

Macro and Microplastics Pollution

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W **MONTGOMERY**
Z
 **GREEN**







Types of Pollution in the Stream





Plastics

a synthetic material made from a wide range of organic polymers such as polyethylene, PVC, nylon, etc., that can be molded into shape while soft and then set into a rigid or slightly elastic form.





Macroplastics

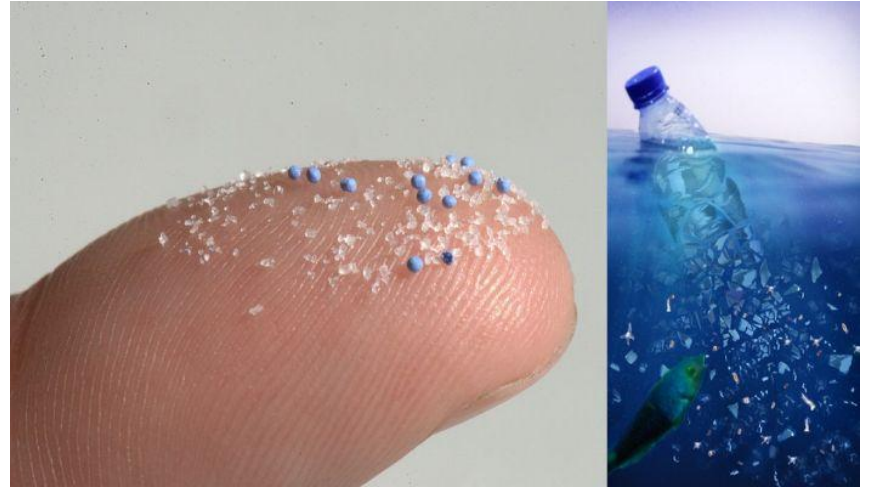
Large and visible pieces of plastics that can be easily caught.





