

ABSTRAK

Berbagai aktivitas masyarakat seperti transportasi, pelabuhan dan kegiatan industri kilang minyak berkontribusi pada peningkatan potensi pencemaran petroleum hidrokarbon di ekosistem mangrove Segara Anakan. Penelitian ini bertujuan untuk menganalisis TPH pada sedimen dan air, menganalisis *Bioaccumulation Factor* (BAF), *Translocation Factor* (TF), TPH pada mangrove *Xylocarpus granatum* dan *Aegiceras corniculatum*, serta menganalisis visualisasi akumulasi TPH. Metode pengambilan sampel yaitu *random sampling* berdasarkan keberadaan mangrove pada setiap lokasi pengambilan di 3 stasiun dengan 3 ulangan. Metode analisis data menggunakan analisis deskriptif kuantitatif. Hasil penelitian menunjukkan bahwa rata-rata konsentrasi TPH pada air adalah $166,7 \pm 57,7$ mg/L - $366,7 \pm 251,7$ mg/L yang berada di atas baku mutu berdasarkan PP RI nomor 22 tahun 2021 untuk air sebesar 0,02 mg/L. Sedangkan rata-rata konsentrasi TPH pada sedimen adalah $56666,7 \pm 2081,7$ mg/kg - $79633,3 \pm 5598,5$ mg/kg yang berada di atas baku mutu berdasarkan ANZECC, CCME dan NOAA yaitu 150-5600 mg/kg. Konsentrasi TPH pada mangrove *X. granatum* memiliki nilai rata-rata tertinggi sebesar $18100 \pm 1909,9$ mg/kg dan $15966,7 \pm 2801,9$ mg/kg daripada konsentrasi TPH pada mangrove *A. corniculatum* yaitu sebesar $11800 \pm 2066,7$ mg/kg. Berdasarkan perhitungan BAF dan TF pada kedua jenis mangrove tersebut relatif tidak mampu dalam mengakumulasi dan mentranslokasi senyawa TPH pada organnya.

Kata kunci: *Aegiceras corniculatum*; BAF dan TF; Perairan Segara Anakan; Total petroleum hidrokarbon; *Xylocarpus granatum*

ABSTRACT

The community activities such as transportation, ports and oil refinery industry give contribute to increasing the potential of petroleum hydrocarbon pollution in the Segara Anakan mangrove ecosystem. This study aimed to analyze TPH in sediment and water, analyze the Bioaccumulation Factor (BAF), Translocation Factor (TF), potential of TPH in *Xylocarpus granatum* and *Aegiceras corniculatum* mangroves, and analyze the visualization of TPH accumulation. Sampling method used random sampling based on the presence of mangroves at each sampling location at 3 stations with 3 replications. The data analysis method used quantitative descriptive analysis. The results showed that the average TPH content in water was 166.7 ± 57.7 mg/L - 366.7 ± 251.7 mg/L more than the quality standard based on PP RI number 22 of 2021 which potential of water TPH of 0.02 mg/L. Meanwhile, the average TPH content in sediment was 56666.7 ± 2081.7 mg/kg - 79633.3 ± 5598.5 mg/kg which was above the quality standard based on ANZECC, CCME and NOAA, which was 150-5600 mg/kg. The TPH content in the mangrove *X. granatum* had the highest average value of 18100 ± 1909.9 mg/kg and 15966.7 ± 2801.9 mg/kg than the TPH content in the mangrove *A. Corniculatum*, which was 11800 ± 2066.7 mg/kg. Based on the BAF and TF calculations, both types of mangroves were relatively unable to accumulate and translocate TPH compounds in their organs.

Keywords: *Aegiceras corniculatum*; BAF and TF; Segara Anakan Lagoon; Total petroleum hydrocarbon; *Xylocarpus granatum*