

Sirimas Sithikrom 2007: Distribution of Cadmium, Copper and Lead in the Sediments of Trat Bay, Trat Province. Master of Science (Marine Science), Major Field: Marine Science, Department of Marine Science. Thesis Advisor: Associate Professor Saran Petpiroon, Ph.D. 184 pages.

Studies on distribution and depth profile of Cd, Cu, Pb and total organic matter (TOM) in the sediments of Trat Bay, Trat Province were carried out in the samples collected from 18 stations in September 2003 and April 2004. It was found that average concentrations of Cd, Cu, Pb and total organic matter in the surface sediments were 0.06 ± 0.07 , 21.32 ± 10.33 , 10.82 ± 4.67 mg/kg dry weight and 7.33 ± 3.38 percent, respectively. Generally, higher concentrations of heavy metals were found in the sediments of the western shore than those of the eastern shore. This is due to the sandy sediments along the eastern bay. Vertical distributions of Cu and Pb showed higher concentrations which increased in the surface sediments as compared to the deeper sediments, indicating higher metal contamination in the present time than the past. The concentrations of Cd in the sediments showed no significant change.

Comparison on statistical difference of heavy metals and organic matter concentrations in each sampling stations revealed that Pb was significantly different ($P = 0.05$ level), but Cd, Cu and TOM showed no statistical difference. There is a correlation between TOM and heavy metals concentrations; TOM showed higher significant correlation with Pb than with Cd, but TOM was not significantly correlated with Cu.

Comparison on statistical difference of heavy metals concentrations in each sampling seasons revealed that only Cd was significantly different ($P = 0.05$ level), but Cu and Pb showed no statistical difference.

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Student's signature


Thesis Advisor's signature

29 / 05 / 07