Summary of the NOAA Marine Debris Program and Research Priorities

Carlie Herring
Research Analyst
WHOI Workshop: The Science of Microplastics in the World Ocean
October 17, 2019

Outline

- NOAA Marine Debris Program Overview
  - Establishment and mandates
  - Structure
  - Collaborative efforts
- NOAA Marine Debris Program Research
  - Research funding history
  - Current research priorities
  - Funded projects
  - Future funding opportunities

NOAA Marine Debris Program Overview

Established in **2006** by Congress as the federal lead for marine debris

Vision: the global ocean and its coasts free from the impacts of marine debris

Mission: to investigate and prevent the adverse impacts of marine debris

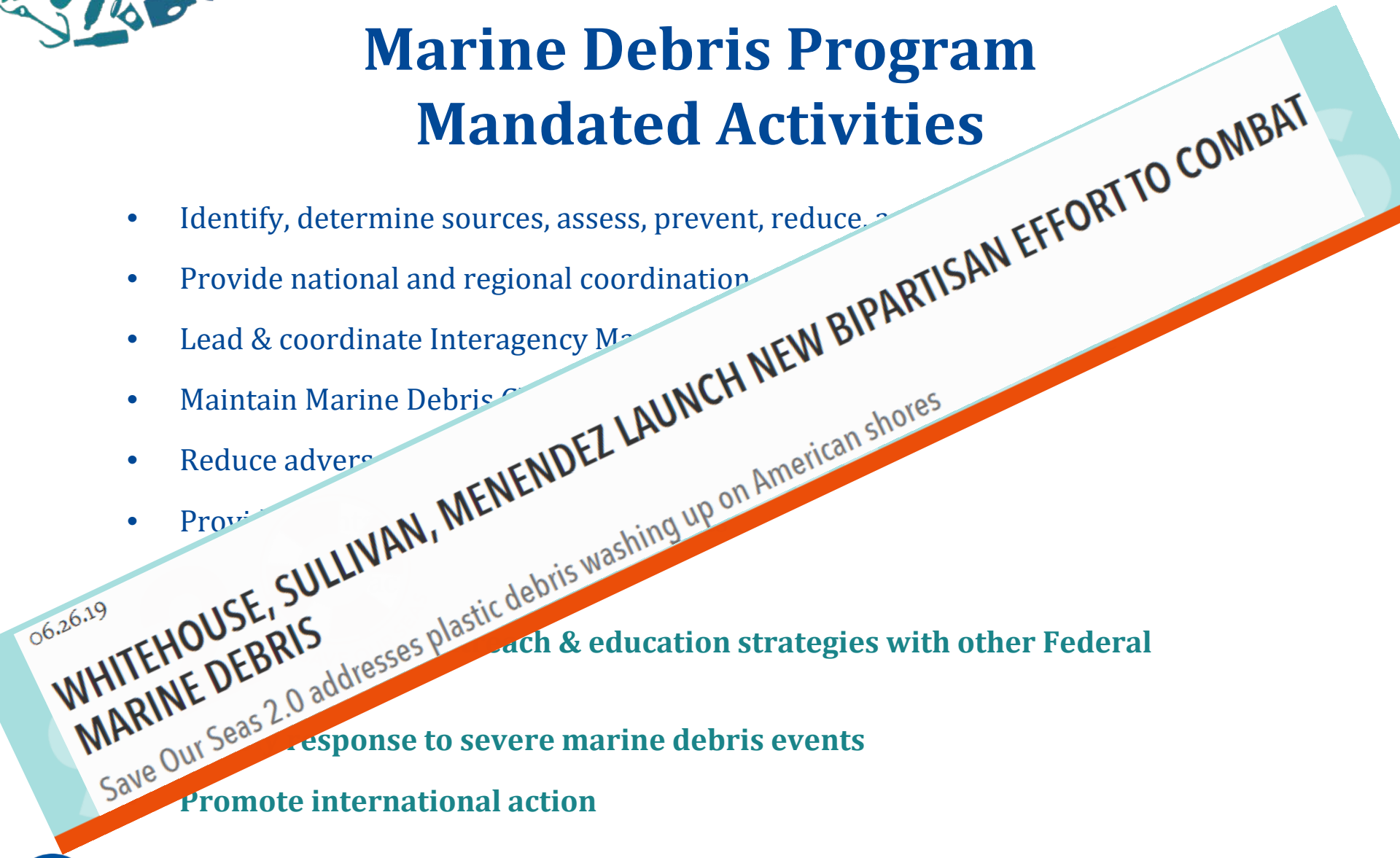
Marine Debris Program Mandated Activities

