

Is the Condition of Water Environment of Tokyo Bay Improved ? - Consideration on the Occurrence of Red Tide, Blue Tide (Aoshio) and the Change with in the Water Quality -

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In recent 15 years of 1979 to 1994, the inflow pollution loading amount of COD (Chemical Oxygen Demand), nitrogen and phosphorus has been reduced to 60%, 77% and 56% respectively in consequences of various countermeasures such as the total load reduction plan and the guide lines for eutrophication prevention.

This investigation aimed to examine what effects this reduction reflected to the water quality of the bay and how the effect of the reduction corresponds to the change in occurrence of red tide and blue tide.

The water quality which monthly monitored by the City of Tokyo, Kanagawa Prefecture and Chiba Prefecture has been statistically processed, and the monthly contour map of the bay has been drawn by month, accordingly, it was enabled to detect the water quality fluctuation easily. Consequently, the changes of COD and the nutrient salts concentration in Tokyo Bay are not related with the decrease of the inflow pollution loading amount of them, and on the contrary the concentration of nitrate nitrogen seems to increase.

Occurrence of red tide is dependent on the weather such as sunshine duration other than the nutrient salts concentration, it was found that the frequency of the high concentration red tide occurrence decreased and dominant species of the plankton had altered.

Anoxic watermass which is the requirement of the blue tide occurrence is formed in summer season still now, and the area of the occurrence tended to decrease year after year. Occurrence of blue tide is more dependent on the weather (wind direction, wind red tide, accordingly the frequency of the blue tide occurrence does not relate directly to the improvement of the water quality. As blue tide in recent years are small in extent and the damage in marine products has been reduced, the environment is suggested to be in a tendency toward recovering.

As stated above, in Tokyo Bay the reduction of the inflow load is not related with the improvement of the water quality directly, and it is indispensable further consideration though the frequency of the occurrence of red and blue tide decreases.