

Final Report

Virginia Marine Debris Reduction Plan Refinement & Implementation of Balloon Reduction Social Marketing Campaign



Submitted to the Virginia Coastal Zone Management Program by
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Of Longwood University

The Virginia Coastal Zone Management Program is a network of state agencies and coastal localities.
The Virginia Department of Environmental Quality serves as the lead agency for the network.



PROJECT SUMMARY

This task supported the Virginia Coastal Zone Management (CZM) Program's commitment to provide leadership in reducing the amount of trash and marine debris from land-based and water-based sources in Virginia and the Mid-Atlantic region. This grant from the VA CZM Program to Clean Virginia Waterways (CVW) of Longwood University supported various projects that furthered the implementation of the Virginia Marine Debris Reduction Plan (funded under FY11 Task 95.03). In addition, this grant supported further implementation of a Community-Based Social Marketing campaign titled "*A Rising Concern: Reducing Balloon Release and Debris through a Social Marketing Campaign.*"

The work on this grant was accomplished by CVW in close collaboration with the staff of the Virginia CZM Program, and stakeholders in Virginia as well as other mid-Atlantic states.

About the Virginia Marine Debris Reduction Plan

The Virginia Marine Debris Reduction Plan serves as a roadmap for nonprofit organizations, local governments, state agencies, regional partners, researchers, and industry as they work together on sustained approaches to reducing the flow of plastic trash and other trash items into our coastal waters.

The Virginia Marine Debris Reduction Plan utilizes multiple approaches. Solutions to marine debris will come from a combination of:

- Behavior change campaigns;
- Policies and enforcement;
- Increased responsibilities of producers, manufacturers and distributors;
- Informed consumers;
- Acceptable and readily available substitutes (e.g., fabric shopping bags);
- Increased infrastructure to capture materials at sources and increase "ease" in doing the right thing with waste items

Funding for this grant:

This grant was originally funded at \$60,000. An additional \$15,889 was added to the grant to support the June 2017 "Introduction to Community-Based Social Marketing (CBSM) Workshop" taught by Dr. Doug McKenzie-Mohr; project consulting by Dr. McKenzie-Mohr; and to support CVW's "Keep It Beachy Clean" campaign to decrease the voluntary use of plastic straws.

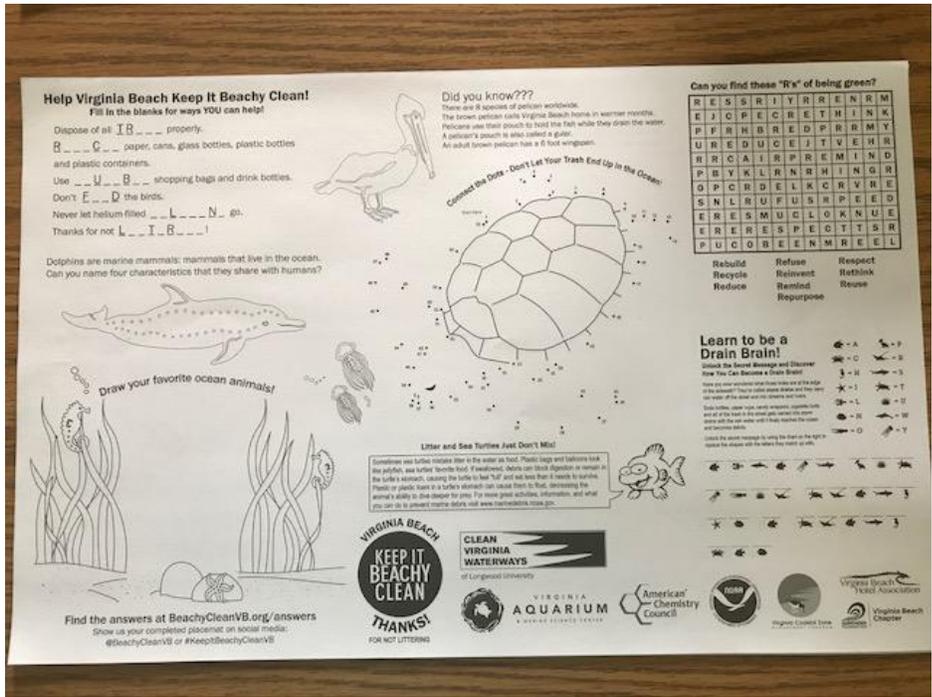
Product #1. Refinement and Implementation of the Virginia Marine Debris Reduction Plan

