a “universal standard” for testing and approving any product for its impact on the marine or air quality environment

TOPIC: Other topics

Note: the following are notes from summit attendees on topics other than those discussed in the "Deep Dive" sessions.

Post-it notes from attendees

The views expressed are from workshop participants but have been summarized and do not necessarily reflect the views of NOAA, DEQ, the Virginia CZM Program or Clean Virginia Waterways.

- People are not inclined to pick up small litter that is not considered valuable (twist ties, hair elastics, beads, micro-trash, candy wrappers, pennies, etc.)
- After beach cleanup, marine debris goes where?
    - Landfill?
    - Recycling?
- Is there a better long-term solution?
- Why are there no storm sewage treatment plants?
- Need to engage industries and manufacturers in systemic changes in packaging and product design. Don't put the entire burden on consumers to "do the right thing" with their waste items. Let's make less waste in the first place.
- Set up a matrix and decision making model for cities to figure out what litter prevention strategy could work best for their situation (demographic) size of population/litter issue
- Instead of balloon release
    - Rehab bird release symbol of freedom and recovery
- Marine debris needs strong action, not just words
- Economics of marine debris will help identify "payers" and "beneficiaries"
- Nothing beats the educational values of a clean-up
- Marine debris found in wrack line (debris left on a beach by high tides): whose responsibility in coastal communities, primarily following storms?
    - What can be done with vegetative "waste"?
    - Need to understand the ecological benefits of wrack line materials
    - Alternative to land fill?
    - Program to compost?

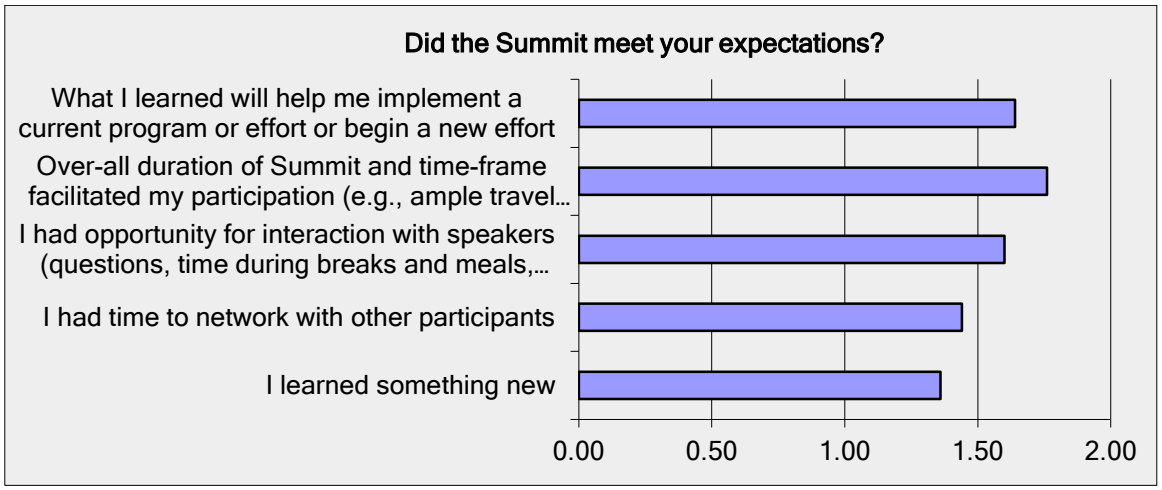
Appendix E. Post-summit online survey results.

1. Did the Summit meet your expectations?

Answer Options	Strongly agree	Agree	Disagree	Strongly disagree		Rating Average	Response Count
I learned something new	16	9	0	0	0	1.36	25
I had time to network with other participants	14	11	0	0	0	1.44	25
I had opportunity for interaction with speakers (questions, time during breaks and meals, etc.)	11	13	1	0	0	1.60	25
Over-all duration of Summit and time-frame facilitated my participation (e.g., ample travel time)	11	11	2	0	1	1.76	25
What I learned will help me implement a current program or effort or begin a new effort	10	14	1	0	0	1.64	25

Comments:

- Nicely done!
- The Summit started very early in the morning compared to when nearby breakfast restaurants opened up. It was also a little difficult to find speakers during the breaks (to network).



