

2022 Analysis of Bed Sediments in central Puget Sound, Washington with a Focus on Mapping
the Toxic Dinoflagellate *Alexandrium catenella*

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The dinoflagellate *Alexandrium catenella* produces saxitoxin that bioaccumulates in filter-feeding shellfish. When this shellfish is consumed by mammals, it could cause paralytic shellfish poisoning which can be fatal. This organism has two life phases: vegetative swimming cells and dormant resting cysts. It is crucial to monitor the concentration and distribution of the dormant cysts to determine potential public health hazards. This project contributes to a long-term monitoring dataset by King County to establish trends. Bed sediment was collected from various locations in King County's central Puget Sound. Sediment was sub-sampled and sieved, dyed with Primulin stain, and counted using epifluorescent microscopy. The majority of the locations had no presence of cysts. However, there were *Alexandrium* cysts at two sampling locations: Central Quartermaster Harbor (140 cysts/cc wet, 465 cysts/cc dry) and Inner Quartermaster Harbor (70 cysts/cc wet, 228 cysts/cc dry), located between Vashon and Maury Islands. The presence of the *Alexandrium* cysts implies the bay should continue to be monitored.