







“The ocean is downhill from everywhere”



-Captain Charles Moore







Land based/Recreational Activities

Commercial Fishing



Container Spills

Based on data from the International Coastal Cleanup, the majority of marine debris is single use plastic that comes from land.

TOP 10 ITEMS COLLECTED



1. CIGARETTE BUTTS
1,863,838



2. PLASTIC BEVERAGE BOTTLES
1,578,834



3. PLASTIC BOTTLE CAPS
822,227



4. FOOD WRAPPERS
762,353



5. PLASTIC GROCERY BAGS
520,900



6. PLASTIC LIDS
419,380



7. STRAWS, STIRRERS
409,087



8. GLASS BEVERAGE BOTTLES
390,468



9. OTHER PLASTIC BAGS
368,655

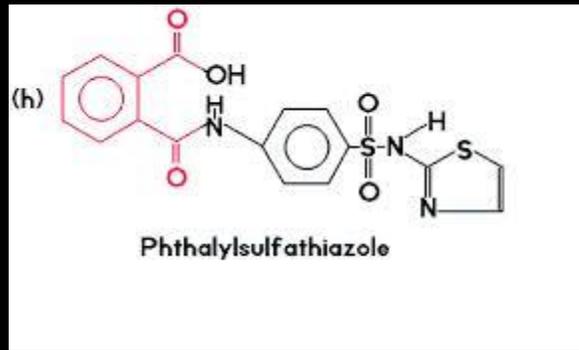


10. FOAM TAKE-AWAY CONTAINERS
365,584

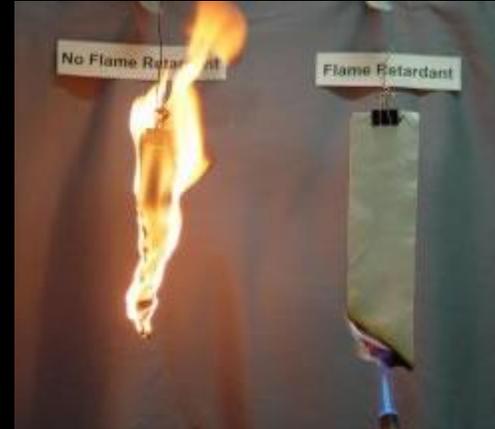


“The density of microplastics within the North Pacific Central Gyre has increased by two orders of magnitude in the past four decades.”
-UN World Ocean Assessment, 2016

What do we add to our plastics?



Phthalates



Flame Retardants

“Plasticizers represent up to half the total weight of plastic in the case of phthalates”

National Oceanic and Atmospheric Administration Marine Debris Program. 2014 Report on the Occurrence and Health Effects of Anthropogenic Debris Ingested by Marine Organisms. Silver Spring, MD. 19 pp

Also:

- Pesticides
- Chemicals to make plastic more durable, flexible, abrasion resistant

Plastics absorb pollution

“Plastic debris can accumulate persistent, bio-accumulative and toxic substances (PBTs) that are present in the oceans from other sources...Within a few weeks these substances can become concentrated on the surface of or in plastic debris by orders of magnitude more than in the surrounding water column.”



-UN World Ocean Assessment, 2016

275 million metric tons of plastic waste was generated in 192 coastal countries in 2010, with 4.8 to 12.7 million MT entering the ocean.

Jambeck, J.R., Geyer, R., Wilcox, C., Siegler, T.R., Perryman, M., Andrady, A., Narayan, R., Law, K.L. (2015). Plastic waste inputs from land into the ocean.

How much plastic is currently floating in the ocean? “We estimate a minimum of 5.25 trillion particles weighing 268,940 tons.”

Eriksen M, Lebreton LCM, Carson HS, Thiel M, Moore CJ, et al. (2014) Plastic Pollution in the World’s Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 Tons Afloat at Sea. PLoS ONE 9(12): e111913. doi:10.1371/journal.pone.0111913

“Abundances of benthic debris range from dozens to more than hundreds of thousands items per square kilometre.”

"United Nations World Ocean Assessment." United Nations World Ocean Assessment. United Nations. Web. 01 June 2016.

“(the Mariana Trench) is located beneath a mass accumulation of trapped plastic debris that ultimately sinks as the plastics degrade and fragment, transporting POPs to depth.”

Jamieson, Alan J., et al. “Bioaccumulation of persistent organic pollutants in the deepest ocean fauna.” Nature Ecology & Evolution, vol. 1, no. 3, 2017, p. 0051., doi:10.1038/s41559-016-0051.

“We predict that plastic will be found in the digestive tracts of 99% of all seabird species by 2050 and the 95% of the individuals within these species will have ingested plastic by the same year”

Chris Wilcox, Erik Van Sebille, and Britta Denise Hardesty. (2015) Threat of plastic pollution to seabirds is global, pervasive, and increasing. PNAS 2015 ; published ahead of print August 31, 2015, doi:10.1073/pnas.1502108112

“The likelihood of a green turtle ingesting debris nearly doubled from an approximate 30% likelihood in 1985 to nearly 50% in 2012”

SCHUYLER, QAMAR, et al. "Global Analysis of Anthropogenic Debris Ingestion by Sea Turtles." Conservation Biology, vol. 28, no. 1, 2014, pp. 129-139.

“We examined plastic ingestion by two foundation species near the base of North Pacific marine food webs, the calanoid copepod *Neocalanus cristatus* and the euphausiid *Euphausia pacifica*... and detected microplastics in both species.”

Jean-Pierre W. Desforges, Moira Galbraith, Peter S. Ross. (2015) Ingestion of Microplastics by Zooplankton in the Northeast Pacific Ocean. Archives of Environmental Contamination and Toxicology, 2015, Page 1







Octavia in front of Union Station, Denver





Bye to Bags Campaign
Youth Ocean Conservation Summit
St. Louis



Albrecht-Busch
THEATER

Wonsanto
Lecture
Theater

Education Office

Lecture Room

Planting Millions for Monarchs

Counting on Monarchs

Lecture Room





The curriculum is unique in the field of marine debris education because, like the Washed Ashore Project itself, it strives to use the language of art to communicate about this difficult environmental issue. In addition to art and science, lessons integrate language arts and social studies whenever possible.

<http://washedashore.org/iamdc/>



WASHED ASHORE
BY ERIN BRON



Plastina & Eartha

Inspired from artist Lynn Hisey's work in Berlin, Oregon, these masks are the result of a community project of "washed debris" (plastic) and "eartha" (soil) found on the Oregon coast. The masks are made of recycled paper and cardboard, with the faces and mouths made of recycled plastic. The masks are made of recycled paper and cardboard, with the faces and mouths made of recycled plastic. The masks are made of recycled paper and cardboard, with the faces and mouths made of recycled plastic.

How many of the items you see in everyday life are commonly found on global beaches?

Item	Frequency
Plastic bottle	High
Plastic cup	High
Plastic bag	High
Plastic lid	High
Plastic cap	High
Plastic ring	High
Plastic comb	High

Less plastic on land leads to less plastic in the ocean.

Community art provides an important example of individuals creating small pieces that come together to create a powerful whole that can send an important message.



Art is specifically and uniquely important for communication and education of environmental issues.