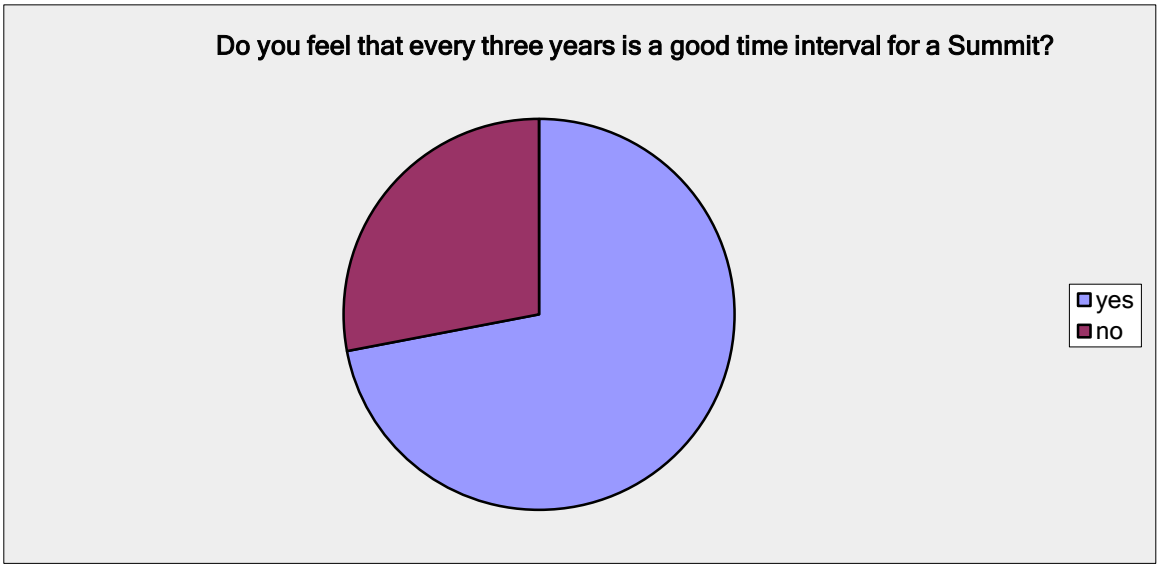
2. Do you feel that every three years is a good time interval for a Summit?

Yes: 72.0% (n=18)

No: 28.0% (n=7)

Comments:

- Every two years...seems like a lot going on.
- I wish it could be every year! But also marine debris science is moving so fast I feel like every other year would be better.
- Given the challenges of these times, I think that a one or two year interval would be better.
- Two years.
- Considering the new research coming out, every two years might be more appropriate.
- I would do every 2 years
- Could make it every 2 if there's a major research shift, political change or investment that could benefit from a multi-stakeholder discussion.
- Maybe 2 years
- Every two years could also be a good interval.
- I would say 18 months or 2 years to keep the momentum going.
- How about a regional Summit every 2 to 3 years, but with time for each state to meet to discuss their specific issues.



3. An invitation to the Summit was sent to a diverse array of partners with an interest in marine debris issues: environmental organizations; businesses; colleges and universities; state, federal and local government agencies. We were pleased that attendees represented all these entities. Is there anyone you can think of who wasn't at the Summit and would have benefited from participating?

