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Thesis Project

Invertebrate fouling community composition and succession associated with Pacific oyster deep-water suspended tray culture

Shellfish aquaculture sites support diverse invertebrate communities through the colonization of farming equipment and the colonization of the cultivated species, in a process termed fouling. Pacific oyster aquaculture facilities in BC offer an exceptional opportunity to study fouling community composition on bivalves and aquaculture structures. The potential significance of fouling communities is becoming increasingly apparent in BC with the expansion of bivalve aquaculture and with the increased awareness of the problems associated with invasive fouling species. Invertebrate fouling on shellfish aquaculture farms is of great concern to the industry, largely due to the costs of implementing control, avoidance and prevention measures. Understanding the ecology of the fouling communities as a whole, as well as the individual harmful species, could allow the industry to design more effective prevention methods.

The objective of this research is to understand the composition and successional stages of invertebrate fouling communities on *Crassostrea gigas*, suspended tray culture as they relate to the following: 1) seasonal variation in water column parameters and 2) composition of oyster trays. This research will yield results significant to the shellfish aquaculture industry in regard to the efficacy of methods for controlling invertebrate fouling and identifying key fouling organisms and their specific life stages. This research will provide valuable data on invertebrate biodiversity, complexity and succession of hard substrate communities, and the role of marine invasive species in fouling communities, within the context of BC's coastal marine environment.

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Education

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