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Past, Present and Future of PCB Pollution in Tokyo Bay, Japan

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Abstract

The concentrations of particulate PCB in the sea water and the historical sedimentation pattern were observed in 1993 and 1995 at Tokyo Bay, Japan. The simple numerical model is developed in order to reproduce the historical sedimentation pattern and the present distribution pattern of particulate PCB concentrations in the sea water of Tokyo Bay. The model can reproduce well the observed results. The numerical model can also forecast the future PCB pollution in Tokyo Bay. From the results of numerical calculation, the particulate PCB concentration in sea water and the PCB concentration of the surface sediment at the head of Tokyo Bay in 2050 will be 82.9 pg/l and 38.5 ng/dry-g, respectively.

Such results suggest that PCB pollution will not be decreased in the next century at Tokyo Bay due to the supply of remnant PCB in the sediments of rivers and inner harbors. We have to dredge the bottom sediments at rivers and inner harbors to prevent the future PCB pollution in Tokyo Bay.