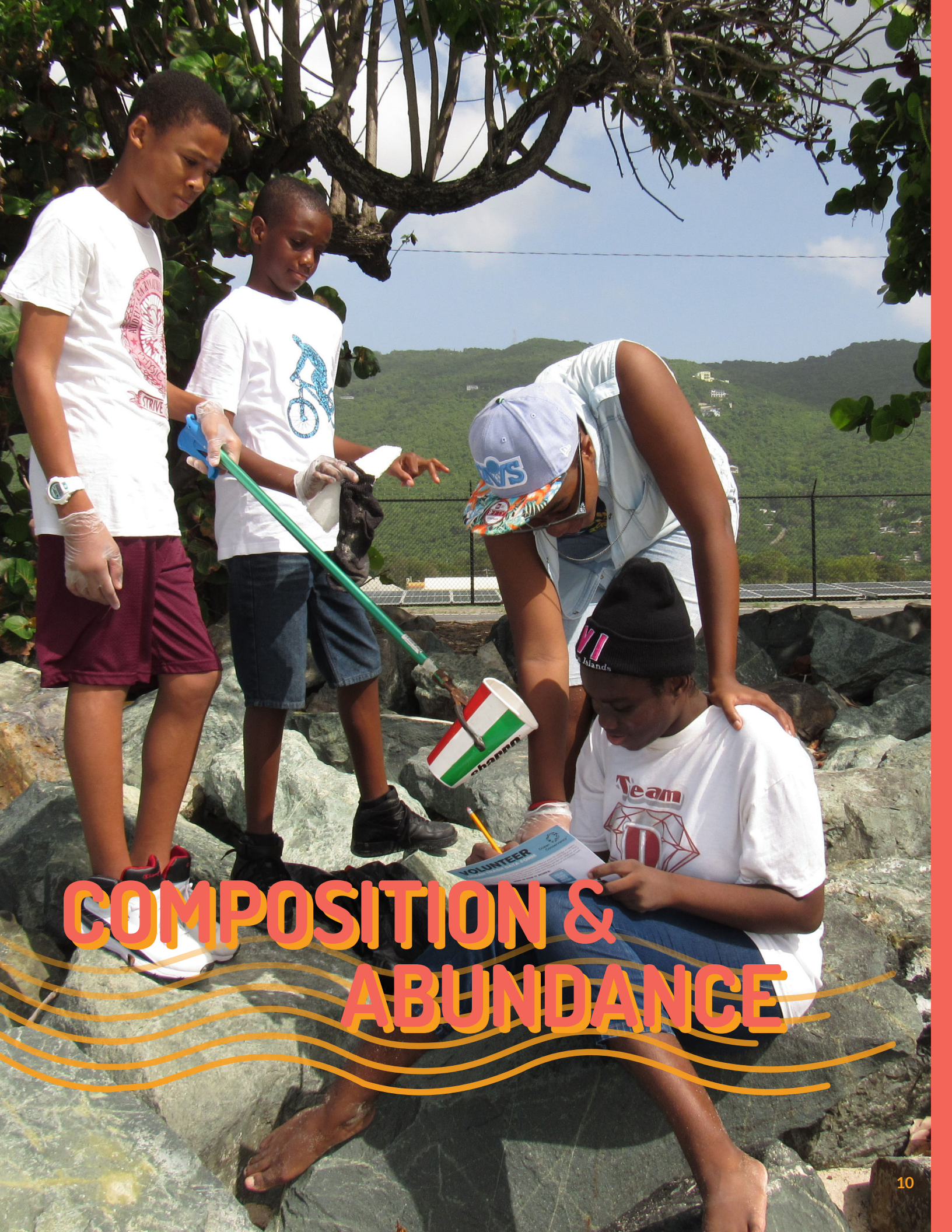


KEEPING OUR COASTLINES CLEAN

A U.S. Virgin Islands
Marine Debris Curriculum





COMPOSITION & ABUNDANCE

Links to the Next Generation Science Standards, Quick Reference Guide

Curricula by Sub-Section		Middle School						High School					Sci & Engineering Practices
		ESS 3-1	ESS 3-2	ESS 3-3	ESS 3-4	ETS 1-1	ETS 1-2	ESS 3-1	ESS 3-3	ESS 3-4	ETS 1-1	ETS 1-2	
Composition & Abundance	Beach Box Exploration			✓									✓
	Investigating Oceanic Garbage Patches			✓					✓				✓
	A Degrading Experience			✓					✓				✓
Sources & Transportation	Watershed Walk	✓		✓				✓					✓
	Sources of Microplastics: Microbeads			✓									✓
Impacts	Entanglement Problems			✓	✓				✓	✓			✓
	Natural Disasters and Marine Debris		✓	✓	✓			✓					✓
Solutions	Linked Beach-Ghut Clean Ups	✓		✓					✓				✓
	Mitigating Microplastics			✓					✓				✓
	Upcycling Plastic Bags					✓	✓				✓	✓	
	Making Connections Through Art			✓					✓				✓

