

Response of the Sea Water Quality to Significant Reduction of Pollutant Load: Long Term Monitoring in the Mid-Seto Inland Sea

Fujiwara, Tateki., Takeda, Hiroshi., Kasai Akihide.

Laboratory of Fisheries and Environmental Oceanography, Graduate School of Agriculture, Kyoto University, Kyoto, Japan

Large amount of COD (Chemical Oxygen Demand) load had discharged from pulp industries in Hiuch-nada sea located in the central part of the Seto Inland Sea in 1970's. This load was significantly reduced to a level of one-tenth in 1980's. In this study, water quality records measured from 1972 to now were analyzed with emphasis on hypoxia. The records of dissolved oxygen on the bottom (DO) are divided into three periods. Oxygen condition was restored from wide and serious hypoxic condition to well oxygenated condition in the first period (early 1970's to early 1980's). In the second period (early 1980's to late 1980's), yearly minimum of oxygen concentration stayed relatively high near 3 ml/l. From late 1980's (third period), yearly minimum of oxygen concentration began to decrease and this decreasing trend has been kept up to now; the lowest DO value appears in an area apart from the shore and in September. The restoration in the first period is deemed to be caused by the reduction of COD load. The cause of the decrease in the third period is not sure now and should be studied.