2024 Analysis of Microplastics in Bed sediment of Bellingham Bay

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Due to the global demand for plastic commodities, microplastics have become an increasingly prominent pollutant. Microplastics are defined as small particles of manufactured or degraded plastic that are less than 5 mm in length. These microplastics can be created through mechanical, chemical erosion and weathering, when plastics break down to the micron level. During the summer of 2024, with a team of other UW students, we analyzed sediment collected in June 2024 by the Department of Ecology Sediment Monitoring Team for the presence and abundance of microplastics from Bellingham Bay. This was done to determine how concentrated they would be in a local body of water close to urbanization. Using a dissecting microscope, we sorted and recorded the microplastics classifying the type and color of plastic as pellet, fiber, foam, or film. We found that 92.1% of total plastics were fiber, and that the microplastics were mostly clear (67.7%). The remaining microplastics consisted of pellets and film with no foams present. There was no apparent connection with distribution for concentration near or far from urbanization in Bellingham Bay. However, we found microplastics at each site demonstrating just how prevalent their presence has become. These results help to add to the larger body of research to monitor the increase of microplastics in water and sediment over time. The continued monitoring of microplastics is imperative, as they have been found in humans as well as nearly all other organisms.