Abstract

The goal of this practicum project was to complete a meta-analysis and identify the location, size, and impact of fish waste piles on waterbodies in Alaska in one comprehensive report. Data collection for this project included obtaining secondary data from publicly available sources. Alaskan shorebased seafood processing facilities discharge water mixed with fish waste from an outfall(s). Once discharged, buoyant fish waste enters the water column and floats to the surface, while denser fragments sink. Fish waste accumulates on the seafloor and creates fish waste piles. A persistent fish waste pile depletes the oxygen from the water column, smothers benthic invertebrates, alters benthic habitat and creates dead zones, all which lead to changes in the overall ecosystem. As the deposited material breaks down, it produces hydrogen sulfide and ammonia, which may be released into the environment and affect aquatic ecosystem health. Less than fifty percent of the facilities in the data set are in compliance with the requirement to monitor their fish waste piles. At least 115 acres of the Alaska seafloor is covered by fish waste piles and the impacts of these 115 acres are not widely known. The recovery process of benthic communities is typically different than a simple reverse of the pattern observed during its decline. It is unlikely that any benthic community impacted by these fish waste piles will recover to its original state, even if the organic loading ceases.