SPOT LIGHT

Zola Roper, former Masters of Marine & Environmental Science student, University of the Virgin Islands

My name is Zola Roper. I was born and raised on the island of St. Thomas, U.S. Virgin Islands. My first years of schooling were spent at various public elementary, junior, and senior high schools and I went to the University of the Virgin Islands (UVI) for my undergraduate degree. Currently, I am a graduate student in the Master's of Marine & Environmental Science Program at UVI. The focus of my thesis research is marine debris, a pervasive and important local environmental issue, that hits close to home. My thesis examines spatial and temporal trends in a historical, territory-wide, citizen science-collected marine debris data set. This marine debris data set, amassed by the Virgin Islands Marine Advisory Service and Ocean Conservancy, spans over the past 30 years (1988-2016). You or your students, might have even helped to collect some of these data through the Coastweek Cleanups that happen every fall!

Previously, no one had completed a comprehensive analysis of these marine debris data. My research will answer important questions about U.S. Virgin Islands marine debris abundance, distribution, sources, and transport. More information about U.S. Virgin Islands marine debris patterns could lead to new and better solutions to this problem for the Territory, including changes to policy and human behaviors to prevent marine debris production.

In the Fall of 2019, I participated in a two-month internship with NOAA's Marine Debris Program (MDP) at NOAA headquarters in Silver Springs, MD, funded by the National Science Foundation. I was drawn to the MDP because their expertise would provide me with the opportunity to (1) augment my current academic research training with non-academic internship and training opportunities, and (2) allow me to pursue new activities centered around acquiring professional development experience that would help prepare me for multiple career pathways after graduation, such as potentially working for a federal agency.



Zola Roper, Graduate Student at the University of the Virgin Islands, participated in NOAA's Nancy Foster research cruise around the U.S. and British Virgin Islands in June 2018 (Photo credit: Vanessa McKauge).

During my two months, I participated in and led ongoing projects within MDP. The very first week of my internship I participated in the Marine Debris Operational Meeting located in Delaware, where I was able to meet the whole MDP team in person and learn about strategic planning and ongoing projects. Following the Operational Meeting, I dove into the Marine Debris Art Contest which included mailing out the 2020 art contest calendars and preparing congressional letters for Senators and Representatives with contest winners in their state. I also began preparing a marine debris dataset to be displayed on Science on a Sphere (SOS) which included summarizing various scientific studies, as well as having fun learning more about SOS itself. A large focus for the Communications Team is sharing the work of the MDP and its partners with the public through a variety of channels. For example, as part of this Team, I wrote a blog about the new updates to, and successes of, the Marine Debris Tracker App. During the last weeks of my internship, I took on the task of submitting weekly summaries of MDP team member activities to NOAA's Office of Response and Restoration. Finally, I had the unique chance to volunteer at the 2019 International Coastal Cleanup at Kingman Island, Washington D.C., learn about the Marine Debris Monitoring and Assessment Project protocols, and participate in interviews for the John A. Knauss Marine Policy Fellowship Program (<https://seagrant.noaa.gov/Knauss-Fellowship-Program>) placement week. This Fellowship matches highly qualified graduate students with "hosts" in the legislative and executive branch of government located in the Washington, D.C. area, for a one year paid fellowship.

As I reflect on my experience with MDP, I would like to highlight that my time as an intern was truly wonderful. I had the opportunity to learn and be involved with such an enthusiastic, collaborative, and supportive program under NOAA. It was exciting having the chance to network, not just with members of MDP, but also with other NOAA staff both in Silver Spring and other locations. Finally, it was amazing being able to participate in activities that are so important in the current marine efforts worldwide and right here, in the U.S. Virgin Islands.

For more information about some of the topics mentioned in Zola's spotlight, please visit the websites below:

- NOAA's marine debris art contest: <https://marinedebris.noaa.gov/outreach/artcontest.html>
- NOAA's science on a sphere: https://sos.noaa.gov/What_is_SOS/
- Blog: Marine Debris Tracker App Reaches a Data Milestone: <https://blog.marinedebris.noaa.gov/marine-debris-tracker-app-reaches-data-milestone>
- Marine Debris Tracker App: <https://marinedebris.noaa.gov/partnerships/marine-debris-tracker>
- NOAA's Marine Debris Monitoring & Assessment Project: <https://marinedebris.noaa.gov/research/monitoring-toolbox>
- NOAA's John A. Knauss Marine Policy Fellowship Program: <https://seagrant.noaa.gov/Knauss-Fellowship-Program>

