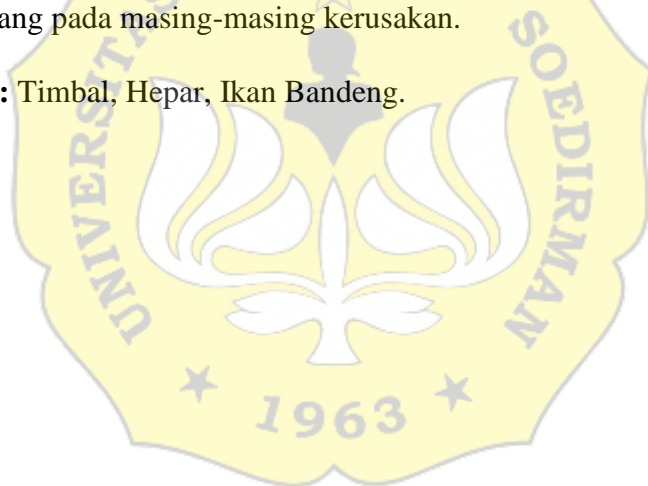# ABSTRAK

Pertambakan bandeng Tugurejo Semarang memperoleh sumber air dari aliran Sungai Tapak yang merupakan tempat pembuangan limbah cair dari sentra industri. Hal tersebut menyumbang keberadaan logam berat timbal Pb di lingkungan kemudian terakumulasi dalam biota dan menyebabkan kerusakan organ. Tujuan penelitian ini mengetahui kadar logam berat timbal dalam media air dan kerusakan struktur mikroanatomi hepar ikan bandeng antar stasiun, serta hubungan keduanya. Metode *survey* diterapkan dengan teknik *Stratified Random Sampling*. Lokasi pengambilan sampel dibedakan menjadi 4 stasiun dan 4 ulangan. Data kadar logam berat timbal dan skoring kerusakan hepar dianalisis ANOVA, kemudian data keduanya dianalisis dengan Uji Korelasi. Hasil pengukuran kadar logam timbal berkisar 0,0142-0,1069 mg/L. Hasil skoring kerusakan hepar yaitu degenerasi lemak 0-1; degenerasi hidrofik 0-2; hemoragi 0-3; kongesti 0-3; dan nekrosis 0-2. Hasil korelasi keduanya yaitu degenerasi lemak $R^2 = 0,4030$; degenerasi hidrofik $R^2 = 0,4666$; hemoragi $R^2 = 0,3988$; kongesti $R^2 = 0,4376$; dan nekrosis $R^2 = 0,2279$. Berdasarkan ANOVA, kadar logam timbal tidak *significant* (P>0,05). Skoring kerusakan degenerasi lemak dan degenerasi hidrofik tidak *significant* (P>0,05), tetapi, hemoragi, kongesti, dan nekrosis *significant* (P<0,05). Berdasarkan Uji Korelasi, kadar logam timbal memberikan korelasi positif dengan keeratan sedang pada masing-masing kerusakan.

Kata kunci : Timbal, Hepar, Ikan Bandeng.

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ABSTRACT

Milkfish estuary ponds in Tugurejo Semarang obtain water from the Tapak River containing disposal waste from nearby industries. These contribute to the existence of lead heavy metals in the environment which could be accumulated in biota and could damage their organs. This study was to determine the levels of lead metal in water and microanatomy structure damage of milkfish liver among stations and its corellationship. A survey method, applying Stratified Random Sampling technique, was run in four stations with quadruplicates. Data on lead metal levels and liver damage scoring were F-tested with ANOVA, then consequently the data were analyzed for correlation. The results showed that lead metal content ranged from 0.0142-0.1069 mg/L. Liver damage scores were degeneration 0-1; hydrophic degeneration 0-2; hemorrhage 0-3; congestion 0-3; and necrosis 0-2. The correlation among them as followed: fat degeneration possessed $R^2 = 0.4030$; hydrophic degeneration $R^2 = 0.4666$; hemorrhage $R^2 = 0.3988$; congestion $R^2 = 0.4376$; and necrosis $R^2 = 0.2279$. From ANOVA, lead metal content was not significant ($P>0.05$) in inter-stations, damage scores of fat and hydrophic degenerations was not significant ($P>0.05$). However, hemorrhage, congestion, and necrosis were significantly different ($P<0.05$). Metal lead contents correlated positively with each damage score.

Keywords : Lead, Liver, Milkfish.