

有明海泥質干潟・浅海域における底泥窒素循環の特性

—塩田川・鹿島川河口域における現地調査及び室内試験結果—

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Abstract

A comprehensive field study concerning a mud tidal flat and shallow-water area in Ariake Bay demonstrated distinct nature of nitrogen cycle in the mud flat system. Fine particles, low percolation and anoxic environments in sediments determined the relative abundance of inorganic nitrogen compounds in sediments. Ammonium was highly accumulated in interstitial water of sediments. Denitrification appeared to be limited by low nitrification in thin oxidized layer of sediments, together with the limited supply of nitrate from the overlying water. The composition of benthic biomass in terms of nitrogen were characterized by abundant bacteria and less abundant macro-benthos in comparison with those reported in sandy tidal flats. Bivalves were however observed to be dense in artificially intervened area, such as bivalve grounds and oyster beds.