Microplastics are polymers found in bed sediment and bodies of water, potentially causing damage to organisms and ecosystems. *Alexandrium catenella* is a toxic marine dinoflagellate capable of producing saxitoxins, a neurotoxin that bioaccumulates in organisms and may cause paralytic shellfish poisoning in mammals that consume them. This project examines the presence and concentration of microplastics and *A. catenella* in Clayoquot Sound. In 2023, researchers from the University of Washington Tacoma collected water and bed sediment samples from 9 stations throughout Clayoquot Sound. To identify and quantify potential exposure levels within Clayoquot Sound, these samples were processed to isolate microplastics using disaggregation, density separation, and light-microscope examination. *A. catenella* presence was determined through splitting, preserving, etching, and staining samples to view under an epifluorescence microscope. Microplastic abundance in bed sediment ranged from 39 to 216 fibers with an average of 71 microplastics in approximately 200 g of bed sediment. *Alexandrium catenella* cyst abundance ranged from 4 –28 cysts/ml with an average of 16 cysts/ml. This data will serve as a baseline for tracking changes in the Clayoquot Sound region over time.