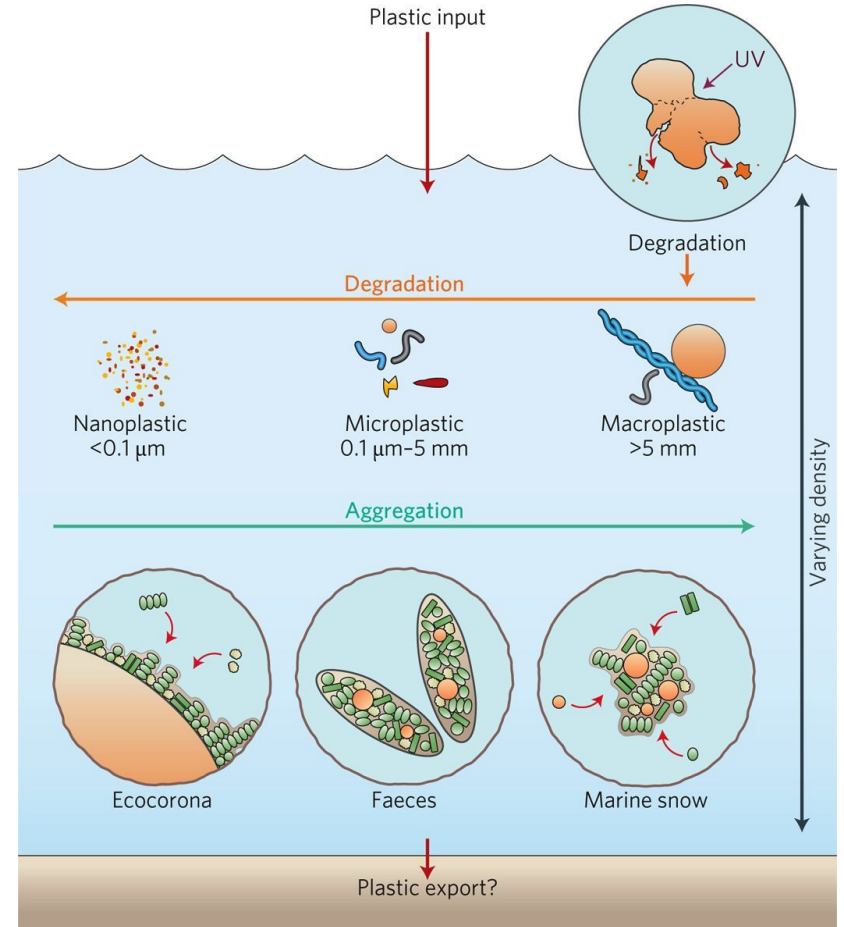
Microplastics

Small plastic pieces less than five millimeters long which can be harmful to our ocean and aquatic life.



How microplastics are formed:

Microplastics are the products of the Degradation of larger pieces of plastics; which break into continuously smaller pieces overtime.





How Microplastics affects the Ecology of the Stream



Endangers the Health of Marine Life

Overtime Organisms that consume the plastic will have an accumulation of it in it's digestive system, which will no longer be able to feed properly and eventually die.

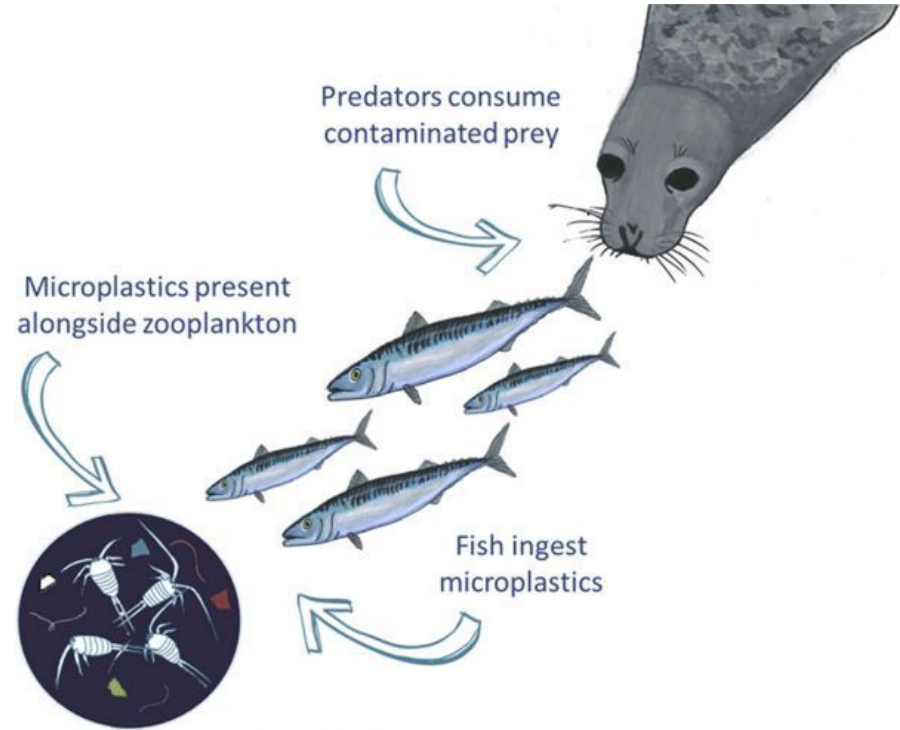




This is an image of a fish that was dissected and was found to have several pieces of pollution within it's system

Travels Up the Food Chain

The fish and organisms that become contaminated from eating Microplastics will soon be eaten by other organisms which will eventually lead up the food chain.





