

## ABSTRAK

Plawangan Timur merupakan wilayah dengan karakteristik tingginya aktivitas industri, transportasi, dan domestik sehingga dapat menghasilkan limbah logam berat Hg. Penelitian ini bertujuan untuk mengetahui kandungan logam berat Hg pada media air, sedimen dan ikan di perairan Plawangan Timur, Segara Anakan serta untuk mengetahui tingkat pencemaran logam berat Hg berdasarkan nilai *Pollution Index* (PI), *Contamination Factor* (CF), *Index Geoaccumulation* (Igeo), dan *Bioaccumulation Factor* (BAF). Penelitian menggunakan metode survei dengan teknik pengambilan sampel *Purposive Random Sampling* di 5 stasiun. Hasil analisis data menunjukkan bahwa kandungan logam berat Hg pada media air berkisar 0,0006-0,0019 mg/L, media sedimen berkisar 0,55-0,80 mg/kg dan pada ikan belanak berkisar 0,0018-0,0042 mg/kg. Kandungan Hg pada media air dan ikan belanak masih di bawah nilai ambang batas aman, sedangkan kandungan Hg pada media sedimen telah melebihi nilai ambang batas aman. Analisis korelasi koefisien Pearson (R) menunjukkan korelasi linier positif dengan keeratan sangat lemah dan lemah untuk Hg pada air dengan sedimen, serta Hg pada air dengan ikan belanak. Perairan Plawangan Timur tergolong tidak tercemar-sedikit tercemar berdasarkan nilai PI, dan kontaminasi sedang-tinggi berdasarkan nilai CF serta kategori tercemar ringan-sedang berdasarkan nilai Igeo. Nilai BAF menunjukkan ikan belanak mengakumulasi Hg pada tubuhnya. Mengacu pada hasil penelitian, upaya pengelolaan perairan Plawangan Timur Segara Anakan Cilacap sudah baik namun perlu lebih ditingkatkan lagi.

*Kata Kunci* : Plawangan Timur, Logam Berat Hg, Air, Sedimen, Ikan Belanak (*Planiliza subviridis*)

## ABSTRACT

East Plawangan is a area with characteristics of high industrial, transportation, and domestic activities that can produce heavy metal Hg waste. The research was aimed to analyse the difference and correlation of Hg heavy metal in the water, sediment and mullet fish among stations and to know pollution levels based on Pollution Index (PI), Contamination Factor (CF), Index Geoaccumulation (Igeo), and Bioaccumulation Factor (BAF). Method of this research was a survey method by purposive random sampling technique in five stations and four replications. The result that of Hg heavy metals in the water was 0,0006 - 0,0019 mg/L, in the sediment range between 0,55 - 0,80 mg/kg and the mullet fish was 0,0018 - 0,0042 mg/kg. The content of Hg in water and mullet fish media is still below the safe standard value, meanwhile in the sediment is above the safe standard value. The analysis of correlation coefficient Pearson (R) showed a positive linier correlation with very weak and weak closeness for Hg in water and sediment, as well as Hg in water and mullet fish. East Plawangan are classified as unpolluted-slightly polluted based on PI values, middle-high contamination based on CF and slightly polluted based on Igeo values. BAF values indicate the mullet fish accumulated Hg on its body. Referring to the results of the research, efforts to manage the waters of East Plawangan Segara Anakan Cilacap have been good but need to be further improved.

*Keywords* : East Plawangan, Heavy metal Hg, Water, Sediment, Mullet Fish (*Planiliza subviridis*)