

Title	Study on Quantity of Heavy Metals in Water and Stream Sediments of Lum Huay Kha–Khang, Muang District, Maha Sarakham Province
Authors	Patcharin Jitjak Petcharaporn Srisetnam Sunantha Aonnasa
Advisors	Dr. Nukool Kudthalang Asst. Prof. Dr. Somsanguan Passago Mrs. Metta Kengchuwong
Department/Faculty	Environmental Science/Science and Technology
University	Rajabhat Maha Sarakham University
Year	2016

Abstract

This research is a study of heavy metals in water and sediment of Huay Khakang, Muang District, Mahasarakham Province. The heavy metals including lead, copper, cadmium and manganese were studied by comparing the amount of heavy metals in the water with the water quality standards in surface water source and comparison of heavy metals in sediment and soil quality standards using for housing and agriculture. Nine points were collected for sampling points of water and sediment, which each points collected the sample once per week for 3 weeks; week cease week from 14 Nov, 2015 – 12 Dec, 2015. The water quality parameters measured include temperature, dissolved oxygen, conductivity, pH and heavy metals. for the determination of heavy metals in the water and sediment, the measuring was done by using atomic absorption spectrophotometer. The statistics used in data analysis were mean and standard deviation.

The study found that the water quality at Huay Khakang has an average temperature in the range of 28.0 to 32.5 degrees celsius. The conductivity is average at 47.11 to 588.67 micro cement per centimeter. The dissolved oxygen in water with an average in the range of 2.67 to 6.92 milligrams per liter. The pH at average is in the range of 6.89 to 8.09. The copper, lead, cadmium and manganese concentration found in water samples at Huay Khakang is average in the range of 0.036 to 0.051, 0.006 to 0.014, 0.011 to 0.029, 0.130 to 1.006 milligrams per liter, respectively. When the results are compared to the standard of water quality in surface water, it was found that lead, copper, manganese is within the standard, and the cadmium exceeded the required standard. The copper, manganese, cadmium and lead found in stream sediment samples is average in the range of ND - 0.156, 0.008 - 0.214, ND, 0.480 - 6.562 milligrams per kilogram, respectively. When the results were compared with the standard of soil quality for residential and agricultural use, it was found that lead, cadmium, copper and manganese were lower than the determined standards.