How Microplastics affects Human Health





The Plastic is in our Food

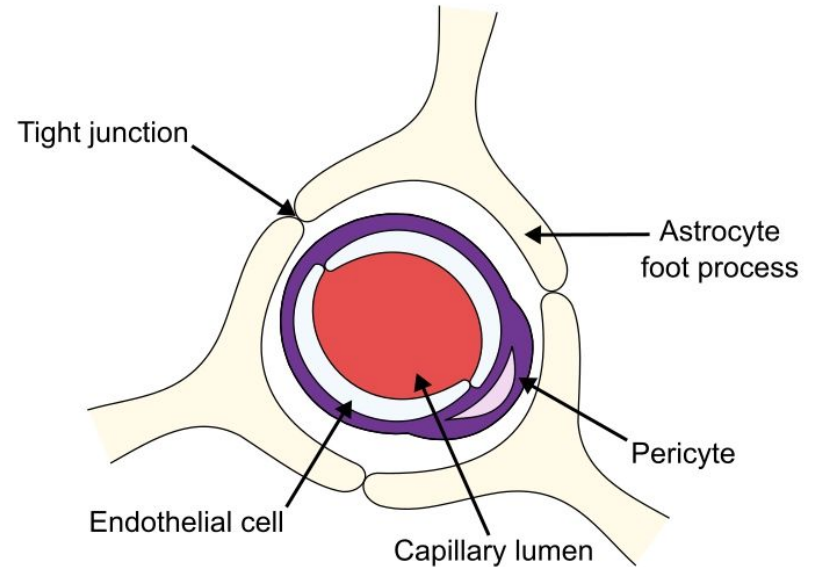
Seafood that we consume whole such as Shrimp, Tuna, Sardines, Shellfish, mussels, and oyster have been shown to have a micro and nanoplastics within their system.



Researchers have concerns

Although there is no conclusive data
Researchers are worried if the nano
plastics that we consume could
possibly pass through our Blood-Brain
Barrier

Blood-Brain Barrier





Our Project





Clean-up at the Stream

We cleaned up the Northwest Branch Anacostia River by picking up nearby trash surrounding the stream. As well as collecting samples microplastics from the stream.







We Analyzed the Data

We visited a chemistry lab at Montgomery College Science Center to analyze our samples we gathered from the stream.



**Can't we just
scoop out the
plastic?**

A decorative pattern at the bottom of the slide consisting of numerous vertical bars of varying heights and shades of teal, creating a textured, bar-like appearance.



We Can't, It's impossible

Since Microplastics are so small and sink, most would be found at the bottom of the ocean which would be an extremely costly and nearly impossible process.



The image features a solid orange background. In the top-left corner, there are three vertical bars of varying heights, each composed of several overlapping semi-transparent circles. In the bottom-right corner, there are four vertical bars of increasing height from left to right, also composed of overlapping semi-transparent circles.

What we can do to help!

Reduce and Use Less Plastics

To prevent the Plastic Pollution epidemic from growing the best thing we can do, is encourage a plastic free life and push for laws that places restrictions or outlaws plastic production.





<https://www.youtube.com/watch?v=-Yp1KKWpPpU>

Ways to Reduce Your Plastic Use:

1. Use reusable bags when grocery shopping
2. Stop using plastic straws
3. Reuse containers for storing leftovers
4. Bring your own container for take-out or your restaurant doggy-bag since many restaurants use styrofoam.



What we have done so far!

A decorative pattern at the bottom of the slide consisting of a series of overlapping, semi-transparent circles in various shades of teal and light blue, arranged in a horizontal line.



States that have Placed Restrictions on Plastic

Notable Cities/Counties with Plastic Bag Bans and Fees	
Cities with Plastic Bag Bans	Cities with Plastic Bag Bans and Fees
Boston	Boulder, Colo.
Chicago	Montgomery County, Md.
Los Angeles	New York
San Francisco	Portland, Maine
Seattle	Washington, D.C.



Montgomery County Ban on Polystyrene

Expanded polystyrene (#6-PS) products, such as foam containers, bowls, plates, trays, cartons, cups, egg cartons, etc. are not recyclable in Montgomery County, Maryland. This legislation effectively bans the use and sale of this material in the County.

