KEEPING OUR COASTLINES CLEAN

A U.S. Virgin Islands Marine Debris Curriculum

SOLUTIONS

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

Implementing Public High School-Based Marine Debris Research and Science Communication

The goal of this project was to educate Charlotte Amalie High School students about the harmful effects of marine debris through a research project that examined current and historical marine debris composition and abundance from beaches in a NOAA priority watershed on St. Thomas, in partnership with students from the University of the Virgin Islands (UVI) Masters in Marine and Environmental Science (MMES) Program. Through the project, high school students learned important scientific skills, such as conducting a research project, collecting and analyzing data, and communicating their research to peers and the wider community. Students presented their results at the Charlotte Amalie High School Science, Technology, Engineering, and Mathematics (STEM) Fair and at the University of the Virgin Islands Spring 2017 Research Day, a special honor for high school students who do not usually present at this annual community event. Students received special permission to present because of the high quality of their work. Both of these symposia reached different communities of people in St. Thomas, extending the project impact.

"There were many benefits that emerged from this project. Students grew a greater appreciation for and awareness of how human activity on our beaches has such a great environmental impact on the wellness and condition of our beaches. Students saw that first hand when they tabulated the data. As a teacher, this project brought me back to the significance of doing scientific investigation for real world situations. It helped me to recognize how important it is," said Mr. Vernon Callwood, a teacher from Charlotte Amalie High School, about the project.

"We both felt that we made a great connection with the students and Mr. Callwood, and it was exciting to see them all successfully put together a research project and present it at a college symposium. Overall, we are both happy to have helped the students complete this project as it was a rewarding experience for both of us. We are proud of them all for the hard work they put into their project and the advances they made in demonstrating their scientific knowledge," said Amelie Jensen and Katharine Egan, UVI MMES students who worked on the project.

Students from Charlotte Amalie High School, a public high school on St. Thomas, participate in a beach cleanup at Lindbergh Bay. Data from the cleanup was compared to historical data collected through the International Coastal Cleanup (Photo credit: Amelie Jensen).

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Students from Charlotte Amalie High School present their results at University of the Virgin Islands Research Day in April 2017 with their teacher, Mr. Vernon Callwood (second from the right). University of the Virgin Islands provost, Dr. Camille McKayle (center), visits to learn about their results (Photo credit: Kristin WIlson Grimes).