

## EFFECTS OF SALINE ON WATER PURIFICATION OF MARINE SEDIMENT AT ISAHAYA BAY IN SOUTHERN JAPAN

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Reclamation works are been undertaken in ISAHAYA Bay in Southern Japan. A heightened concern about the ongoing influence of the reclamation works on the environment was caused in part by the decrease in fish catches; and so part of levee system was opened and water liberated for one month. Assessment of the environment was then done in the year that followed.

Though the investigation of various aspects was undertaken by a government committee, little examination was done about the influence of the introduced seawater water's purification ability for the marine sediment. Bottom mud was collected from Isahaya Bay was collected when the gate was open, after the gate was closed, and at elution, and were examined in regard to the aerobically condition. ., a similar experiment was done on the bottom mud outside the gate as a comparison. There is just a little elution from the marine sediment just inside the levee gate at the time of opening. When the gates are closed, elution from the marine sediment is high in comparison with the sediment outside the levee.

The seawater salt concentration was different in the column filled with the bottom mud from inside the levee; and gentle ventilation was done over a 15day period. The concentration of  $\text{NH}_4\text{-N}$ ,  $\text{NO}_x\text{-N}$ ,  $\text{PO}_4\text{-P}$  were decreased with time. A 2.4% saline concentration was compared with a 1.2% saline concentration; both nitrification and denitrification rates were higher by about 1.5 times at  $69\text{m g/m}^2/\text{day}$  and  $46\text{mg/m}^2/\text{day}$ , respectively. Microorganism activity was controlled, and a decrease in just  $\text{NH}_4\text{-N}$  was seen, even under a low saline concentration when a similar experiment was done. The results showed that when seawater was introduced, water purification of ISAHAYA Bay's marine sediment progressed.