

PLASTIC, PLASTIC EVERYWHERE



HOW ARE THESE IMAGES
ENVIRONMENTALLY RELATED? ARE THEY?



HENDERSON ISLAND



UNESCO world heritage site

VERY REMOTE

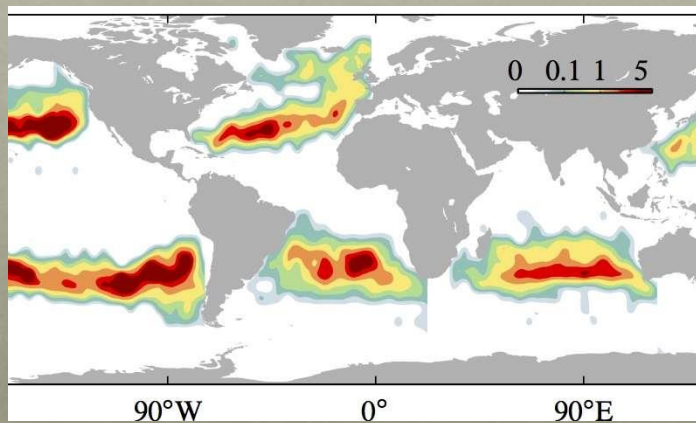


- 38M PIECES OF TRASH
- 13,000 PIECES A DAY



OCEANIC GARBAGE PATCHES

- Oceanic Gyre: a system of circular ocean currents.



WHAT IT REALLY IS

No: Solid island of trash



Yes: Microplastic 'soup' with some larger objects



ENVIRONMENTAL DAMAGE

“Macro” Problems:

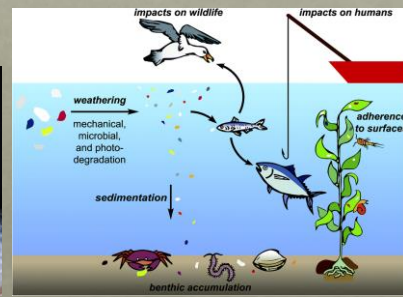
-what problems might this create for these animal communities?



ENVIRONMENTAL DAMAGE

“Micro” Problems:

- Photodegradation: process by which a substance is broken down by exposure to light.
- Microplastics - piece of plastic between 0.3 and 5 millimeters in diameter.
- Chemical leaching: BPA (bisphenol A) - toxic
- Absorption: PCB (polychlorinated biphenyl) carcinogenic; heavy metals



THE (MARINE) FOOD WEB

- Plastic blocks sunlight, killing off plankton and algae
- Fish and sea turtle populations decrease
- Shark, whale, tuna decrease
- Bird populations decrease (seagulls, albatross, eagle)
- Loss of lower levels of the food web impact apex predators
- “When we try to pick out anything by itself, we find it hitched to everything else in the Universe”
- What other impacts can you think of?
- Does this have to be linear?

Found, Inside Dead Sperm Whale: 100 Plastic Cups, 4 Plastic Bottles, 25 Plastic Bags, 2 Flip-Flops

By Kimberly Hickok, Reference Editor | November 21, 2018 11:18am ET



This dead sperm whale was found washed up on a beach in southern Indonesia on Nov. 19, its stomach full of nearly 13 pounds (6 kilograms) of plastic trash.
Credit: WWF-Indonesia/Kartika Sumolang

WHERE IS IT COMING FROM?

- Point Source Pollution - any discernible, confined and discrete conveyance from which pollutants are or may be discharged (Ex: Pipe dumping oil into a waterway)
- Nonpoint Source - any source of water pollution that does not meet the legal definition of "point source" (oil runoff from pavement that enters a waterway).
- What difference does it make?

WHERE IS IT COMING FROM?