During this grant period, progress was made on implementing many aspects of the Virginia Marine Debris Reduction Plan through work described below. Under direction of the Virginia CZM Program, CVW fostered collaboration between agencies, local governments, researchers, manufacturers and businesses, non-profits and citizens. Examples include:

- CVW staff were engaged in monthly discussions of the Mid-Atlantic RPB marine debris work group as well as smaller task groups working on development of regional approaches to prevent or remove marine debris. Because of Virginia's earlier work in creating a marine debris reduction plan and creating a CBSM campaign to address balloon litter, CVW and VA CZM Program staff often provided guidance and background information to the Mid-Atlantic RPB marine debris work group.
- A platform for sharing marine debris projects was a priority of the VA Marine Debris Reduction Plan, so CVW and CZM Program staff contributed to an inventory of regional marine debris projects, to be used in a collaboration portal developed by the NOAA Marine Debris Program. The portal includes a summary information on marine debris prevention and mitigation programs underway in Virginia and other mid-Atlantic states. The portal is found here: <https://midatlantic-mdc.diver.orr.noaa.gov/home>
- CVW partnered with the Virginia Aquarium & Marine Science Center on its FY2016 (Task #81) grant from the VA CZM Program to monitor marine debris on four Virginia beaches. CVW was responsible for entering the monthly data forms into NOAA's on-line data base and assisted with project management.
- CVW and CZM staff contributed to the June 7, 2017 Mid-Atlantic Marine Debris Workshop that was held the day after the "Introduction to Community-Based Social Marketing Workshop" in Richmond, VA. A focus of the workshop was to explore regional solutions to prevent marine debris, and to gauge interest in the development of a regional marine debris reduction plan.
- CVW and CZM staff provided extensive input during writing of a Letter of Interest to the NOAA Marine Debris Grant Program with a proposal to expand the Joyful Send-off community-based social marketing campaign into mid-Atlantic states.
- CVW and CZM staff contributed to the Virginia Marine Debris Emergency Response Guide that was written by the NOAA Marine Debris Program. This report can be downloaded from <https://marinedebris.noaa.gov/reports/virginia-marine-debris-emergency-response-guide>
- Derelict Clam Nets: After learning of concerns that clam nets (used to protect young clams during grow-out in shallow coastal waters) were found derelict on Virginia's barrier islands, CVW and CZM staff arranged a meeting on Virginia's Eastern Shore in March 2017 to talk with leaders of the clam aquaculture industry, local NGOs, and The Nature Conservancy (owner of many of VA's barrier islands). Participants discussed past efforts to remove derelict nets, the scope of the current issue, and next steps. The aquaculture growers expressed eagerness to retrieve derelict nets if found, and mentioned how they would welcome a better solution for the ultimate land-based disposal of used netting. Landowners expressed concern about retrieving derelict nets given the speed with which the nets can move or become partly buried. CVW and CZM staff pursued the possibilities of recycling used clam nets with Terracycle as a better solution instead of land-based disposal of used netting.
- Discussions were held during this period with stormwater managers of large municipalities in Virginia regarding their concerns with "floatable" pollutants including litter and plastic found in stormwater. Many managers expressed interest in exchanging information and case studies with other stormwater managers. These discussions and input led to the "Stormwater and Litter Workshop" that was executed as part of the FY17 grant from the VA CZM Program to CVW.

Further outreach:

- This grant allowed CVW and the VA CZM Program to provide reusable metal straws for the annual VA Environmental Education Conference attendee bags. All metal straws included information about the benefits of avoiding plastic single-use disposal items like straws as well as a tiny brush for cleaning the straws.
- Keep It Beachy Clean: Part of these grant funds supported Clean Virginia Waterways' "Keeping it Beachy Clean" community outreach program which was developed to influence the behaviors of a key target audience: visitors to beach resorts and beach communities.



Three versions of these popular placemats for children were distributed to restaurants in Virginia Beach in 2017-2019. Logos from Keep It Beachy Clean's major partners are printed on the placemats, including NOAA and the Virginia Coastal Zone Management Program.

The Virginia Marine Debris Reduction Plan recognizes that everyone can help prevent marine debris, but restaurants and retailers could play an especially key role since food- and beverage-related litter are, in aggregate, the largest source of marine debris as determined by data collected by volunteers during the International Coastal Cleanup.

