

ABSTRAK

Segara Anakan, Cilacap merupakan kawasan yang didominasi oleh ekosistem mangrove dan berperan dalam menjaga keseimbangan lingkungan, termasuk sebagai agen fitoremediasi terhadap polutan *Total Petroleum Hydrocarbon* (TPH). Penelitian ini bertujuan untuk menganalisis konsentrasi TPH pada air, sedimen, dan spesies mangrove *Avicennia marina* dan *Excoecaria agallocha* serta potensi BAF dan TF mangrove terhadap TPH. Metode yang digunakan pada penelitian ini yaitu deskriptif kuantitatif dan penentuan lokasi pengambilan sampel menggunakan metode *random sampling* pada tiga stasiun. Hasil penelitian menunjukkan nilai TPH tertinggi pada air terdapat di sekitar Industri Minyak (266,67 mg/L) dan nilai terendah terdapat di Plawangan Timur dan Sleko Barat (133,33 mg/L). Kemudian, hasil konsentrasi TPH tertinggi pada sedimen terdapat di sekitar Industri Minyak (65.666,7 mg/kg) dan nilai terendah terdapat di Plawangan Timur (45.666,7 mg/kg). Konsentrasi TPH pada spesies *Avicennia marina* memiliki nilai rata-rata tertinggi ($13.666,7 \pm 2.668,8$ mg/kg), dibandingkan dengan spesies *Excoecaria agallocha* ($8.466,7 \pm 1.565,7$ mg/kg). Konsentrasi TPH pada air dan sedimen di semua stasiun telah melewati baku mutu menurut PP No. 22 tahun 2021 untuk air dan menurut ANZECC dan ARMCANZ 2000 untuk sedimen. Nilai BAF dan TF dari kedua spesies tersebut memiliki nilai ≤ 1 yang artinya tumbuhan kurang memiliki kemampuan dalam mengakumulasi dan mentranslokasi kontaminan TPH dalam organnya.

Kata kunci: Akumulasi, *Avicennia marina*, *Excoecaria agallocha*, Hidrokarbon, Mangrove, Segara Anakan.

ABSTRACT

The Segara Anakan, Cilacap is an area dominated by mangrove ecosystems and plays a role in maintaining environmental balance, including as a phytoremediation agent against Total Petroleum Hydrocarbon (TPH) pollutants. This study aims to analyze the concentration of TPH in water, sediment, and mangrove species *Avicennia marina* and *Excoecaria agallocha* as well as the potential of BAF and TF mangroves against TPH. The method used in this study is quantitative descriptive and the determination of sampling locations using a random sampling method at three stations. The results showed that the highest TPH value in water was found around the Oil Industry (266.67 mg/L) and the lowest value was found in East Plawangan and West Sleko (133.33 mg/L). Then, the results of the highest TPH concentration in sediment were found around the Oil Industry (65,666.7 mg/kg) and the lowest value was found in East Plawangan (45,666.7 mg/kg). The average TPH concentration in *Avicennia marina* ($13,666.7 \pm 2,668.8$ mg/kg) was highest compared to *Excoecaria agallocha* ($8,466.7 \pm 1,565.7$ mg/kg). TPH concentrations in water and sediment at all stations exceeded the quality standards set by Government Regulation No. 22 of 2021 for water and by ANZECC and ARMCANZ 2000 for sediment. The BAF and TF values of both species were ≤ 1 , indicating that the plants lack the ability to accumulate and translocate TPH contaminants in their organs.

Keywords: Accumulation, *Avicennia marina*, *Excoecaria agallocha*, Hydrocarbon, Mangrove, Segara Anakan.

