

Janon Srigate 2009: Effects of Community Activities to Water Quality in Phetchaburi River, Phetchaburi Province. Master of Science (Environmental Science),
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The objectives of this research are to study on water quality and compare the effect of community activities to water quality of Phetchaburi river which covered from the outlet of Phet Dam in Thayang district through Banleam district, Phetchaburi province. The study area was covered on the five communities included Thayang, Banlat, Muang-Phetchaburi, Bangtaboon and Banleam. The samples were collected from 14 stations for every 2 months from February to December, 2007.

The result found that the average total solid, alkalinity, dissolve oxygen, BOD, ammonia nitrogen, total phosphorus, lead and cadmium were 179.91, 89.25, 4.52, 2.85, 0.11, 0.12, 0.001 mg/l respectively. The average temperature was 28.94 °C, electric conductivity was 329.74 µs/cm, the turbidity was 43.87 NTU, pH was 7.0 and average salinity was 1.44 ppt. The average total coliform bacteria and fecal coliform bacteria were 11,110.40 and 2,035.72 MPN/100 ml respectively. The results showed that the water quality was in surface water quality standard class 3. Although, the most of wastewater from Phetchaburi municipal was treated by Laem Phak Bia Environmental Study and Development Project. Only some wastewater was drained into Phetchaburi river. However, the water quality in 5 communities were still in the water quality standard and suitable for agriculture and consumption. However, it should be treated by general water quality treatment process.

In additional, the water quality of Banleam community showed the minimum value in almost parameter when compared with other sites due to the organic matters which have discharged from the dense communities, agriculture, aquacultures and fisheries. Moreover the deposition of organic and inorganic matter on river route was effected by the tidal that make contamination of remained substances in Phetchaburi river. Exception, the trend of total coliform bacteria and fecal coliform bacteria were decreased by effect of estuary In order to the improvement of water quality in Phetchaburi river, municipal waste water treatment and garbage reduction should be also established for each community before drained to Phetchaburi river.

Student's signature

Thesis Advisor's signature