

Septyasari; Retno, 2007, **Pendugaan Kualitas Perairan Sungai dengan Menggunakan Indeks Biotik**. 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

Pendugaan kualitas perairan penting untuk dilakukan, mengingat air merupakan substansi yang sangat vital dibutuhkan oleh makhluk hidup, baik manusia, hewan, maupun tumbuhan. Penelitian ini bertujuan untuk mengetahui komposisi hewan benthos makro, indeks biotik, dan tingkat pencemaran sungai berdasarkan indeks biotik pada perairan sungai di Coban Talun Malang dan perairan sungai Kali Mas Surabaya. Sampel hewan benthos makro di Coban Talun Malang diambil pada tiga stasiun penelitian menggunakan alat *Surber net*. Pengambilan sampel hewan benthos makro di Kali Mas Surabaya dilakukan pada tiga stasiun penelitian dengan menggunakan *Ponar grab*. Pengambilan sampel dilakukan satu kali dengan dua kali pengambilan. Sampel hewan disaring menggunakan saringan benthos dengan *mesh* berukuran 0,5 mm. Hewan benthos makro dari setiap stasiun penelitian disortir, diidentifikasi, dan dihitung kelimpahannya. Data yang diperoleh kemudian dianalisis untuk mendapatkan indeks biotik. Hasil hewan benthos makro yang dikoleksi pada perairan sungai di Coban Talun Malang tersusun atas 9 spesies, pada perairan sungai Kali Mas Surabaya 5 spesies, dan pada kedua sungai didapatkan 12 spesies. Hasil perhitungan indeks biotik di Coban Talun Malang pada stasiun 1, 2, dan 3 secara berturut-turut adalah sebesar 7, 4, dan 5, sedangkan di Kali Mas Surabaya pada stasiun 1, 2, dan 3 secara berturut-turut adalah sebesar 2, 4, dan 3. Pendugaan tingkat pencemaran sungai di Coban Talun Malang pada stasiun 1 termasuk tercemar ringan, stasiun 3 tercemar sedang, dan stasiun 2 tercemar berat, sedangkan di Kali Mas Surabaya pada stasiun 2 dan 3 termasuk tercemar berat, dan di stasiun 1 termasuk tercemar sangat berat. Kondisi pada kedua sungai berbeda sehingga indeks biotik dan tingkat pencemaran pada kedua sungai tersebut berbeda. Indeks biotik dapat digunakan sebagai salah satu metode untuk menduga tingkat pencemaran pada sungai.

Kata kunci: hewan benthos makro, indeks biotik, tingkat pencemaran air

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ABSTRACT

The assessment of water quality was very important to be conducted, considering water was very vital substances for human being, animals, and also plants. The purpose of this research were to find out the composition of macro benthos animals, biotic index, and the level of water pollution based on biotic index in the river of Coban Talun Malang and Kali Mas river Surabaya. The sample of macro benthos animals in Coban Talun Malang were obtained on three different stations using Surber net. The sample of macro benthos animals in Kali Mas river were obtained on three different stations using Ponar grab. The samples were obtained once with twice intake. Sample filtered by benthos filter's with mesh 0,5 mm, then sorteded, identificationed, and counted the abundance. The data were analyzed to get biotic index. The macro benthos animals species were collected from the river of Coban Talun Malang were 9 species, from Kali Mas river were 5 species, and from both rivers were 12 species. The result of biotic index calculation in Coban Talun Malang gained on station 1, 2, and 3 as follow: 7, 4, and 5, whereas in Kali Mas Surabaya gained on station 1, 2, and 3 as follow: 2, 4, and 3. The water pollution level in Coban Talun Malang on station 1 considered as lightly polluted, on station 3 considered as polluted, critical situation, and on station 2 considered as heavily polluted, whereas in Kali Mas Surabaya on station 2 and 3 considered as heavily polluted, on station 1 considered as very heavily polluted. The condition of both rivers were different so biotic index and the level of water pollution from both rivers were different too. The biotic index was applicable as one of method to asses the level of water pollution rivers.

Key word: macro benthic animals, biotic index, level of water pollution