

9-12 Litter Free Case Study 1

Scientists and everyday citizens alike have been curious about why sea turtles ingest plastic in the wild. It has been well documented that plastics can absorb toxins and chemicals in the water around them. It has also been shown that the longer plastics are in the water, the more microorganisms like bacteria and algae will attach and grow. A group of researchers from the University of Chapel Hill¹ wondered if this could be part of the reason sea turtles eat plastics in the wild.

To answer this question, the scientists took captive reared loggerhead sea turtles and exposed them to different smells – clean water, clean plastic, food, and ocean-soaked plastic. The turtles exhibited foraging behaviors like swimming and brining their nose out of the water to smell when exposed to both food and sea water soaked plastics. This suggests that sea turtles are eating plastic because it not only looks like food, but smells like food too!

What does plastic ingestion mean for turtles? What impact do these results have on the ocean food chain? Can this impact us? Discuss.



Figure 1: Marine Debris ingested by Midway a juvenile loggerhead sea turtle treated at the South Carolina Aquarium in June of 2015

¹ Pfaller, J. B., Goforth, K. M., Gil, M. A., Savoca, M. S., & Lohmann, K. J. (2020). Odors from marine plastic debris elicit foraging behavior in sea turtles. *Current Biology*, 30(5). doi:10.1016/j.cub.2020.01.071