

Budi, Setyo. 2007. **Diversitas Diatom Planktonik di Perairan Sekitar Lokasi Pengeboran Minyak dan Gas Bumi Weru, Lamongan, Jawa Timur**. Skripsi di bawah bimbingan Prof. Dr. Ir. Agoes Soegianto, DEA dan Drs. Moch. Affandi, M.Si. Jurusan Biologi Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Airlangga, Surabaya.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui keanekaragaman dan dominansi genus diatom planktonik saat ada dan tidak ada kegiatan pengeboran eksplorasi di perairan Weru, Lamongan, Jawa Timur, serta dampak aktivitas pengeboran eksplorasi terhadap diversitas dan dominansi diatom planktonik. Sampel plankton diperoleh dari 4 stasiun di sekitar lokasi pengeboran. Sebanyak 450 liter air laut disaring dengan jaring plankton standar, sampel plankton ditampung dalam botol sampel dan difiksasi larutan formalin 4%. Sampel plankton diamati dan dianalisis untuk mendapatkan data genus, indeks dominansi, dan indeks diversitas. Ada 19 genus diatom planktonik yang teridentifikasi dari perairan Weru, Lamongan, dengan indeks diversitas total saat tidak ada kegiatan pengeboran sebesar 0,45 dan 2,21 pada saat ada kegiatan pengeboran. Indeks diversitas pada masing-masing stasiun berkisar antara 0,21-0,55 saat tidak ada kegiatan pengeboran dan antara 2,00-2,13 saat ada kegiatan pengeboran. Komunitas diatom planktonik pada saat tidak ada kegiatan didominasi oleh *Skeletonema* (90%) dan *Chaetoceros* (6%), sedangkan saat ada kegiatan pengeboran didominasi oleh *Rhizosolenia* (25%), *Biddulphia* (19%), *Dytilum* (13%), *Chaetoceros* (10%), *Bacteriastrum* (9%), dan *Coscinodiscus* (8%). Disimpulkan bahwa tingkat keanekaragaman diatom planktonik saat ada kegiatan pengeboran tergolong tinggi, sedangkan tingkat keanekaragaman saat tidak ada kegiatan pengeboran tergolong sangat rendah. Terjadi perbedaan dominansi Genus diatom planktonik saat ada kegiatan pengeboran dan saat tidak ada kegiatan pengeboran. Genus *Skeletonema* hanya dominan pada saat tidak ada kegiatan pengeboran. Sedangkan genus *Rhizosolenia*, *Biddulphia*, *Dytilum*, *Bacteriastrum*, dan *Coscinodiscus* hanya dominan saat ada kegiatan pengeboran. Saat ada kegiatan pengeboran genus yang mempunyai nilai dominansi tertinggi adalah *Rhizosolenia* (25%), sedangkan saat tidak ada kegiatan pengeboran genus yang mempunyai dominansi tertinggi adalah *Skeletonema* (90%). Ada dampak aktivitas pengeboran eksplorasi terhadap diversitas dan dominansi diatom planktonik.

Kunci : diatom, planktonik, pengeboran eksplorasi, Weru.

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ABSTRACT

The purposes of this research was to know The diversity and dominance of planktonic diatom when there was and there wasn't an exploratory activity in Weru, Lamongan, East Java, also the effect of exploratory activity on diversity and dominancy of plantonic diatom. The sample was collected from 4 station around exploratory activity site. About 450 litre of sea was filterized using standart plankton net, the sample was put into bottle and was kept using formalin with concentration 4%. The sample was observed ang was identified to get the data of genus, dominancy index, and diversity index. There are 19 genus of planktonic diatoms that was identified from Weru, Lamongan with total diversity index when there wasn't an exploratory activity is 0,45 and 2,21 when there was an exploratory activity. Diversity index for each station about 0,21-0,55 when there wasn't an exploratory activity and about 2,00-2,13 when there was an exploratory activity. Community of planctonic diatom when there wasn't an exploratory activity are dominated by Skeletonema (90%) and Chaetoceros (6%), meanwhile when there was an exploratory activity are dominated by Rhizosolenia (25%), Biddulphia (19%), Dytillum (13%), Chaetoceros (10%), Bacteriastrum (9%), and Coscinodiscus (8%). Concluded that the diversity of plantonic diatom when there was an exploratory activity are high, meanwhile the diversity of plantonic diatom when there wasn't an exploratory activity are very low. There are difference of plantonic diatom dominancy when there was and there wasn't an exploratory activity. Genus Skeletonema only dominate when there wasn't an exploratory activity, meanwhile genus by Rhizosolenia, Biddulphia, Dytillum, Chaetoceros, Bacteriastrum, and Coscinodiscus just dominate when there was an exploratory activity. when there was an exploratory activity, genus which has highest value of dominancy is Rhizosolenia (25%). Meanwhile when there wasn't an exploratory activity, genus wjich has the highest value of dominancy is Skeletonema (90%). There effect of exploratory activity on diversity and dominancy of plantonic diatom.

Keyword : Diatom, Planktonik, exploratory drilling, Weru.