

2022 King County Quantitative Assessment of Microplastic Contamination in Puget  
Sound Sediments

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Microplastics (polymers < 5 mm) are observed throughout marine and freshwater environments due to anthropogenic activities and products. The main source of microplastics is from stormwater runoff and degradation of larger plastic pollution. Microplastics that carry additives and harmful chemicals may cause harm to marine ecosystems in all trophic levels. Through lab analysis of bed sediment samples taken from Commencement Bay provided by the Puget Sound Environmental Monitoring Program, the presence of microplastics was determined through a series of sieving and density separations. The methods used determined the concentration of common plastic polyethylene, polypropylene, polyvinyl chloride, and polystyrene. The results showed that microplastics were present at every station ranging from (134 to 64556 (wet)) and (75 to 28273 (dry)) microplastics per square meter. 90.21% of the microplastics isolated were fibers. This provides a baseline to compare future microplastic abundance and track changes in marine microplastic pollutants in the Pacific NorthWest.