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Lead contamination in water samples and sediments collected from Chao Phraya River (Samutprakarn province to Nakorn Sawan province) in rainny season (October 1991) and dry season (May 1992) was analysed by Atomic Absorption Spectrophotometry. Water samples analysis found that the average lead contents were $3.57\pm2.04~\mu g/l$ and $10.73\pm5.01~\mu g/l$ in rainny and dry season, respectively. Seasonal variation was obvious with statistical significance at 0.05. The percentage of lead, 98.88%, in water was particulate lead and 1.12% was dissolved lead. The results of sediment analysis showed an average of 1.47±1.10 µg/g for rainny season and 1.61±1.19 µg/g dry weight for dry season with no statistical difference. Lead distribution in water was recorded in the upper stream whereas sediment lead was pronounced in the mouth of the estuary.