- Identify, determine sources, assess, prevent, reduce, a
- Provide national and regional coordination
- Lead & coordinate Interagency Ma
- Maintain Marine Debris C
- Reduce advers
- Provi

ach & education strategies with other Federal

esponse to severe marine debris events

Promote international action



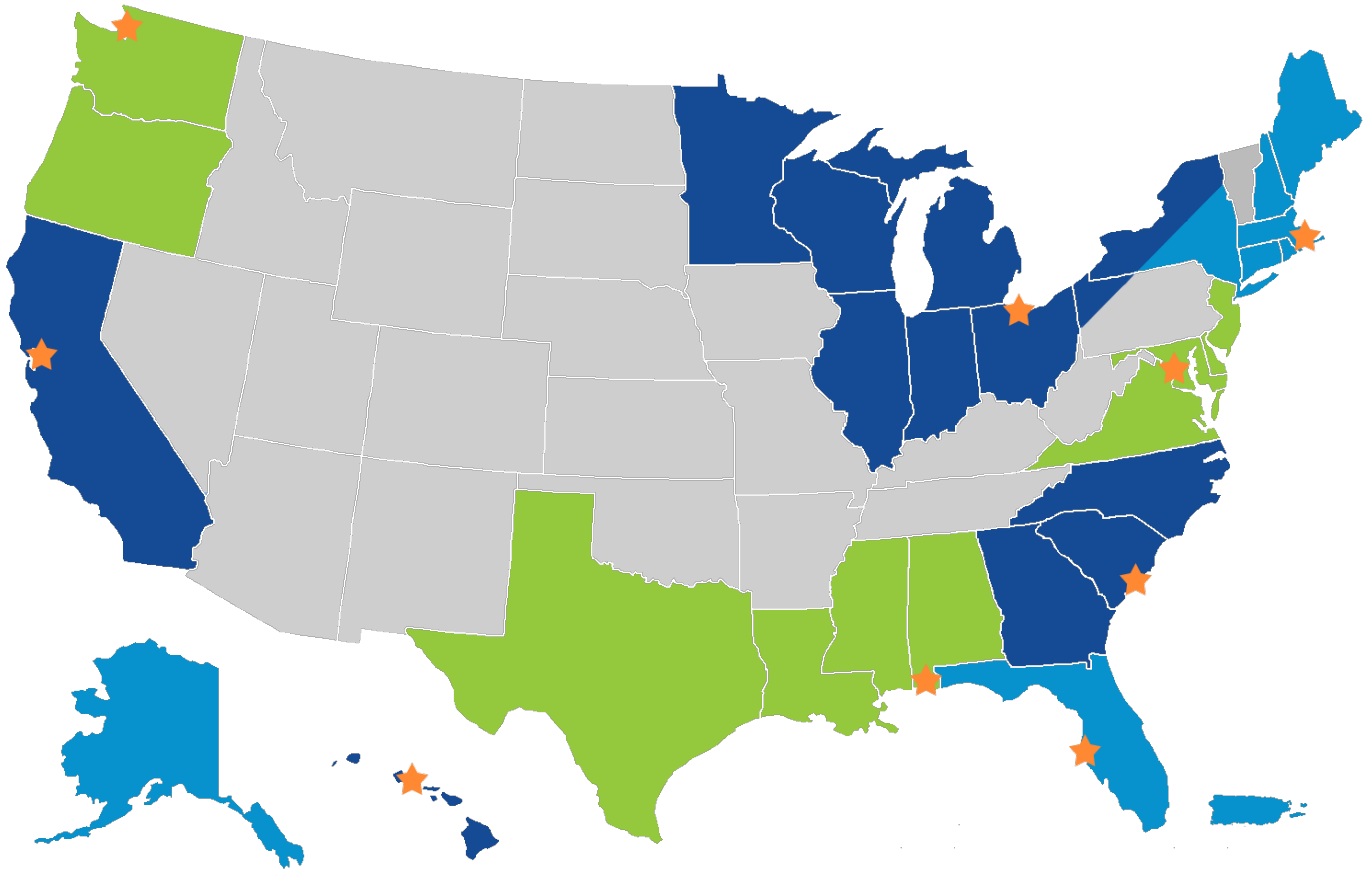
5 Program Pillars

- Research
- Removal
- Prevention
- Emergency Response
- Regional Coordination

South Carolina Marine Debris Emergency Response Guide: Comprehensive Guidance Document

NOAA Marine Debris Program
National Oceanic and Atmospheric Administration
U.S. Department of Commerce
March 2018

Photo: Andy Stein, Weather Nation, Denver, CO



Regional Coordination

Located in **10 regions** around the country

Provide regional expertise

Coordinate with local partners

