

Influence of Bivalve on Nutrients Cycle in Coastal Area

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Abstract

An experimental study was carried out to investigate the influence of bivalve on the behaviour of organic matter and nutrients in a coastal area. Four experimental systems, a dark system, a light system, a polychaete introduced system and a bivalve introduced system, were designed and constructed in tanks with sediment and surface water, which were set near an estuary. Change in water quality, productivity of algae and fluxes of nutrients between surface water and sediment were investigated in these systems. Comparing between the bivalve system and the other systems, it was cleared that the reduction of organic matter in both surface water and sediment occurred due to the filter feeding of bivalve, and inorganic nutrients were rapidly released from sediment. Furthermore, it was suggested that filter feeding of bivalves led to increase the productivity of benthic algae because of the improvement of light condition and the increase of available nutrients.