

ABSTRAK

Aktivitas masyarakat sekitar Sungai Tajum dapat menyebabkan masuknya Pb ke dalam sungai. Pb adalah salah satu jenis logam berat yang tidak dibutuhkan oleh makhluk hidup dan pada jumlah tertentu dapat menimbulkan masalah kesehatan. Penelitian ini bertujuan untuk mengetahui kandungan Pb dalam matriks air, sedimen, dan ikan Nilem (*Osteochilus hasselti*), serta mengetahui tingkat pencemaran Pb berdasarkan *Contamination Factor* (CF), *Index of Geoaccumulation* (Igeo), dan *Potential Ecological Risk Index* (PERI), *Bioaccumulation Factor* (BAF), *Estimated Daily Intake* (EDI), *Target Hazard Quotient* (THQ) dan *Target Cancer Risk* (TCR) di Sungai Tajum. Metode penelitian yang digunakan adalah metode survei. Teknik pengambilan sampel menggunakan *purposive random sampling* pada 5 stasiun. Hasil analisis data yang didapat adalah Kandungan Pb di Sungai Tajum pada matriks air berkisar antara 0,008-0,025 mg/l, sedimen berkisar antara 0,315-0,525 mg/kg, dan pada ikan Nilem (*O. hasselti*) berkisar antara 0,022-0,046 mg/kg. Tingkat cemaran Pb di Sungai Tajum berdasarkan CF, Igeo, PERI, menunjukkan kategori kontaminasi rendah dan tidak menimbulkan resiko ekologis, bedasakan BAF ikan Nilem di Sungai Tajum memiliki kemampuan untuk mengakumulasi Pb, berdasarkan nilai EDI, THQ dan TCR kandungan Pb pada ikan nilem tidak menimbulkan resiko kesehatan dan kanker. Hal tersebut menunjukkan bahwa konsumsi ikan Nilem yang berada di Sungai Tajum aman dan tidak menimbulkan resiko kesehatan.

Kata kunci : Sungai Tajum, Logam berat Pb, Air, Sedimen, Ikan Nilem (*O. hasselti*)

ABSTRACT

Some anthropogenic activities around the Tajum River can cause the input of Pb in river. Lead is a non essential of heavy metal and in certain amount can cause health problems. This study aimed to determine the Pb content in the matrix of water, sediment, and Nilem fish, as well as the level of Pb pollution based on the value of Contamination Factor (CF), Index of Geoaccumulation (Igeo), and Potential Ecological Risk Index (PERI), Bioaccumulation Factor (BAF), Estimated Daily Intake (EDI), Target Hazard Quotient (THQ) and Target Cancer Risk (TCR) in Sungai Tajum. The research method used was a survey method. The sampling technique used was purposive random sampling at 5 stations. The results showed that the Pb content in the Tajum River in the water matrix ranged from 0.008-0.025 mg/l, sediment ranged from 0.315-0.525 mg/kg, and in Nilem fish ranged from 0.022-0.046 mg/kg. The level of Pb contamination in the Tajum River based on CF, Igeo, and PERI, showed a low contamination category and does not pose an ecological risk. Based on value Nilem fish in the Tajum River have the ability to accumulate Pb, based on EDI, THQ, and TCR values the Pb content in Nilem fish does not cause health and cancer risks. This shows that the consumption of Nilem fish in the Tajum River is safe and does not pose a health risk.

Key words: Tajum River, Pb Heavy Metal, Water, Sediment, Nilem Fish (*O. hasselti*)