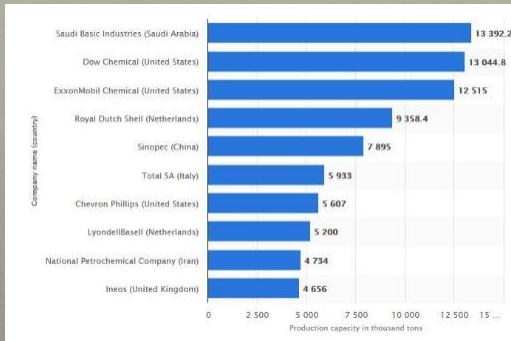
- “In 2010, half the world’s mismanaged plastic waste was generated by just five Asian countries: China, Indonesia, the Philippines, Vietnam, and Sri Lanka.”

WHERE IS IT COMING FROM?

Largest Ethylene producers:

United States – 31,166.8 Thousand tons

Saudi Arabia – 13,392.2 Thousand tons



Ethylene - the building block of polyethylene, one of the most widely used plastics.

Largest global producers of ethylene based on production capacity in 2013

HOW DID WE GET HERE?



Life Magazine, 1955

- 1945 - World War II ends
- 1955 - "Throwaway Living"
- What do we call this?
- Who Benefitted?
- Who Lost?
- 2018 Coca-Cola produces 128 Billion bottles
 - Net profit: \$8.2 Billion

WATERWAY DEGRADATION

- Riparian Corridor – Typically vegetated area of floodplain near a given waterway.
- Turbidity - a measure of the degree to which the water loses its transparency due to the presence of suspended particulates
- Eutrophication - excessive richness of nutrients in a lake or other body of water, frequently due to runoff from the land, which causes a dense growth of plant life and death of animal life from lack of oxygen.

PASIG RIVER, PHILIPPINES



Watershed- the area of land where all of the water that falls within it and drains off of it, goes to a common outlet.

1990 - Declared Biologically Dead (no longer able to support aquatic life)

DRAINAGE MAP AND THE PASIG-MARIKINA RIVER SYSTEM
THE PASIG-MARIKINA RIVER BASIN IS IN BLUE.
THE MARIKINA RIVER INTERSECTS WITH THE PASIG RIVER ALONG THE MANGGAHAN FLOODWAY.



Figure 3: Drainage map of the Pasig-Marikina River Basin with the Manggahan Floodway shown in red. The Marikina River intersects with the Pasig River along the Manggahan Floodway.

THAMES RIVER, LONDON

- 1957 Declared Biologically Dead

- In 1959, a member of the House of Lords was reported as suggesting that purifying the river was unnecessary. He claimed that "rivers" were "natural channels for the disposal of waste," and that letting them break up organic waste gave them "something to do."



Thames River, 1910

IS PLASTIC ALL BAD?

- Medical uses
- Makes cars and planes lighter (wastes less fuel)
- Makes wind shields safer
- Keeps food fresher for longer (good or bad?)

HOW DO WE GO FORWARD?

- Recycle
- Reduce
- Reuse
- Refuse?
- Scientific solutions
- Societal solutions

TOP 5 REASONS TO MAKE THE SWITCH TO REUSABLE STRAWS

- ✓ Disposable plastic straws are TOXIC
- ✓ Protect Our Ocean
- ✓ Save money
- ✓ Better for the Environment
- ✓ Be a Trend Setter



Official Trump Straws Pack Of 10 Maga Trump 2020



\$30.95

or Best Offer

See details for delivery cost.

• New condition
• 50 day returns - Free returns

*Pack of 10 Official Trump straws (also engraved 2" long BPA free reusable recyclable 10 identical straws ready to ship immediately Not a choice off 100% money back guarantee. Exact full description. See details.

HOW ARE THESE IMAGES ENVIRONMENTALLY RELATED? ARE THEY?



HOW DOES INEQUALITY EFFECT ENVIRONMENTAL DEGRADATION?

- How much choice does someone living in poverty have when it comes to their plastic use?
- Can someone living in extreme poverty opt out of using plastics?
- What role does infrastructure play in environmental degradation?
- What structural issues connect these things?