

## **DISTRIBUSI DAN KEMELIMPAHAN PLANKTON PADA MUSIM PENGHUJAN DI KOLAM BUDIDAYA AIR TAWAR, CANGKRINGAN**

**Shofura Fityah Mutaharrikah**  
**11/312950/BI/08597**

Fakultas Biologi Universitas Gadjah Mada

### **INTISARI**

Ekosistem akuatik merupakan suatu ekosistem terbuka yang membutuhkan input aliran energi secara kontinu. Plankton sebagai organisme autotrof menghasilkan materi organik melalui proses fotosintesis menjadi sumber nutrisi bagi ekosistem perairan. Penelitian ini bertujuan untuk mempelajari distribusi dan kemelimpahan plankton pada musim penghujan serta faktor yang mempengaruhinya. Penelitian ini dilakukan di 5 stasiun pengamatan: inlet, kolam induk, kolam pembesaran, kolam juvenile, dan outlet. Perhitungan kemelimpahan plankton dilakukan dengan cara menyaring sampel air sebanyak 20 L menggunakan plankton net, selanjutnya diidentifikasi menggunakan mikroskop cahaya dengan perbesaran 100x. Parameter fisiko kimia yang diukur meliputi alkalinitas, pH,  $CO_2$ , temperatur udara, temperatur air, turbiditas, jeluk, penetrasi cahaya, dan intensitas cahaya. Data dianalisa menggunakan regresi korelasi dan regresi sederhana secara *one way* ANOVA. Hasil penelitian ini menunjukkan bahwa, terdapat 30 spesies alga di 5 stasiun yang diteliti. Kemelimpahan alga tertinggi di kolam budidaya air tawar (BAT) Cangkringan adalah kolam induk dengan nilai 46.265 individu/L dan faktor yang meregulasinya adalah nutrisi, intensitas cahaya, penetrasi cahaya, temperatur air, dan pH. Musim penghujan mempengaruhi distribusi dan kemelimpahan plankton berdasarkan konsentrasi klorofil.

Kata Kunci: distribusi, kemelimpahan, plankton, fisikokimia air, kolam budidaya air tawar.

## **DISTRIBUTION AND ABUNDANCE OF PLANKTON DURING THE RAINY SEASON IN THE FRESHWATER CULTURE POND, CANGKRINGAN**

**Shofura Fityah Mutaharrikah**

**11/312950/BI/08597**

Faculty of Biology Universitas Gadjah Mada

### **ABSTRACT**

An aquatic ecosystems is an open ecosystem which needs input energy from organic material continuously. Plankton as autotroph organisms produce organic material through photosynthesis processes this called source of nutrition for an aquatic ecosystem. The research objectives were to study the distribution and abundance of plankton during the rainy season and factors that influence it. The samples were taken from 5 stations: inlet, main pond, mature pond, juvenile pond and outlet. The plankton was concentrated from 20 L water sample using plankton net then samples was observed using light microscope with 100x magnification. Physicochemical parameter smeaure were alkalinity, pH,  $CO_2$ , air temperature, water temperature, turbidity, depth, light penetration, and light intensity. Data were analyzed using regression-correlation and simple regression by one way ANOVA. The result showed that there were 30 algae species in 5 research stations. The highest algae abundance in Cangkringan freshwater culture ponds was in mature pond with density of 46,265 individual/L and the regulated factors for this abundance were light intensity, light penetration, water temperature, and pH. Rainy season affect the distribution and abundance of plankton based on chlorophyll concentrations.

Key Word: distribution, abundance, plankton, physicochemical of water, freshwater culter pond.