



Marine Debris: State, Sources, and Impacts



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**NOAA Marine Debris
Program**

November 11, 2015

Credit: Elizabeth Zimmerman, Stockton University

NOAA Marine Debris Program

Established in **2005**

December 2012: Reauthorized through the Marine Debris Act

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

How?

Prevention through Outreach & Education

Removal | Research | Response



What Is Marine Debris?



Marine debris is “any persistent **solid material** that is manufactured or processed and directly or indirectly, intentionally or unintentionally, **disposed of or abandoned into the marine environment** or the Great Lakes.”

Sources



Ocean-based

- Fishing operations
- Derelict and abandoned boats/vessels
- Offshore industry (e.g. aquaculture; oil rigs)

Land-based

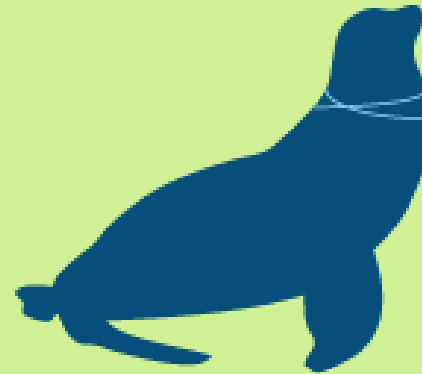
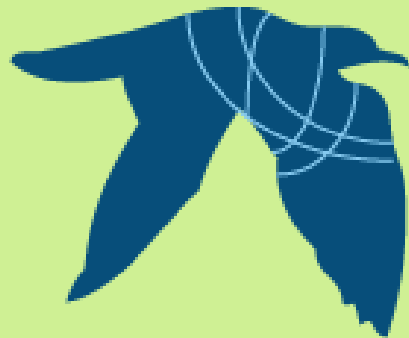
- Littering
- Storm drains
- Illegal dumping
- Accidental or storm-related movement from land (wind, hurricanes, flooding)



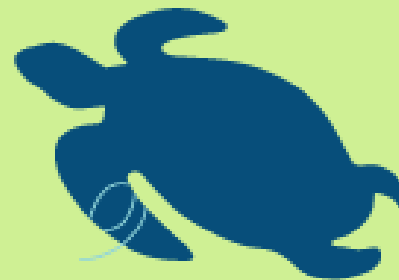


Impacts

From reports in the United States, at least **115** marine species are impacted by entanglement, including mammals, turtles, birds, fish and crabs. World wide, the number tops **200**.

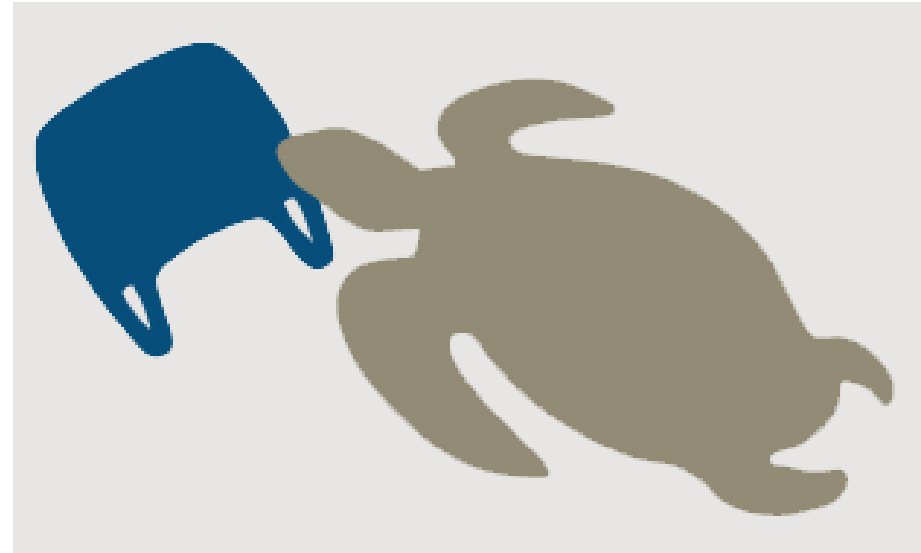


Most entanglement reports in the United States involve northern fur seals, Hawaiian monk seals, and sea turtles.



Impacts

26 marine species, including toothed whales, manatees, and multiple seal species, as well as all sea turtle species, have been confirmed to ingest marine debris





Over one-third of sea bird
species ingest plastic

Prevention

Education and Outreach partnerships

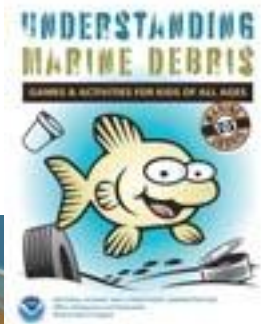
- Competitive grants
- International Coastal Cleanup (Ocean Conservancy)
- *Marine Debris Tracker* smartphone app (Univ. of Georgia)
- Annual calendar art contest for K-8th grades – *open now!*
- Curricula and activities available on website



