

ABSTRAK

Pesisir Kalanganyar Sidoarjo merupakan salah satu sentra komoditas ikan bandeng di Provinsi Jawa Timur. Mayoritas masyarakat menggantungkan hidupnya di kawasan ini, ragam pemanfaatan di sepanjang aliran sungai Kalanganyar seperti pemukiman, industri, pertambakan dan kolam pemancingan telah mempengaruhi kelimpahan fitoplankton dan kualitas perairan. Penelitian ini bertujuan untuk menganalisis fitoplankton dan kualitas air nitrat, fosfat, suhu, kecerahan, arus, pH dan DO di Estuari Desa Kalanganyar. Pengambilan sampel dilakukan pagi dan sore pada bulan November 2022 meliputi 3 stasiun penelitian, analisa sampel dilakukan di Laboratorium Lingkungan Sumberdaya Perairan Universitas Trunojoyo Madura. Hasil penelitian menunjukkan kelimpahan fitoplankton selama penelitian berkisar antara 16.800-42.233,3 ind/L, nitrat 0,88-1,79 mg/L, fosfat 2,21-6,5 mg/L, suhu 28,83-33°C, kecerahan 5,6-25,83cm, arus 0,39-1,03 m/s, pH 7,73-8,6, DO 2,39-3,86 mg/L. Konsentrasi nitrat, fosfat, kecerahan, DO melebihi baku mutu yang ditetapkan, adapun untuk parameter suhu dan pH masih dibawah baku mutu. Hubungan regresi antara kelimpahan fitoplankton dengan kualitas air pada pagi dan sore hari yaitu 65% dan 55%. Hasil penelitian ini dapat dijadikan sebagai dasar dalam menentukan pengelolaan perairan pada estuari Kalanganyar Sidoarjo.

Kata kunci : Fitoplankton, Nutrien, Kualitas Air, Estuari Kalanganyar

ABSTRACT

Kalanganyar Coastal Sidoarjo is one of the milkfish commodity centers in East Java Province. The majority of people depend on this area for their lives, the variety of uses along the Kalanganyar river such as settlements, industry, aquaculture and fishing ponds have affected the abundance of phytoplankton and water quality. The purpose of this study was to analyze phytoplankton and water quality of nitrate, phosphate, temperature, brightness, current, pH and DO in the Kalanganyar Village estuary. Sampling was carried out in the morning and evening in November 2022 covering 3 research stations, sample analysis was carried out at the Aquatic resources environmental laboratory, University of Trunojoyo Madura. The results showed that the abundance of phytoplankton during the study ranged from 16,800-42,233.3 ind/L, nitrate 0.88-1.79 mg/L, phosphate 2.21-6.5 mg/L, temperature 28.83-33°C, brightness 5.6-25.83cm, current 0.39-1.03 m/s, pH 7.73-8.6, DO 2.39-3.86 mg/L. The regression relationship between the abundance of phytoplankton and water quality in the morning and evening is 65% and 55%. The results of this study can be used as a basis for determining water management in the Kalanganyar Sidoarjo estuary.

Keywords: Phytoplankton, Nutrients, Water Quality, Kalanganyar Estuary