Facilitate the creation of regional marine debris action plans

NOAA Marine Debris Program Staff (n = 24)

Marine Debris Program Budget

FY19 – $7.5 million

- 50% grants (competitive & noncompetitive)

Removal Grant

- 33 proposals received, $4.5 million total ask
- $1.5 million allocated (typically 10-12 projects)

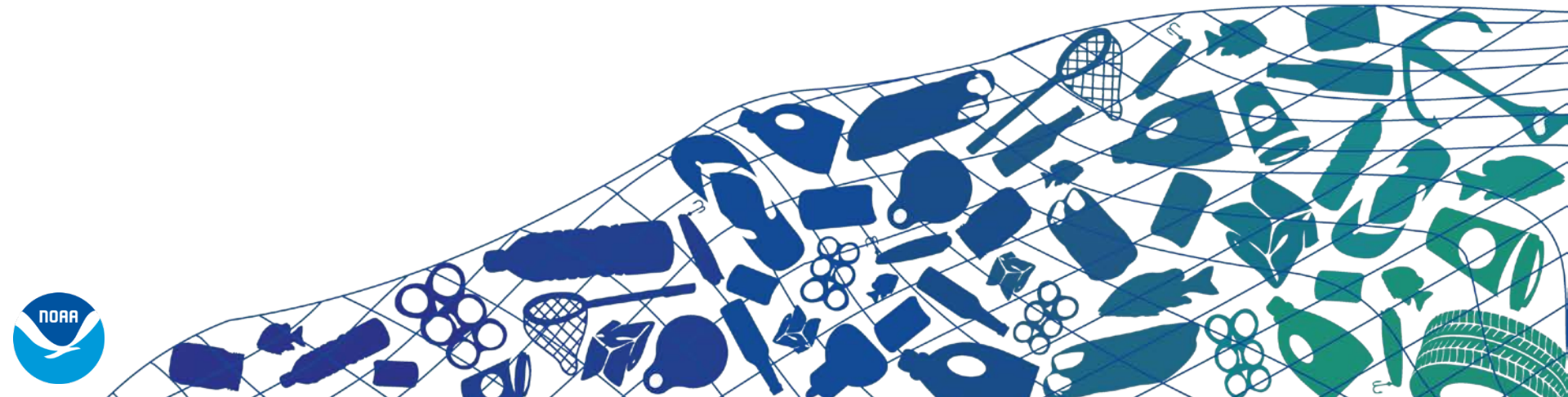
Research Grant

- 47 proposals received, $12+ million total ask
- $1.2 million allocated (typically 3-4 projects)

National & International Collaboration

- **Lead the Interagency Marine Debris Coordinating Committee**
- Global Partnership on Marine Litter
- G7 Marine Litter Action Plan
- North Pacific Marine Science Organization, Project ADRIFT
- Research Working Groups

NOAA Marine Debris Program: Research



Marine Debris Program Science Team (n = 2)

