Abstract

The concentration of nutrients (nitrate-nitrogen ammonia-nitrogen and phosphate) and chlorophyll-a were analysed from 10 stations along the Pasak river in February, June 2003 and September 2004. The concentrations of Chlorophyll–a was ranged from 0.0364–0.2286 mg/l, highest at Phetchabun telemetering station and lowest at Lomsak station. The concentration of nitrate-nitrogen was 0.011–1.344 mg/l, highest at King Rama VI barrage telemetering station, Ayutthaya province and lowest at Pasak Jolasid Dam telemetering station, Lopburi province. The concentration of ammonia was 0.008–0.255 mg/l, highest at King Rama VI barrage telemetering station, Ayutthaya province and lowest at Phetchabun telemetering station. The concentration of phosphate was 0.001–0.181 mg/l, highest at Buachum telemetering station, Lopburi province and lowest at Sao-hai telemetering station, Saraburi province.The average concentrations of nitrate, ammonia and phosphate along the whole Pasak river were classified as the 3rd category of national surface water quality standards.

The relationship between phosphate (X) and chlorophyll–a (Y) in medium flow showed statistically significant with $Y = 0.3841 \ln(X) + 0.8818$ ($r^2 = 0.833$). The chlorophyll–a (Y) showed statistically significant relationship with free carbondioxide (X) with $Y = 0.0276 (x) + 0.0823$ ($r^2 = 0.510$). In maximum flow chlorophyll–a (Y) showed statistically significant relationship with suspended solids (X) with $Y = -0.0015 (X) + 0.1928$) ($r^2 = 0.845$) and transparency (X) with $Y = 0.0035 (X) + 0.0258$ ($r^2 = 0.938$ ).