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2023 Analyzing Surface Microplastics in Commencement Bay, WA

Abstract

Microplastics are a newly emerging environmental issue, in marine environments. Less than five millimeters in length, these plastics are typically produced from the breakdown of larger pieces of plastic. These plastics can absorb contaminants from the water and be transferred to an array of sea life that ingest this material.. Analyzing microplastics will help researchers to better understand the types of polymers and how they move within our environment. In 2015, water samples were collected from Commencement Bay and processed in order to isolate the polymers from the natural organic material. This project further analyzed the plastics by noting the length and color, and identified the polymer-type using an FTIR spectrometer. This instrument uses infrared technology to analyze how much light is absorbed through a sample, and assisted in scanning for polymer type. The most commonly found polymer types were polyethylene, polypropylene and styrene. These polymers are most commonly found in clothing, beauty products, and single use plastics. Further research would indicate the most likely sources within the bay and this information can be utilized to slow contamination of microplastics.