



How pollution affects our oceans ecosystem and marine life



Ella

3 Main Types of Pollution

- Microplastic/Plastics
- Ocean Acidification
- Light pollution



Presurvey

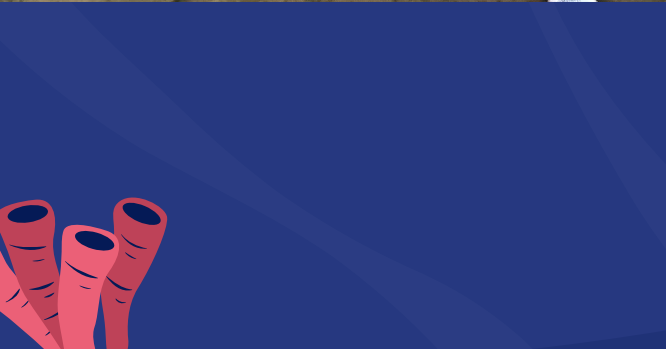


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Microplastics/Plastic

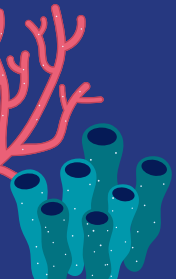
Microplastics are a type of plastic debris that is smaller than 5 millimeters in length, or about the size of a pencil eraser. These small particles and bigger types of plastic like plastic bags are the main types of pollution that affect our oceans ecosystem and organisms. For marine life like sea turtles, plastic bags are the biggest threat. They will mistake the bags for jellyfish and when the plastic is ingested it can result to damage in their intestines, resulting in starvation. Another issue for reproduction is if there is debris on the shore, mother sea turtles will not lay there eggs because hatchlings can get stuck in the debris when leaving the nest.





Ocean Acidification

This is a reduction in the pH of the ocean over a long period of time, caused by uptake of Carbon Dioxide from the atmosphere (causing the ocean to become more acidic). This type of pollution makes it difficult for organisms that form the base of the food web to form their shells or survive. This also reduces the food available for higher up the food web, like sea turtles as well as leading to decreased water quality for the marine life.

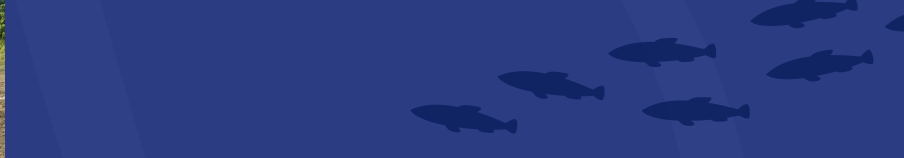




Light Pollution

Light pollution, or artificial light at night, is the excessive or poor use of artificial outdoor light. This type of pollution disrupts the natural patterns of wildlife. For sea turtles this is a very big issue hatchlings because it causes them to become disoriented and wander inland, where they often die of dehydration or predation. Decreasing the chances of sea turtles to reach adulthood.