Carlie Herring
Research Analyst

Amy V. Uhrin
Chief Scientist

History of Funded Research

Gear Modification

Economics

Lab Studies

Monitoring

Field Observations

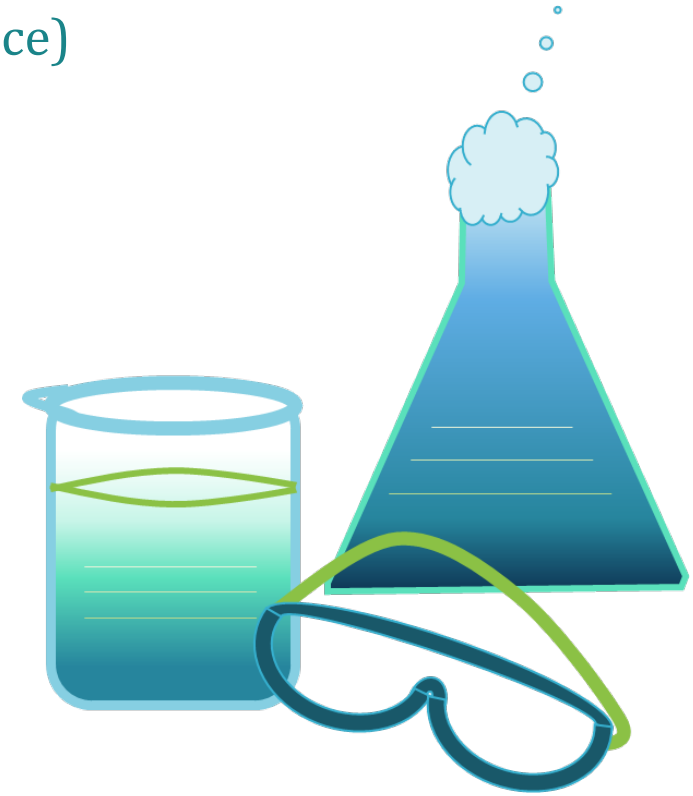
FY19 Research Priorities

1. Risk Assessment & Exposure/Response
   - Quantitative or qualitative estimates of exposure & effect
   - Commercial, recreational, aquaculture species
   - Ecologically relevant exposure concentrations; exposure across space and time (magnitude, frequency, duration)
   - Population level effects
   - Link to management goals
2. Fate and Transport
   - Nearshore/coastal
   - Link to management goals
3. Habitat Impacts
   - Quantify damage from debris & recovery post-removal
   - Benthic, nearshore, intertidal foundation species
   - DFG
   - Link to management goals

Informing MDP Research Priorities

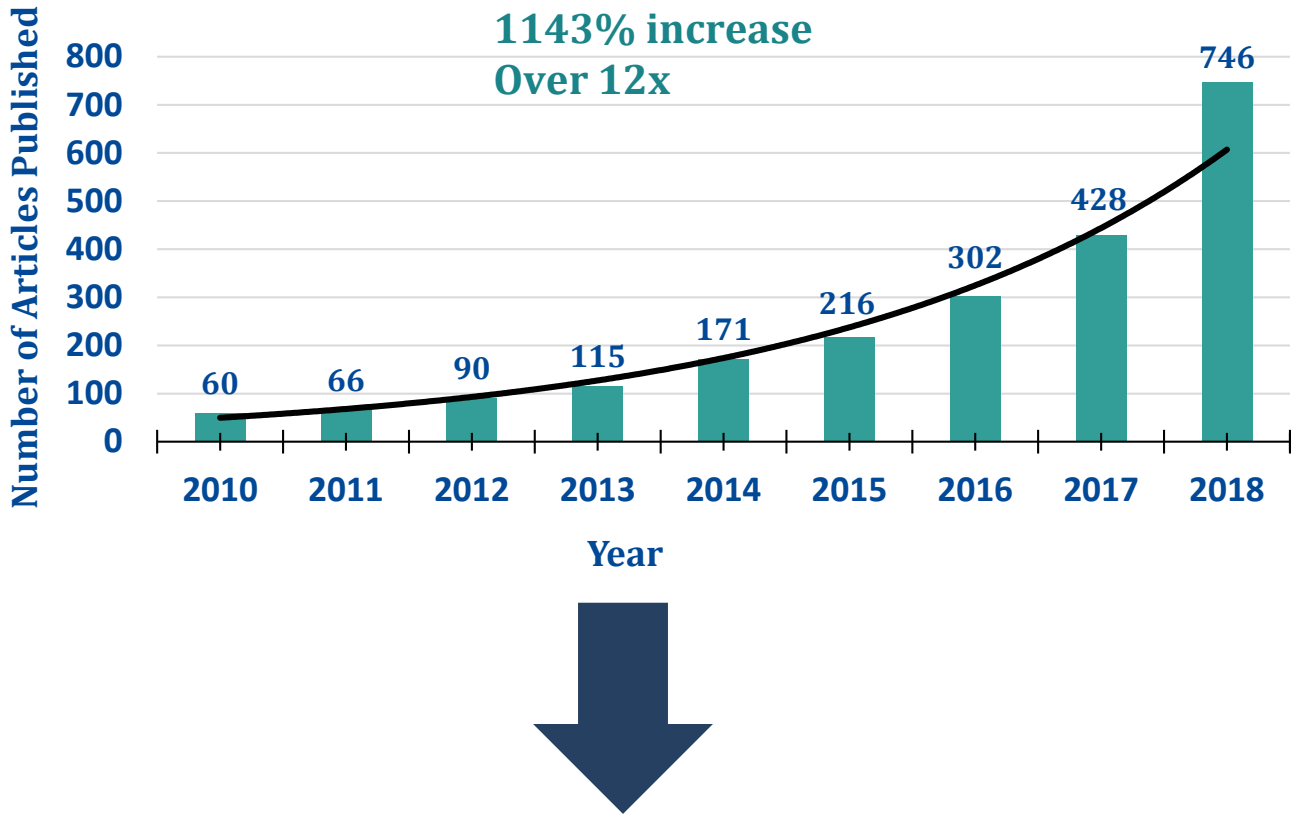
- Office of Response & Restoration Strategic Plan
- Marine Debris Program Strategic Plan, Research Goal
- Published Literature (state of the science)
- Conferences / Working Groups
- Regional Coordination

