



# Citizen Science Marine Debris Monitoring and Outreach

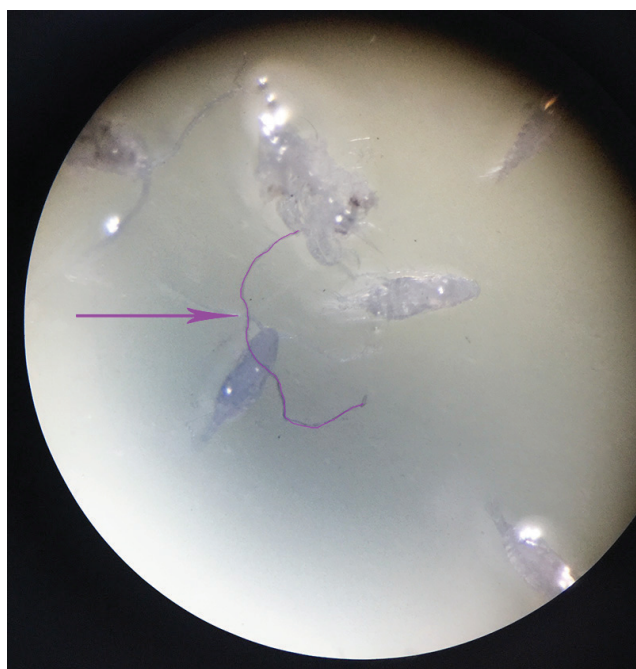
## Project Status

**Project Year:** 2017      **Status:** Ongoing  
**Category:** Education      **Location:** 5 Gulf Coast States  
**Project Partners:** Gulf of Mexico Alliance (GOMA), Mississippi State University, Mississippi-Alabama Sea Grant Consortium, Dauphin Island Sea Lab, AL, Charlotte Harbor National Estuary Program, FL, Texas State Aquarium, TX, Natures Academy, FL, International Ocean Institute, FL, UF/IFAS Sea Grant Extension, FL, Gulf of Mexico Alliance and Dauphin Island Sea Lab, AL

## Background and Problem Addressed:

Marine debris is a global issue that significantly reduces the quality of life in coastal environments. However, few education, outreach, and research projects address marine debris and public perception of debris issues has remained relatively unchanged (Eastman et al. 2013). The public is hesitant to alter their attitudes toward responsible debris disposal due to the lack of proven links to aspects of coastal life they care about (Wyles et al. 2015). The primary goal of this project is to increase awareness of marine debris issues by connecting with and involving the public in a citizen science-based monitoring project and developing educational materials to be distributed by project partners and trained volunteers.

One increasingly abundant type of plastic marine debris is microplastic; plastic pieces smaller than 5mm. Microplastics are a growing environmental problem and are prevalent in coastal sediments of the northern Gulf of Mexico (Wessel et al. 2016).



*Microfiber found among plankton from a plankton trawl in surface water in the Gulf of Mexico. (Microscope 40x)*



*Students collecting sediment sample for microplastic analysis.*



## Project Description:

BTNEP's Marine Debris Education and Prevention Program participants collected water and sediment samples at Elmer's Island in Grand Isle, LA monthly. The samples are then processed and analyzed for microplastics. The data collected was sent to National Oceanic and Atmospheric Administration (NOAA) and goes towards further research in finding out where microplastics are originating and how we can possibly prevent them from entering our oceans.

## Microplastics come from:

- Large pieces of plastics that are broken down from sun, wind, and waves,
- Tiny plastic particles that have been used for industrial purpose in plastic shipping,
- Personal care items such as toothpaste and facial scrub,
- Microfiber from clothes that are released in washing machines or,
- Plastic nets/fishing gear

The overall deliverables from this project include tangible and intangible products. Tangible products include an open access map and database for the Gulfwide citizen science based microplastic sampling portion of the project. Other tangible products include informational posters on microplastics, an environmental stewardship group training presentation, a how-to-guide to sample and process microplastics, and educational materials developed during the Master Naturalist training. Knowledge gained and changed behaviors are the intangible products captured through robust surveys of each project activity and pre/post surveys of applicable activities.

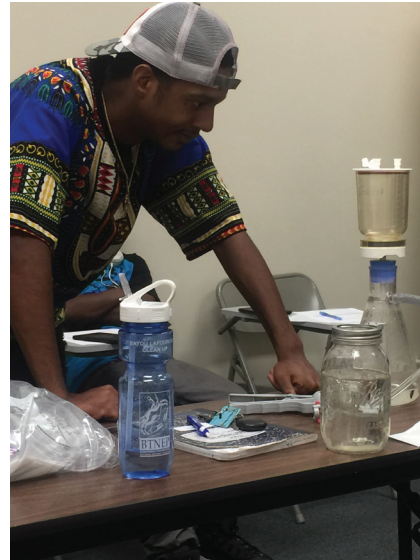
## CCMP Action Items Addressed:

Continuing and Informal Education Program (Sustained Recognition and Citizen Involvement #15)

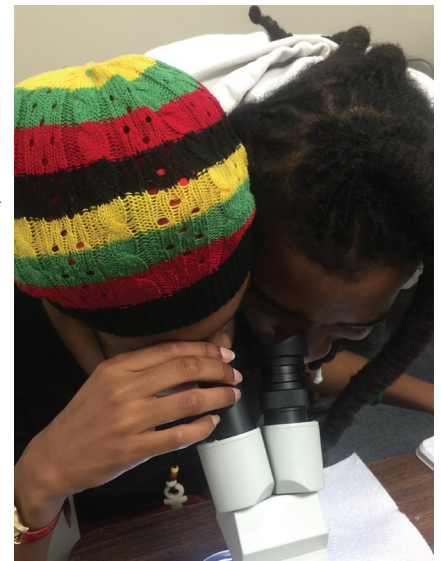
Financial Support for Educational Initiatives (Sustained Recognition and Citizen Involvement #16)



*Sediment sample containing microplastics.*



*"Limitless Vista" student conducting water filtration analysis.*



*Students participating in peer-teaching activity related to microplastics.*