2022 King County Microplastic Sediment Quantification Puget Sound

Microplastics (polymers <5mm) are ubiquitous throughout marine and freshwater environments through anthropogenic vectors. 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 through all trophic levels. Through lab analysis of bed sediment samples taken from throughout the King County region of the Puget Sound provided by the King County Sediment Monitoring Team the presence of microplastics was determined through a series of sieving and density separations. The methods used determined the concentration of common plastics, polyethylene, polypropylene, polyvinyl chloride, and polystyrene. The results showed that microplastics were present in every location except one ranging from 0 to 6510 (wet) and 0 to 3598 (dry) microplastics per square meter. All of the microplastics isolated were fibers. This provides a baseline to compare future microplastic abundance and track changes in marine microplastic pollution.