

ABSTRAK

Aktivitas alami dan antropogenik di sekitar Perairan Segara Anakan menjadi sumber masuknya logam berat Pb dan Zn serta berdampak pada kerang totok (*Polymesoda erosa*) sebagai organisme *sessile* dan *filter feeder*. Penelitian ini bertujuan untuk mengetahui kandungan logam berat pada daging kerang, mengetahui hubungan antara kandungan logam berat pada individu kerang dengan ukuran kerang, serta mengetahui potensi risiko kesehatan manusia berdasarkan *Estimated Daily Intake* (EDI), *Target Hazard Quotient* (THQ), dan *Target Cancer Risk* (TR) akibat mengonsumsi kerang totok. Metode pengambilan sampel menggunakan metode survey dan *purposive random sampling* pada 6 stasiun dengan 2 ulangan. Metode analisis kandungan logam berat pada daging kerang menggunakan *Atomic Absorption Spectrometer* (AAS). Hasil penelitian menunjukkan bahwa rata-rata kandungan Pb pada daging kerang totok adalah 0,015 – 0,036 mg/kg yang masih di bawah standar baku mutu berdasarkan BPOM Nomor 9 Tahun 2022 sebesar 1,0 mg/kg. Sedangkan rata-rata kandungan Zn adalah 0,112 – 0,210 mg/kg dan masih di bawah standar baku mutu berdasarkan BPOM No.03725/B/SK/VII/1989 sebesar 100 mg/kg. Berdasarkan persamaan regresi linear, hubungan antara kandungan logam Pb dan Zn dengan ukuran kerang memiliki nilai *slope* (b) positif dan korelasi (r) kuat. Nilai EDI logam Pb dan Zn masih di bawah RfD yang mengindikasikan masih dalam batas aman. THQ logam Pb dan Zn bernilai < 1 dan TR berada pada kategori $TR < 10^{-6}$ yang menunjukkan bahwa tidak ada risiko non-karsinogenik dan karsinogenik akibat konsumsi kerang.

Kata kunci: Perairan Segara Anakan; logam berat Pb dan Zn; kerang totok (*P. erosa*); ukuran kerang; potensi risiko kesehatan.

ABSTRACT

Natural and anthropogenic activities surrounding Segara Anakan Lagoon are sources of Pb and Zn heavy metal inputs and affect mud clam (*Polymesoda erosa*) as sessile and filter feeder animals. This research intended to determine the heavy metal content in clam meat, the correlation between heavy metal content in the clam and clam size, and the potential human health risks associated with consuming mud clam based on *Estimated Daily Intake* (EDI), *Target Hazard Quotient* (THQ), and *Target Cancer Risk* (TR). The sampling method employed for the survey was purposive random sampling at six stations with two repetitions. The heavy metal content in clam meat was analysed using *Atomotic Absorption Spectrometer* (AAS). The study's findings indicated that the average Pb content in mud clam meat was between 0,015 to 0,036 mg/kg, which was below the quality standard established by NA-DFC Number 9 of 2022, which was 1 mg/kg. On the other hand, the average Zn content was between 0,112 to 0,210 mg/kg, which was below the NA-DFC No.03725/B/SK/VII/1989 quality standard of 100 mg/kg. The linear regression equation demonstrates a positive slope (b) value and a strong correlation (r) between Pb and Zn metal content and clam size. The EDI values of Pb and Zn metals were below the RfD, indicating they were within a safe boundary. THQ of Pb and Zn metals are < 1, and TR was < 10^{-6} , revealing that clam consumption poses no non-carcinogenic or carcinogenic risk.

Keywords: Segara Anakan Lagoon; heavy metals Pb and Zn; mud clam (*P. erosa*); clam size; potential health risks.