Product #2. Balloon Release Reduction Campaign: Complete Implementation and Evaluation

One of the near-term actions identified in the Virginia Marine Debris Reduction Plan was design and implementation of a community-based social marketing campaign targeting behaviors that will reduce balloon litter in the marine environment. Balloons were identified as one of the most harmful items to wildlife. The Virginia CZM Program received a \$50,000 grant from the FY14 NOAA Marine Debris Program to pursue this work. After conducting research to better understand who plans balloon release events – and, most importantly, why – this FY16 grant enabled CVW to work with the VA CZM Program staff and other Virginia CZM partners to design and implement a pilot campaign, *Joyful Send-off*. This campaign encourages couples to select litter-free alternatives to balloon releases.

The pre-campaign research and findings, and the design and implementation of Joyful Send-off as well as preliminary results is documented in a final report to the NOAA MD Program - *Balloon Release Research in Virginia & Reducing Balloon Debris through Community-Based Social Marketing* - which is available on:

- <https://www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/MarineDebris/MarineDebris-Balloons.aspx>
- <http://www.longwood.edu/cleanva/publications.html>

During this grant period, CVW and CZM staff continued to update and disseminate the multi-media materials that were created to support the Joyful Send-Off campaign including:

- The www.JoyfulSendoff.org web site
- Balloon litter web pages on the CVW and VA CZM Program websites.
- The Joyful Send-off Facebook page (<https://www.facebook.com/joyfulsendoffva/>)

In addition, multiple postings about balloon litter prevention were posted on the CVW Facebook page. CVW and VA CZM Program staff collaborated on creating displays and articles that highlighted the Joyful Send-off campaign, including:

- Virginia Beach Hotel Association Fall 2017 newsletter - <http://files.constantcontact.com/511b18e6301/e5c084c9-1cc7-44d6-b9e2-9adc36e2df1a.pdf?ver=1506710518000>,
- Fall/Winter issue of Virginia Coastal Bride magazine - <http://www.coastalvirginiamag.com/Bride-Virtual-Magazine/> and
- the Sept 2017 issue of Chesapeake Bay magazine - <https://www.chesapeakebaymagazine.com/columns/2017/9/15/a-ballooning-problem?rq=balloons>.

Findings from our first critical stage in designing a social marketing campaign were summarized and presented to campaign partners and to the VA Marine Debris Reduction Plan Team in two meetings held in January 2017. Findings were also presented at the CZM Partners Workshop. Laura McKay, Manager of the VA CZM Program, and Steve Raabe of OpinionWorks, spoke about this project during the VA Water Monitoring Council's annual Conference.

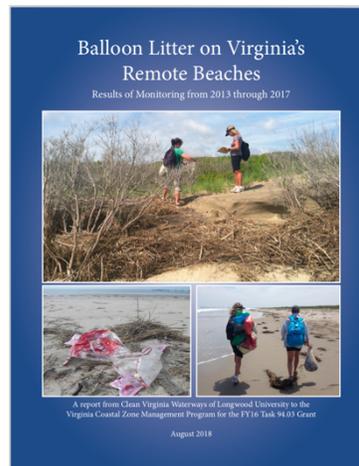


Joyful Send-Off display and handouts reach new audiences. Left to right: Katie Register, Christina Trapani, Virginia Witmer.

Product #3. Balloon Debris Monitoring

Researchers Christina Trapani and Kathy O'Hara (sub-contracted by CVW to conduct monitoring of balloon litter on barrier islands) and others monitored False Cape, Smith Island, Cedar Island, and Fisherman Island to better understand the abundance, distribution, accumulation and fate of balloon litter in coastal environments of Virginia.

An extensive report by Christina Trapani, Kathy O'Hara and Katie Register entitled "*Balloon Litter on Virginia's Remote Beaches*" was submitted to the Virginia Coastal Zone Management Program in August 2018 as a deliverable of this FY16 grant.

