ABSTRAK

Kondisi perairan laut dan pesisir Indonesia berpotensi tercemar oleh polutan minyak bumi (*crude oil*) yang disebabkan oleh berbagai kegiatan melaut dan industri perminyakan. Hal ini berdampak terhadap biodata laut, salah satunya yaitu lobster pasir (*Panulirus homarus*). Pencemaran *crude oil* dapat mempengaruhi tingkah laku *P. homarus* terutama produksi dan karakteristik suara lobster tersebut. Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi pencemaran minyak bumi (*crude oil*) yang berbeda terhadap produksi suara lobster pasir (*Panulirus homarus*). Penelitian ini dilakukan dengan menggunakan metode observasi laboratorium dengan tahap persiapan, pengamatan dan analisis data. Tahap pertama terdiri dari pengambilan lobster, pemindahan lobster ke laboratorium, aklimatisasi, persiapan instrument dan laboratorium bioakustik. Tahap kedua yaitu proses kontaminasi *crude oil* dengan konsentrasi 1 ppm, 5 ppm, 10 ppm dan 100 ppm secara berkelanjutan dan diulang sebanyak 3 kali. Tahap ketiga yaitu perekaman dan pengamatan. Tahap keempat yaitu pengolahan data suara dan analisis data. Tahap analisis data menggunakan algoritma. Data yang sudah didapat diolah dan dianalisis dengan analisis regresi linear sederhana. Hasil penelitian menunjukan bahwa terdapat 4 jenis karakteristik suara lobster *Panulirus homarus* terhadap kontaminasi *crude oil* yaitu *popping, squeaking, slow rattle* dan RASP. Produksi suara lobster mengalami penurunan selama penambahan *crude oil*.

Kata kunci : *Panulirus homarus*, *crude oil*, produksi suara, karakteristik suara.

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ABSTRACT

The condition of Indonesia's seas and coastal waters has the potential to be polluted by crude oil pollutants caused by various maritime activities and the petroleum industry. This has an impact on marine biodata, one of which is the sand lobster (*Panulirus homarus*). Crude oil contamination can affect the behavior of P. homarus, especially the production and sound characteristics of the lobster. This study aims to determine the effect of different concentrations of crude oil pollution on the sound production of sand lobsters (*Panulirus homarus*). This research was conducted using laboratory observation methods with the preparation, observation and data analysis stages. The first stage consists of collecting lobsters, transferring lobsters to the laboratory, acclimatization, instrument preparation and bioacoustic laboratory. The second stage is the process of contamination of crude oil with concentrations of 1 ppm, 5 ppm, 10 ppm and 100 ppm continuously and repeated 3 times. The third stage is recording and observation. The fourth stage is sound data processing and data analysis. The data analysis phase uses an algorithm. The data that has been obtained is processed and analyzed by simple linear regression analysis. The results showed that there were 4 types of sound characteristics of Panulirus homarus lobsters against crude oil contamination, namely popping, squeaking, slow rattle and RASP. Lobster sound production decreased during the addition of crude oil.

Keywords : *Panulirus homarus*, crude oil, sound production, sound characteristics.