

# Marine Debris



NOAA Marine Debris Program | Office of Response and Restoration | NOAA National Ocean Service

## Marine Debris Monitoring and Assessment Project

A question that is often posed to the NOAA Marine Debris Program (MDP) is “How much debris is actually out there?” The MDP has recognized the need for this answer as well as the growing interest and value of citizen science. To that end, the MDP is developing and testing two types of monitoring and assessment protocols: 1) rigorous scientific survey and 2) volunteer at-sea visual survey.

These types of monitoring programs are necessary in order to compare marine debris, composition, abundance, distribution, movement, and impact data on national and global scales. Research efforts in recent years have significantly increased our knowledge of marine debris. However, significant gaps remain in standardized monitoring practices. Currently a single best method is not available to estimate total densities in the water column, subsurface, and shoreline.



Debris collected from the Patapsco River, MD during a manta trawl.

**Rigorous Scientific Survey Protocols:** A long-term monitoring and assessment study with standardized, statistically robust and holistic methodologies that focus on abundance and density.

### The four main objectives are:

- Assess the quantity of debris at a location and expand to regional characterization according to associated land and ocean uses that influence debris density
  - Determine the types and density of debris present by material category (e.g. plastic, metal, etc.)
    - Examine spatial distribution and variability of debris
    - Investigate temporal trends in debris amounts

### 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.

This monitoring and assessment program will take a holistic approach by incorporating various types of data collection including shoreline assessments for coastal debris, underwater assessments for benthic submerged debris, coastal pelagic debris trawls, and sediment

samples to analyze for micro-debris items. Preliminary efforts are focused on shoreline and pelagic debris methodologies, in order to first implement those parts of the monitoring and assessment program.

## Volunteer At-sea Visual

**Survey:** The MDP has also worked with scientists and sailors to develop a volunteer at-sea visual survey for floating marine debris. This data collection form has been in use since 2009 and continues to be updated. Sailors with the TransPacific Yacht Race and Pacific Cup have been instrumental in helping implement, test, and improve this survey.



Staff analyzing for micro-debris as part of shoreline assessment process. Cove Point, MD.

## Benefits

- Gain national understanding of status, occurrence, abundance, and trends of marine debris over temporal and spatial scales
- Provide statistically relevant baseline marine debris density data
- Document and compile data on at-sea sightings of marine debris
- Identify priority areas for cleanup efforts
- Identify long-term trends
- Educate communities on local debris issues



Manta net trawling behind the R/V Laidly during a test of the floating pelagic marine debris monitoring methods.

## Marine debris is

a problem we can solve together. Reduce, reuse, recycle, and participate in local beach or stream cleanups. If we each do a little, together we can make a big difference.

## For more information visit

<http://marinedebris.noaa.gov/projects/monitoring.html>