

Welcome Back!





Last Week!

→ Threats to Wetlands

- ◆ Sea level rise
- ◆ Decrease in biodiversity
- ◆ Superfund Sites

→ Threats to Coral Reefs

- ◆ Sea level rise
- ◆ Decrease in biodiversity
- ◆ Invasive species

→ Threats to Mangroves

- ◆ Sea level rise
- ◆ Deforestation, development

→ Threat to all three:

- ◆ MARINE DEBRIS
- ◆ Trashy Timeline: How long to break down specific items





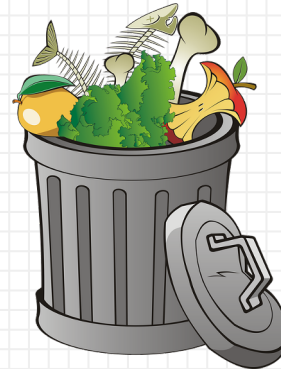
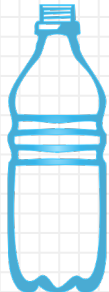
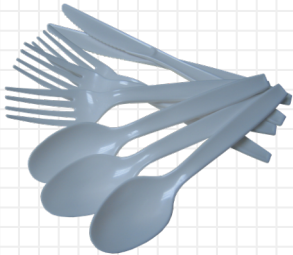
Activity: True or False

- X Wetlands can migrate inland as the sea level rises
- X Marine Debris does not affect coastal habitats
- X Mangrove capture store carbon in their roots



Let's Talk Trash

- ✗ Think about a time you visited a beach, the water, a river, or a stream.
- ✗ Do you remember seeing anything that did not belong there?





The Wayward Life of a Plastic Bag





Where Can You Find It?

- X Marinas
- X Beaches
- X Inlets
- X Underwater
- X Above water
- X Currents
- X Rivers
- X Gyres
- X **EVERYWHERE**





Why Do We Find Debris Everywhere?

- X **Buoyancy** is the ability to float in water
- X The more buoyant an object is, the farther it can travel in water!
- X What items are buoyant?





What is Marine Debris?

- X Anything man-made that ends up in the marine environment
- X 80% of marine debris comes from land-based sources
- X Transported by runoff, wind, or dumping





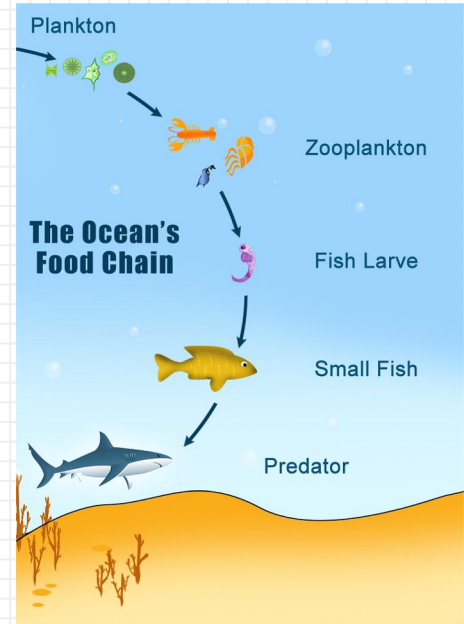
Does Marine Debris Impact Wildlife?





How is Marine Wildlife Impacted?

- X Mistaking debris for food causes malnutrition and starvation
- X Trapped in fishing line or beverage containers
- X Toxic materials can build up in species - **bioaccumulation**
- X Debris has been found in the stomachs of plankton
 - X What impact could this have?





Are Humans Impacted?

- X Seafood economy is damaged
- X Tourism decreases
- X Navigation hazards

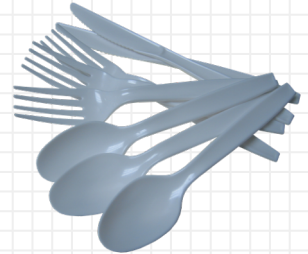
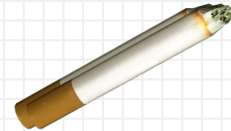




Top 10 Items Collected

X What do you think the top 10 items collected are?

1. Cigarette butts
2. Food wrapping
3. Plastic beverage bottles
4. Plastic bottle caps
5. Straws and stirrers
6. Plastic bags
7. Plastic grocery bags
8. Glass beverage bottles
9. Other beverage cans
10. Plastic cups and plates





The Good News: A Global Effort

- X Banned Styrofoam:** European Union, Maine, Costa Rica
- X Banned Single-Use Plastic Bags:** California, Connecticut, Oregon, European Union, Columbia, and many more!
- X Banned Plastic Straws:** Miami, Malibu, Seattle, Scotland, Taiwan





How Can You Help?

X Advocate!

- X Speak up about the importance of the ocean to your local officials and other leaders

X Educate!

- X Share with your friends and family ways to protect the marine environment

X Activate!

- X Conduct a beach or waterway clean up
- X Volunteer with a local organization





A Way To Help: Beach Cleanup Tips!





How Can You Help? The 5 R's

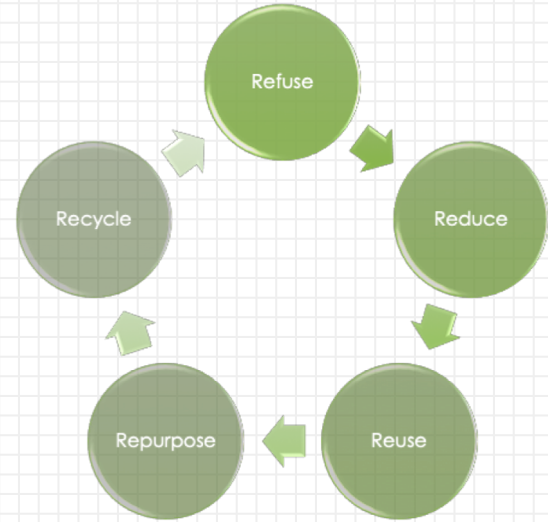
X Refuse what you do not need

X Reduce what you do need

X Reuse what you consume

X Repurpose what you can not refuse, reduce or reuse

X Recycle what you can not refuse, reduce, reuse, or repurpose





How Can You Help? Examples!

- X **Refuse** single use plastics like plastic bags, cups, bottles and containers
- X **Reduce** using non-recyclable products. This prevents them from entering landfills which ultimately lead to the water
- X **Reuse** products like a reusable water bottle, utensils, and bags
- X **Repurpose** items by finding a new way to use them! "Upcycling"
- X **Recycle** items properly and dispose of them in their proper places!





Review!

X What is an ecosystem?

X Food webs and chains

X Coastal habitats

X Wetlands, Coral Reefs, Mangroves

X Adaptations!

X Behavioral, Structural, and Physiological

X Importance & Threats to Coastal Habitats

X Solutions - Change One Habit, Change the World!





Survey Questions in the Chat!

- 1) I know how energy flows through an ecosystem.
(Yes or No)
- 2) I can list 5 species that live in either a wetland, coral reef or mangrove habitat.
(Yes or No)
- 3) I can identify 3 environmental important functions of coastal habitats.
(Yes or No)
- 4) I know one positive change I can make to protect coastal habitats.
(Yes or No)



THANK YOU!

