Findings from the Field

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Microplastic Investigation

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On April 30th, 2019, Edna Drinkwater School's fifth grade went down to the beach to collect water samples to search for tiny plastic fragments. Microplastics are multiplying and being eaten by fish. The plastics are being broken down by waves and sunlight in our water. They are called microfibers and fragments. We collected from the Drinkwater Beach in Northport, Maine. The beach was part of the Penobscot Bay. The wind speed was two MPH and the temperature was 49 with a water temperature of 42.5 degrees fahrenheit. The weather was cloudy with zero percent precipitation that day. We took special care when collecting the samples to not go too fast or too close to the bottom as we didn't want sand in our water. Once we successfully got our samples we headed back to the classroom.

Once we were in the classroom we set up our stacked 53 and 10 micron mesh sieves on wooden blocks to stop the water from flowing back into the filters. We waited two days for the water to drain into the bucket, then the seventh grade came on May third to help us look for microplastics in the filters. My group found 12 pieces of microplastics, and only two weren't black which surprised me because we throw away a lot of soda bottles and soda bottles are usually clear or colored. I saw that there were many more fibers than fragments in the half of a gallon we used.

As you can see it's interesting we found so much in just a half gallon of water. I just hope we found a good amount so that not many animals are eating it because plastic can smell and look just like food. Experiments show that plastic covered in algae attracts anchovies that eat it and get clogged stomachs, as well as turtles and other fish. Plastic can severely impact ocean ecosystems with fish eating it and starving.

In conclusion, there are microplastics in our water. I suggest an investigation about how much plastic humans consume each year and how it affects the human body. We may not be able to reverse our actions but we can try to stop throwing so much plastic away and stop killing ocean ecosystems.

Sources:

- Stewards of the Sea (Pacific Marine Mammal Center)
- *Tiny Plastic, Big Problem* by Alison Pearce Stevens
- *Why Animals Can't Stop Eating Plastic* by Josh Gabbatiss
- *Food-like scent in some plastic trash lures fish new study shows* by Los Angeles Times
- WeatherBlur (Maine Math and Science Alliance)

Nature Note
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