RINGKASAN

Kadmium merupakan salah satu komponen penyusun zat pewarna dalam industri batik, bersifat toksik dan sulit terurai. Perairan yang tercemar kadmium dapat berdampak pada biota air. *Melanoides turricula* merupakan gastropoda yang banyak ditemukan di Sungai Wangan, dan bersifat bioakumulator kuat dalam mengakumulasi logam berat. Penelitian ini bertujuan untuk menganalisis konsentrasi dan korelasi kadmium pada *M. turricula* dan air sungai Wangan. Penelitian yang dilakukan di Sungai Wangan, Sokaraja menggunakan metode survei. Obyek penelitian yang digunakan yaitu *M. turricula* dan air Sungai Wangan. Variabel bebas yang diamati yaitu konsentrasi kadmium air Sungai Wangan dan variabel terikat yaitu konsentrasi kadmium dalam tubuh *M. turricula*. Parameter utama yang diukur adalah konsentrasi kadmium pada tubuh *M. turricula* dan konsentrasi kadmium air Sungai Wangan, sedangkan parameter pendukung meliputi suhu, pH, dan BOD (*Biochemical Oxygen Demand*). Pengambilan sampel dilakukan sebanyak 4 kali ulangan selama 4 bulan pada 3 stasiun pengamatan, yang terdiri dari area sebelum dan setelah mendapat masukkan limbah, serta di area pembuangan limbah. Hubungan korelasi kadmium pada *M. turricula* dan di air Sungai Wangan dianalisis menggunakan *Spearman's Rank Correlation Analysis*.

Hasil penelitian menujukkan bahwa kadmium di *M. turricula* maupun air sungai pada area stasiun sebelum mendapat masukkan limbah memiliki konsentrasi kadmium yang terendah sebesar 2,075 µg/g dan 0,750 µg/L. Area stasiun pembuangan limbah memiliki konsentransi kadmium tertinggi pada *M. turricula* maupun air sungai yaitu sebesar 6,450 µg/g dan 1,050 µg/L, sedangkan konsentransi kadmium air sungai dan *M. turricula* di area setelah mendapat masukkan limbah sebesar 4,600 µg/g dan 0,875 µg/L. Berdasarkan *Spearman's Rank Correlation Analysis* menunjukkan adanya korelasi kuat antara konsentrasi kadmium *M. turricula* dengan air sungai.

Kata Kunci: *sungai, kadmium, konsentrasi, korelasi, Melanoides turricula.*

SUMMARY

Cadmium usually use as a commound in coloring agents that commonly used in industry. It's toxic and undistangleable in water. The polluted water will give the bad effects to the biota and human too. Melanoides turricula is kind of gastropod, acts as a strong bio accumulator in accumulating heavy metals. The purpose of this research is to analyze the concentration of kadmium and its correlation with the existence of M turricula on Wangan River. This research was done in Wangan River, Sokaraja. The research method that is used is survey method. The objects of the research are *M. turricula* and Wangan River's water. The independent variable that has been observed is the concentration of cadmium in Wangan River's water and the dependent variable is the concentration of cadmium in *M. turricula*'s body. The main parameters measured are the concentration of cadmium on both *M. turricula*'s body and Wangan River's water. The supporting parameters are temperatures, pH and BOD (*Biochemical Oxygen Demand*). The samples are taken four times in four months on three observations station. Those are the unclouded area, the polluted area and the waste disposal area. The correlation between the concentration of cadmium in *M. turricula*'s body and the water of Wangan River is analyzed by *Spearman Rank's Correlation Analysis*.

The result of the research shows that there are lowest cadmium concentration on the *M. turricula* and river's water, before given any waste, around 2.075 µg/g and 0.750 µg/L. In the area of waste disposal station, there are the highest cadmium concentration on the *M. turricula* and also on the river's water around 6.450 µg/g and 1.050 µg/L. Meanwhile the cadmium concentration on the *M. turricula* and on the river's water, after given waste, are around 4.600 µg/g and 0.875 µg/L. Based on Spearman's Rank Correlation Analysis, it is shown that there is a correlation between cadmium concentration with *M. turricula* and river's water.

Keywords: *cadmium, concentration, correlation, Melanoides turricula, river*.