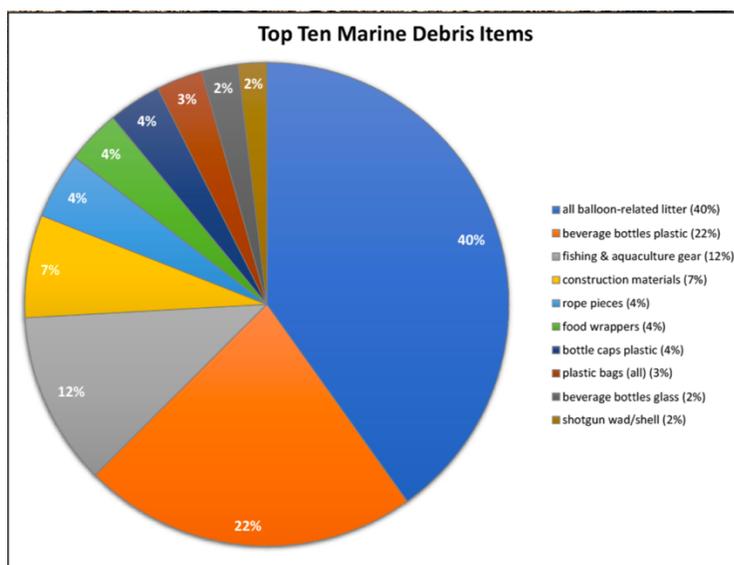


The report can be downloaded from:

<https://www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/MarineDebris/MarineDebris-Balloons.aspx> and also from: www.longwood.edu/cleanva/publications.html

Some key findings in the report are:

- When compared to other trash, balloons ranked as the #1 top marine debris item on the beaches.
- During the five-years of monitoring (2013-2017) a total of 11,441 balloons and balloon-related pieces of litter (e.g., plastic ribbons) were recorded.
- Most balloon litter (61%) was concentrated on the highest sections of the beach, which is critical habitat for nesting turtles and birds.
- Balloon litter density varied from 25.6 items per mile on Cedar Island in the winter, to more than 272 items per mile at Fisherman Island National Wildlife Refuge in summer and fall.



Balloon-related litter was the most frequently found type of debris on Virginia's coastal beaches during five-years of monitoring conducted by Clean Virginia Waterways.

Background:

Prior to the beginning of this grant, Clean Virginia Waterways and the Virginia Aquarium implemented a "Balloon Litter Study" throughout Virginia using citizen science data collection and reporting. In 2013, marine debris researchers Kathy O'Hara and Christina Trapani began to monitor barrier islands and remote beaches for balloon litter to ground-truth the data that was being reported by citizens. As work got underway on the "*Reducing Balloon Release and Debris through a Social Marketing Campaign*," additional monitoring of Virginia beaches for balloon litter was undertaken supported by this grant.

One intent of this research was to help measure/evaluate the effectiveness of the Community-Based Social Marketing research to decrease the intentional mass release of balloons through the *Joyful Send-off* campaign. The research about the accumulation of balloon litter in coastal environments can help inform mitigation efforts to prevent balloon releases through education and social marketing campaigns as well as changes in policies and laws.

Product #4. Reducing Marine Debris Through a Mid-Atlantic Social Marketing Workshop.

This grant paid a majority of the expenses for the “Introduction to Community-Based Social Marketing Workshop” (June 5-6, 2017 in Richmond) which built the capacity of partners to conduct research & implement campaigns to promote positive environmental attitudes and behaviors and also increase voluntary compliance with anti-litter laws. The workshop was taught by Dr. Doug McKenzie-Mohr, founder of community-based social marketing and author of *Fostering Sustainable Behavior*. The workshop was funded partly by this grant, partly by FY15 Task 94.03, and partly by a modest registration fee to cover meals. A total of 39 representatives from MARCO, NOAA Marine Debris Program, and other state, regional and federal partners attended the workshop. Another 37 people listened to a 90-minute executive summary that was held on the morning of June 6.

The workshop met a goal of the Virginia Marine Debris Reduction Plan: to build the capacity to conduct research & implement campaigns to promote positive environmental attitudes and behaviors and also increase voluntary compliance with anti-litter laws.

Product #5. Master Coaching with Dr. Doug McKenzie-Mohr

Note: The deliverables for this grant were done before April 1, 2018, but then in June 2018, the VA CZM Program provided an additional \$3128 to CVW in order to hire Dr. Doug McKenzie-Mohr as a consultant.

CVW hired Dr. Doug McKenzie-Mohr to provide Master Coaching and consultation via conference calls and Webinars. Partners from the Mid-Atlantic Regional Council on the Ocean (MARCO) participated in the coaching sessions and gained insights from Dr. McKenzie-Mohr on progress that partners were making on the NOAA Marine Debris Program Grant to reduce the intentional release of balloons. As a result of his coaching, the scope of the balloon litter prevention campaign expanded to include audiences other than just bridal couples and wedding venues.