ABSTRAK

Penelitian kandungan logam berat Cd bertujuan untuk mengetahui tingkat pencemaran pada air berdasarkan nilai *Single Pollution Index* (Pi), pada sedimen berdasarkan nilai *Contamination Factor* (CF); *Geoaccumulation Index* (Igeo), dan pada ikan belanak berdasarkan nilai *Bioaccumulation Factor* (BAF). Metode yang digunakan adalah metode survey dengan teknik *purposive random sampling*. Lokasi penelitian di Plawangan Timur Segara Anakan dibagi menjadi 5 stasiun, yaitu muara Sungai Kembang Kuning, muara Sungai Sapuragel, pertemuan dua sungai, muara Sungai Donan, dan pertemuan tiga sungai. Kandungan logam berat Cd pada air berkisar 0,0018 – 0,0057 mg/L dengan rataan 0,0051 ± 0,000189 mg/L, pada sedimen berkisar 2,1338 - 4,0903 mg/kg dengan rataan 3,9642 ± 0,06455 mg/kg, dan pada ikan belanak berkisar 0,0079 – 0,0190 mg/kg dengan rataan 0,0173 ± 0,000915 mg/kg. Tingkat pencemaran berdasarkan Pi bervariasi, dari tercemar ringan sampai tercemar berat. Berdasarkan nilai CF terkategori kontaminasi sangat tinggi; berdasarkan Igeo terkategori tercemar sedang – tercemar berat sampai tercemar berat. Nilai BAF menunjukkan kemampuan ikan belanak untuk mengakumulasi logam berat dalam tubuhnya. Analisis korelasi antara kandungan logam berat Cd pada media air dan sedimen menunjukkan hasil yang negatif, yaitu jika konsentrasi logam berat Cd dalam air meningkat maka konsentrasi logam berat Cd dalam sedimen akan menurun. Sedangkan antara media air dengan ikan belanak menunjukkan hasil korelasi positif yaitu yaitu jika konsentrasi logam berat Cd dalam air meningkat maka konsentrasi logam berat Cd dalam ikan belanak juga meningkat. Maka sebaiknya untuk perairan secara umum perlu dimonitoring agar bisa recovery dengan adanya penekanan pada peraturan yang telah ditetapkan.

Kata Kunci : *Plawangan Timur Segara Anakan; logam berat; pencemaran air; sedimen; ikan belanak.*

ABSTRACT

Research on the content of heavy metal Cd in water, sediment and mullet fish media aims to determine the level of pollution in water based on the Single Pollution Index (Pi) value, in sediments based on the Contamination Factor (CF) value; Geoaccumulation Index (Igeo), and in mullet fish based on the value of Bioaccumulation Factor (BAF). The method used is a survey method with purposive random sampling technique. The research location in Plawangan Timur Segara Anakan is divided into 5 stations, namely the estuary of the Kembang Kuning River, the estuary of the Sapuragel River, the confluence of two rivers, the estuary of the Donan River, and the confluence of three rivers. The content of heavy metal Cd in water ranges from 0.0018 - 0.0057 mg/L with an average of 0.0051 ± 0.000189 mg/L, in sediments it ranges from 2.1338 - 4.0903 mg/kg with an average of 3.9642 ± 0 0.06455 mg/kg, and in mullet it ranged from 0.0079 to 0.0190 mg/kg with an average of 0.0173 ± 0.000915 mg/kg. The level of pollution based on Pi varies, from lightly polluted to heavily polluted. Based on the CF value, the contamination was categorized as very high; based on Igeo categorized as moderately polluted – heavily polluted to heavily polluted. The BAF value indicates the ability of mullet fish to accumulate heavy metals in its body. The correlation analysis between the Cd heavy metal content in the water medium and the sediment showed negative results, namely if the Cd heavy metal concentration in the water increased, the Cd heavy metal concentration in the sediment would decrease. Meanwhile, between water media and mullet fish showed a positive correlation, namely if the concentration of heavy metal Cd in water increased, the concentration of heavy metal Cd in mullet also increased. So it is better for waters in general to be monitored so that they can recover with an emphasis on the regulations that have been set.

Key Words : *Plawang Timur Segara Anakan; heavy metal; water pollution; sediment; mullet fish.*