

Biofouling challenge and management methods in marine aquaculture

Abstract

Net biofouling is a major problem in the cage aquaculture systems worldwide. In countries where floating cage aquaculture is widely practiced, a high rate of biofouling is the key factor contributing to many problems leading to poor growth, mass mortality of cultured fish and economic losses. These problems include the disruption of water flow, asphyxiation, eutrophication, sedimentation, frequent net cleanings and diseases in stocked fish. Community structure and development rates of biofouling organisms are site specific, depending on monsoon, geographic location and local environmental conditions. Other factors such as inappropriate farm location, cage configuration and deployment also contribute to high rates of biofouling. Biology of captive stocks as well as the ecological data and information on behaviour of biofouling organisms can provide a basis for addressing this problem. Instead of using toxic chemicals that pollute the environment and impair the quality of stocked fish, biological control methods deserve serious attention for addressing a significant problem constraining the realization of full potential of cage aquaculture systems.