- Seemed like a very diverse group..
- Marine-based law enforcement officers could have helped inform the ADV roundtable discussions
- 90% of the participants were state, federal, local employees. There were few of independent types.
- Would like to have seen more college students
- County Departments of Parks, Recreation, and Tourism and other respective municipal representatives.
- Local and State Marine Police
- Kim Huskey, kim@littleneck.com, 757-880-8553; she is a consultant with the clam aquaculture industry
- Law Enforcement
- What could the next summit include (offer) that would encourage the solid waste industry and commercial recyclers to attend? The VA Recycling Association meets annually. Perhaps the next Summit could be in conjunction with their annual meeting.

4. Which of the following topics are you interested in exploring more deeply (through discussions on science, authority, policy, regulations)?

Workshops

Workshop Topic	Interest
Mid-Atlantic region (VA through NY) - collaboration toward regional approaches to marine debris reduction	15
Cigarette litter prevention	12
Consumer single-use items	11
Microplastics	11
Derelict fishing gear and abandoned and derelict vessels	11
Stormwater MS4	9

Webinars

Webinar Topic	Interest
Mid-Atlantic region (VA through NY) - collaboration toward regional approaches to marine debris reduction	14
Cigarette litter prevention	11
Consumer single-use items	17
Microplastics	14
Derelict fishing gear and abandoned and derelict vessels	10
Stormwater MS4	10

Working Groups

Working Group Topic	Interest
Mid-Atlantic region (VA through NY) - collaboration toward regional approaches to marine debris	12

reduction	
Cigarette litter prevention	13
Consumer single-use items	10
Microplastics	7
Derelict fishing gear and abandoned and derelict vessels	7
Stormwater MS4	5

5. Are there topics you wish we had covered during the Summit (please specify and describe)?

- The specific sources and pathways of items that become marine debris.
- Maybe a better understanding of how the law works in Virigina with regards to action we could and could not take
- I would have liked to see more SOLUTIONS and technologies, policies, and most of all enforcement of current regulations. MS4 and TMDL for Trash are a result of lax enforcement of laws already on the books
- Opportunities (primarily funding) for rural regions/communities.
- Single use plastic bags legislation. I would have liked to see presenters from states that have successfully passed legislation.

6. Capacity-building: Are you interested in the following?

Topic	Participate in Training	Assist in planning/hosting/leading a webinar, training or mini-workshop	Participate on a working group
Social marketing - increasing capacity of partners to apply social marketing, sharing experiences and lessons	17	6	8
Communications - "Telling the Story" more effectively to engage a wider audience, e.g., general public or other stakeholder groups (via mass media, social media, or other multi-media)	17	8	12
Funding - exploring funding sources (use fees, litter tax, public/private partnerships, etc.) to address many marine debris prevention & mitigation projects	15	6	10

7. Your final thoughts. Any suggestions to make the next Summit more valuable to you?

- Katie and the entire planning committee did a great job.
- Have an Open House for a couple hours during the Summit for the public to see all the good work happening.
- More attention should be paid to the technical aspects of the conference...could barely hear speakers in the morning of the first day.. .seemed to improve later on...Thanks for the wonderful oysters on the half shell...delicious!
- Thank you so much for inviting me and other regional partners. I think we can all learn a lot from the experience and knowledge of Virginia when it comes to marine debris reduction and awareness. I would only suggest that the next one not be in such a remote area, it would have been nice to have some opportunities for networking outside of the event space.
- Thanks to the whole planning team for doing an excellent job and making MY job easier.
- If the weather is nice again, it would be great to have impromptu exploration sessions whereby everyone goes outside and an expert talks about living shorelines, plants, birds, or other topics. It was very difficult to sit in a window-less auditorium, although I understand presentations are viewed most easily in a windowless room).
- It was perfect! Great job ladies!!
- We got newspaper coverage daily on the peninsula.
- Great job!
- host in a larger space.
- I would like to present a seminar on the Waterwheel Powered Trash Interceptor, along with Clearwater Mills' John Kellett.
- I would like to see a panel of experienced boaters talk about their experience with marine debris and their perception of what boaters around them feel about the topic.