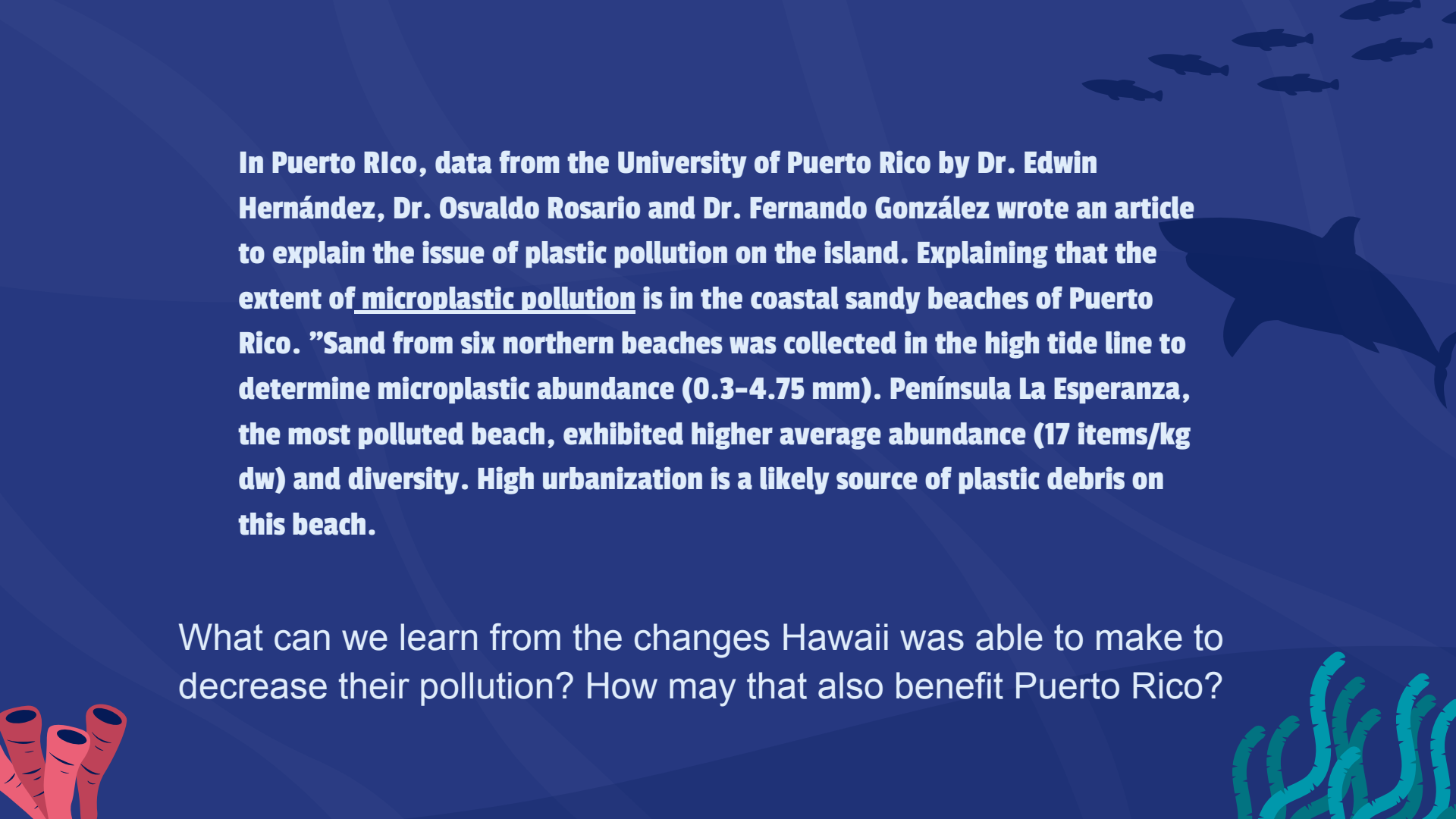
THIS IS ALSO HAPPENING IN OTHER STATES!

(HAWAII & FLORIDA)

The issue of pollution is a problem in so many others places other than Puerto Rico. It affects the wildlife in areas like Hawaii, and Florida.

There was research from the Hawaii Wildlife Fund (HWF) that showed that in Hawaii, “pollution is one of their main issue with 15-20 tons of marine trash being washed up on the shores of Hawaii every year, 96% of which is made from plastic material”. This is a huge issue for the island because tiny particles of plastics end up getting caught up in the fish’s gills mainly causing the green sea turtles to die which is an endangered species in Hawaii. However in Hawaii there was a positive change by Kokua Hawaii Foundation that was later approved by the state, being first island to prohibit plastic shipping bags in 2011 as well as banning disposable food service ware. Which has helped them almost solve the majoring of their pollution issues.

<https://www.sfgate.com/hawaii/article/plastic-waste-hawaii-visitors-leave-behind-18286076.php>



In Puerto Rico, data from the University of Puerto Rico by Dr. Edwin Hernández, Dr. Osvaldo Rosario and Dr. Fernando González wrote an article to explain the issue of plastic pollution on the island. Explaining that the extent of microplastic pollution is in the coastal sandy beaches of Puerto Rico. "Sand from six northern beaches was collected in the high tide line to determine microplastic abundance (0.3–4.75 mm). Península La Esperanza, the most polluted beach, exhibited higher average abundance (17 items/kg dw) and diversity. High urbanization is a likely source of plastic debris on this beach.

What can we learn from the changes Hawaii was able to make to decrease their pollution? How may that also benefit Puerto Rico?

Things we can do to reduce pollution

- **Use reusable straws**
- **Use reusable tote bags instead of plastic bags when going shopping**
- **Bring your own utensils instead of plastic ones**
- **Recycle plastic**
- **Never leave trash in the environment**
- **Use reusable beeswax wraps**
- **Use a reusable water bottles**
- **Participate in coastal clean-ups**
- **Say no to straws at fast food restaurants**

Post Survey



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