

# CHESAPEAKE AND COASTAL SERVICE MARINE DEBRIS SOLUTIONS IN MARYLAND



**MARYLAND**

Larry Hogan, Governor

Jeannie Haddaway-Riccio, Secretary



## Background/Overview

Marine debris is defined by the National Oceanic and Atmospheric Administration (NOAA) as 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. Anything man-made, including litter and fishing gear, can become marine debris once lost, discarded, or washed into the aquatic environment. The most common materials that make up marine debris are plastics, glass, metal, paper, cloth, rubber, and wood.

## Plastics, Microplastics & Microfibers

One of the most pervasive is plastic debris, which can come in all shapes and sizes. Plastic does not degrade or break down; it only becomes smaller pieces of plastic. Those that are less than five millimeters in length (or about the size of a sesame seed) are called "microplastics." Microplastics are ingested by animals that we consume as food, including oysters, mussels and fish.

Another manufactured item found widely in the world's waters are "microfibers." Microfibers are tiny strands of material that are shed during textile production, use and disposal. In fact, microfibers have become one of the most commonly detected types of microplastic debris. Microplastics and microfibers have been found in headwater streams, rivers, soils, lakes, sediments, ocean water, the deep sea, arctic sea ice, seafood, table salt and most recently, public drinking water. Such widespread exposure raises concerns about potential effects to wildlife and human health.

## Derelict Fishing Gear and Vessels

Discarded or lost fishing gear—such as fishing line and crab pots—as well as abandoned vessels also contribute to marine debris. Aquatic life is physically harmed by this debris through ingestion or entanglement or when marine debris changes a sensitive ecosystem. "Ghost" crab pots continue to trap and kill aquatic life (e.g., turtles, crabs, fish) long after they are lost. This also reduces the crabs available for commercial harvest.

## By the Numbers

**40,929**

Pounds of litter removed by volunteers from Maryland's shorelines in 2017 - most prominent items were cigarette butts, plastic bottles, and food wrappers<sup>1</sup>

**98%**

Percentage of water samples from the Chesapeake Bay that contained microplastics<sup>2</sup>

**94%**

Percentage of U.S. drinking water samples found to contain microfibers<sup>3</sup>

**8 M**

Estimated metric tons of plastics that enter the oceans every year<sup>4</sup>

**9%**

U.S. recycling rate<sup>5</sup>

**800**

Number of marine animal species affected by marine debris ingestion or entanglement<sup>6</sup>

**3.3 M**

Estimated number of Chesapeake Bay blue crabs killed annually in derelict crab pots<sup>7</sup>

**335 M**

Metric tons of plastics produced each year worldwide<sup>8</sup>

<sup>1</sup> coastalcleanupdata.org; <sup>2</sup> Yonkos et al. 2014; <sup>3</sup> Kosuth et al. 2017; <sup>4</sup> Jambeck et al. 2015; <sup>5</sup> Geyer et al. 2017; <sup>6</sup> Secretariat of the Convention on Biological Diversity 2016; <sup>7</sup> Bilkovic et al. 2016; <sup>8</sup> Statista 2018

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## Solutions Emerging in Maryland

As the problem of marine debris has emerged over recent decades, the State of Maryland and local governments have enacted several significant but, as yet, disconnected policies. In the coming years, Maryland's Chesapeake and Coastal Service will be reviewing both impacts of marine debris to Maryland and the steps taken to date, to form a more cohesive strategy.

### State and Local Government Policies

- **Microbead Ban:** On May 12, 2015 Governor Larry Hogan signed into law HB 216, banning plastic microbeads as an ingredient in personal care products in Maryland.
- **Polystyrene Food Container Bans:** Baltimore, Washington D.C., Annapolis, Montgomery, Prince George's and Anne Arundel Counties have banned the use of polystyrene (foam) food packaging. A statewide ban is expected to take effect in 2019.
- **Mid-Atlantic Ocean Action Plan (OAP):** Maryland contributed to development of the OAP, one goal of which is "healthy ocean ecosystems." One action identified to meet this goal is to "develop a regionally appropriate strategy for marine debris reduction."
- **Total Maximum Daily Load (TMDL):** The Baltimore Harbor and the Anacostia River have TMDL restrictions for trash. Local jurisdictions are required to remove over 1.6 million pounds of trash from the watersheds annually.
- **State Highway Administration (SHA) Adopt a Highway Program:** Small businesses and other SHA approved organizations may agree to adopt a one-mile stretch of highway to clean at least four times a year.
- **Keep Maryland Beautiful Grants:** Maryland agencies present Keep Maryland Beautiful grants in support of environmental education projects, litter removal, citizen stewardship and protection of natural resources in urban and rural areas.
- **Department of Natural Resources (DNR):** Provides grants to public agencies for the removal of abandoned boats and debris from state waters. Funded the "Plastic Watch Program" aimed at reducing single-use plastics in Solomons, MD led by UMCES. Monitors Assateague State Park for balloon litter and is engaged in a mid-Atlantic social marketing campaign to reduce intentional balloon releases ([preventballoonlitter.org](http://preventballoonlitter.org)).
- **Maryland Litter Policy:** Misdemeanor. Fines and penalties range from \$1,500 and/or 30 days imprisonment up to \$30,000 and/or (up to) five years imprisonment.
- **Bag Fees:** Washington, D.C. enacted a law charging 5 cents for disposable bags which has led to a decline in their use and funds trash traps on the Anacostia river and other projects.



Photo by Clean Virginia Waterways



Photo by Chesapeake Bay Program



Photo by Maryland DNR