Abstract

Global plastic production has increased to ~250 million tons/year.

Mass production of plastic led to plastic pollution infiltrating marine environments. Microplastic pollution can block intestinal function and cause physical damage.

I. recurvum (Hooked Mussel) has a key role in purifying the water of the Chesapeake Bay. Microplastics are plastic particles ranging in size from 5 mm to 10 nm.

Hooked Mussel utilizes a bivalve system allowing it to filter toxins out of the water by intaking seawater through an inhalant siphon. Water is then filtered through the gills to separate water, toxins such as bacteria, and food items. It is possible that microplastic ingestion could cause negative implications on the filtration capabilities of I. recurvum.

Figure 1: Routes of Microplastic in Bivalves

Figure 2: Filtration Comparison

Four Contributions to Results

- Nutrient Concentration
- Water Quality Testing
- Chlorophyll a Concentration
- Dissolved Oxygen

References


Figure 3: Microplastic vs. Control Filtration Visualization

Figure 4: Expected Filtration Rate Change from Microplastic to No Microplastic Ingestion