

Paraporn Yotavong 2010: Rapid Bioassessment with Benthic Macroinvertebrates for Headwater Streams at Thong Pha Phum District, Kanchanaburi Province. Master of Science (Zoology), Major Field: Zoology, Department of Zoology. Thesis Advisor: Mr. Boonsatien Boonsoong, Ph.D. 94 pages.

The aim of this study is to test rapid bioassessment using benthic macroinvertebrates from Huai Khayeng and Pakkok streams at Thong Pha Phum District, Kanchanaburi Province. Benthic macroinvertebrates were collected using multihabitat approach followed by Rapid Bioassessment Protocols at 8 sites in December 2008 and April 2009. Selected physico-chemical parameters and visual-based habitat assessment were assessed. Nine core biological metrics were used to calculate a biotic index score in genus level including number of total taxa, Diptera taxa, EPTC taxa, % Plecoptera, %Tolerant organisms, Beck's Biotic Index, %Intolerant organisms, Shredders taxa and Clingers taxa, and used to 7 core biological metrics to calculate a biotic index score in family level including number of total taxa, EPTC taxa, %Plecoptera, %Tolerant organisms, Beck's Biotic Index, %Intolerant organisms and Clingers taxa. Values of the index score were ranged poor to fair in both of genus and family level. Most of test sites were rated as fair. They were located in agricultural and residential areas. Multivariate and multimetric analyses yielded the same results for bioassessment. The low index score test site correlated with high nitrate, suspended solid, and turbidity and clearly discriminated from the other test sites.

---

Student's signature

---

Thesis Advisor's signature