Marine Debris Tracker



Mobile App



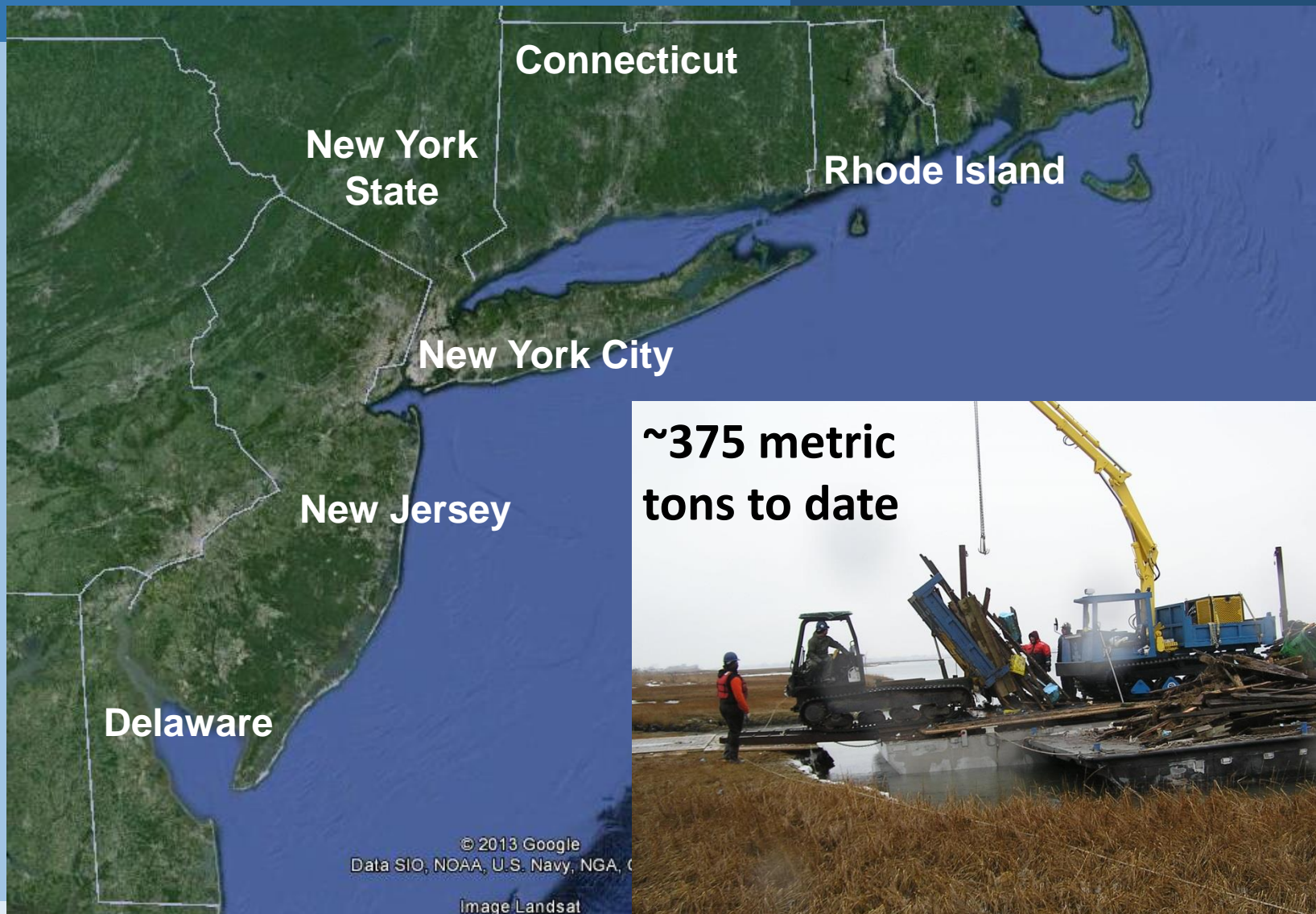
Removal

- Competitive grants
- About 100 projects since 2006, with thousands of metric tons of debris removed
- Local partners include:
 - American Littoral Society
 - Rutgers University
 - Stockton University
 - Conserve Wildlife Foundation of NJ



Emergency Response

Superstorm Sandy



**~375 metric
tons to date**



Superstorm Sandy - NJ



Next Steps: Prevention

- Prevention Grants continue
- Behavior change
- Targeted outreach
- Partnerships with aquariums, zoos



Next Steps: Removal

- Removal Grants continue
- Use of technology to find and remove debris from ocean
- Find innovative uses for debris



Next Steps: Research

- Microplastics!
- Socioeconomic impacts
- Plastics and chemicals
- Derelict fishing gear research
- Hotspots



Next Steps: Regional Planning

EPA Trash Free Waters
NY/NJ

NOAA Mid-Atlantic (DE,
MD, DC, VA) Marine Debris
Planning

NOAA Gulf of Maine
Marine Debris Planning



Questions?

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Regional Planning

- Hawaii Marine Debris Action Plan:
<http://marinedebris.noaa.gov/report/hawaii-marine-debris-action-plan>
- Great Lakes Action Plan:
<http://marinedebris.noaa.gov/solutions/great-lakes-action-plan>
- Virginia Marine Debris Reduction Plan:
<http://marinedebris.noaa.gov/report/virginia-marine-debris-reduction-plan>
- Mid-Atlantic (Delaware/Maryland/Washington, D.C./Virginia) Debris Reduction Plan: *in progress, one meeting held in June 2015*
- Gulf of Maine (Maine, New Hampshire, Massachusetts, Canada) Marine Debris Planning Meeting:
16-17 November in Rye, New Hampshire