NEW STRATEGIC PLAN FOR 2021



Marine Debris Articles Published

Search Terms (topics): *"Marine Debris" OR "Marine Litter" OR "Plastic Debris" OR "Plastic Pollution" OR "Microplastic*"*



Risk Assessment, Fate & Transport, Habitat Impacts

Research Projects

https://marinedebris.noaa.gov/current-efforts/research

MDP Funded Research

FY 19 Projects

1. Rutgers – Understanding the Fate and Transport of Microplastics at Buoyant River Outflows
2. UC Riverside – Coastal Export and Fate of Microplastics in the Southern California Bight
3. Univ Delaware – Risk from Microplastics Exposure to Blue Crab Larvae in Delaware Bay and Coastal Shelf
4. VIMS – Do microplastics increase disease susceptibility in a commercially important salmonid species?

https://marinedebris.noaa.gov/current-efforts/research

MDP Research: Future Funding

FY 21 - Research Grant Competition

- Details to come late summer 2020

FY 20 – PREVENTION Grant Competition

- Social science/behavior change studies would fall within the priorities for this grant competition
- Letter of Intent – due Nov. 5, 2019

https://marinedebris.noaa.gov/funding/funding-opportunities

Thank You

Contact: carlie.herring@noaa.gov

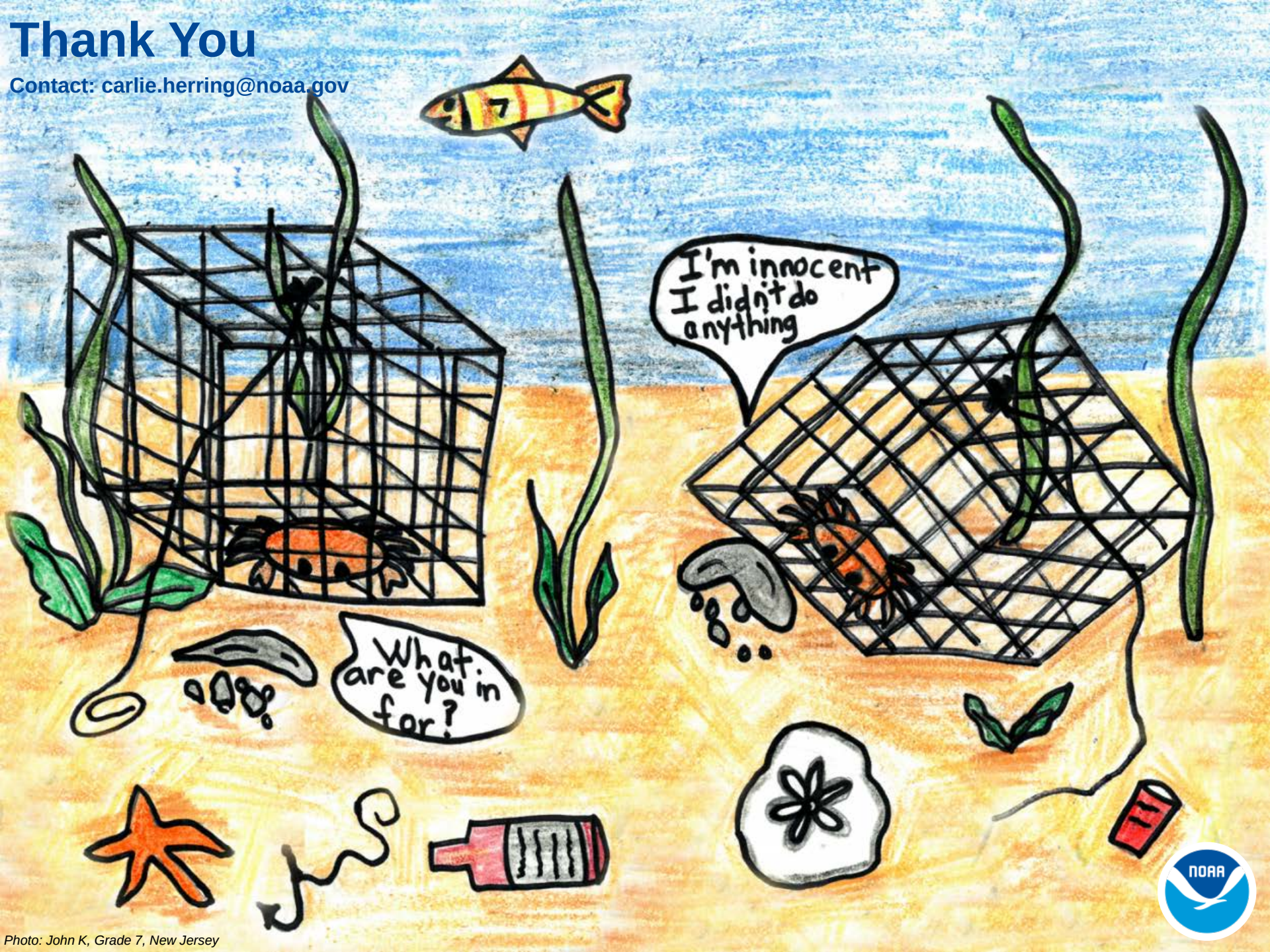


Photo: John K, Grade 7, New Jersey

NOAA Collaboration

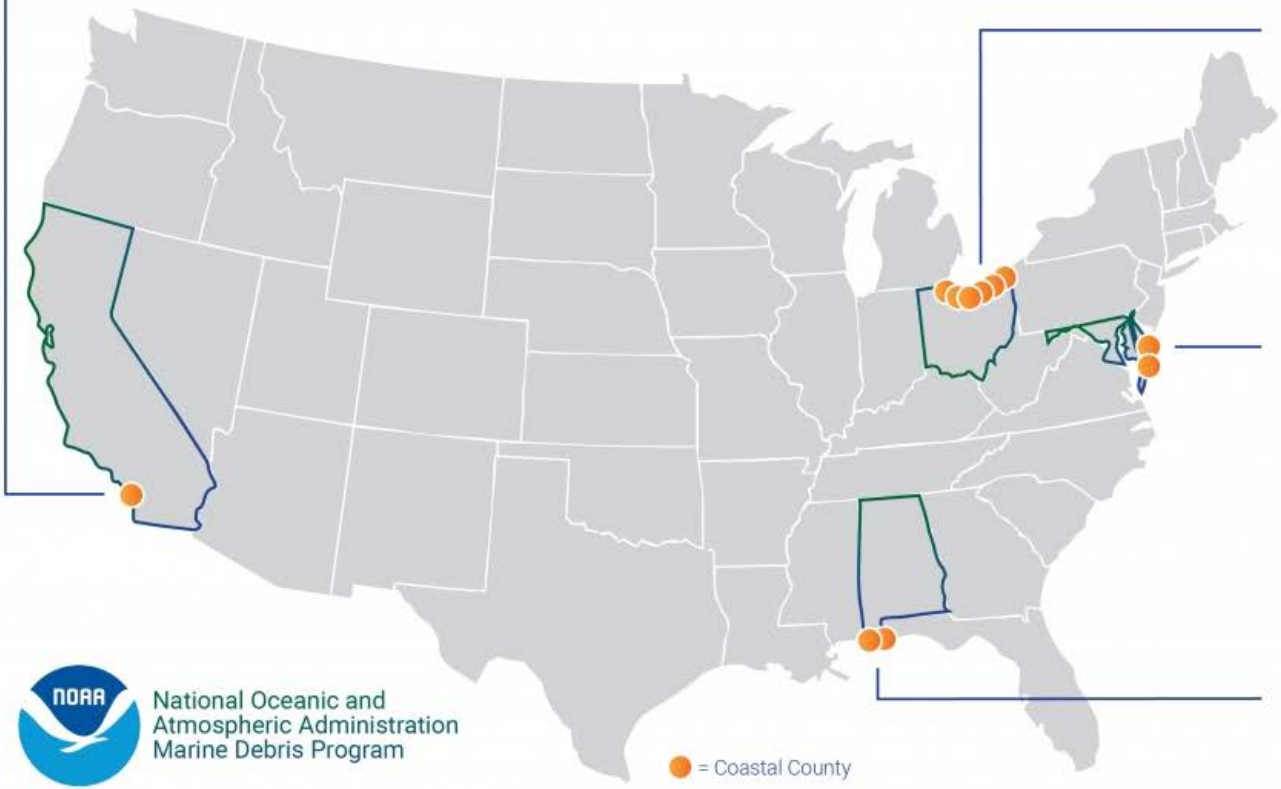
- Zero Waste Initiative for NOS
- Zero Waste Action Plan
  - Reducing waste in NOS offices and Daily Operations
  - Reducing waste at NOS events
  - Encouraging zero waste participation across NOS

Photo: NOAA

Photo: NOAA

The Economic Impacts of Marine Debris on Beaches

The NOAA Marine Debris Program funded a study with Abt Associates to better understand the economic impacts of marine debris on beaches. The results of the study showed that the varying amounts of marine debris on beaches can have an impact on the number of days visitors spend on those beaches, resulting in changes to the amount of tourism dollars spent, the number of local jobs, and the value of beach recreation.



National Oceanic and Atmospheric Administration
Marine Debris Program

	Eliminating Marine Debris	Doubling Marine Debris
Orange County, California		
	⬆ **2.1 million** visitor days	⬇ **4.6 million** visitor days
	⬆ **$130 million** in recreational value	⬇ **$275 million** in recreation value
	⬆ **$187 million** in tourism spending	⬇ **$414 million** in tourism spending
	⬆ **1,900** jobs	⬇ **4,300** jobs
Coastal Ohio		
	⬆ **2.8 million** visitor days	⬇ **2.8 million** visitor days
	⬆ **$88 million** in recreational value	⬇ **$84 million** in recreation value
	⬆ **$217 million** in tourism spending	⬇ **$218 million** in tourism spending
	⬆ **3,700** jobs	⬇ **3,700** jobs
Coastal Delaware & Maryland		
	⬆ **478,000** visitor days	⬇ **3.5 million** visitor days
	⬆ **$20 million** in recreational value	⬇ **$141 million** in recreation value
	⬆ **$35 million** in tourism spending	⬇ **$254 million** in tourism spending
	⬆ **460** jobs	⬇ **3,400** jobs
Coastal Alabama		
	⬆ **308,000** visitor days	⬇ **1 million** visitor days
	⬆ **$10 million** in recreational value	⬇ **$32 million** in recreation value
	⬆ **$35 million** in tourism spending	⬇ **$113 million** in tourism spending
	⬆ **670** jobs	⬇ **2,200** jobs