



Status Trofik Waduk Gajahmungkur Wonogiri Secara Spasial dan Temporal

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Abstrak

Status trofik merupakan indikator tingkat kesuburan suatu perairan yang digunakan untuk memonitor kualitas perairan. Status trofik perairan merupakan fenomena kompleks yang tidak dapat diukur dari parameter tunggal. Penelitian ini menggunakan parameter N-total, P-total, klorofil-a, transparansi air dan kemelimpahan plankton serta parameter fisiko kimia. Penelitian dilaksanakan di waduk Gajahmungkur Wonogiri. Waduk Gajahmungkur terletak di antara pegunungan karst dan terdapat Karamba Jaring Apung (KJA) di badan air. Tujuan penelitian adalah untuk membandingkan status trofik Waduk Gajahmungkur secara spasial dan temporal. Secara spasial, pengambilan sampel dilakukan di enam titik yaitu B1, B2, B3, B4, KJA 1 dan KJA 2 pada tiga kedalaman yaitu 0 m, 1 m, 4 m pada bulan kering dan 0 m, 1 m, 10 m pada bulan basah. Secara temporal, pengambilan sampel dilakukan pada bulan kering (November) dan bulan basah (Februari). Hasil penelitian menunjukkan bahwa terjadi perbedaan kondisi perairan secara spasial dan temporal. Kondisi perairan pada masing-masing titik sampling mengalami perbedaan kondisi fisik, kimia dan biologi. Hal tersebut dikarenakan interaksi faktor fisik, kimia dan biologi berbeda-beda tergantung kondisi lingkungan tiap lokasi. Kondisi perairan pada bulan kering dan bulan basah berbeda secara signifikan. Musim sangat mempengaruhi kondisi perairan, dikarenakan adanya perbedaan 1) intensitas cahaya matahari; 2) curah hujan; 3) input nutrien. Simpulan dari penelitian ini adalah 1) kondisi fisika, kimia dan biologi waduk Gajahmungkur berbeda secara spasial dan temporal; 2) Status trofik waduk Gajahmungkur berkisar dari mesotrofik hingga hipertrofik; 3) Status trofik waduk Gajahmungkur berbeda secara spasial (pada setiap lokasi baik secara vertikal maupun horizontal) maupun temporal (bulan kering dan bulan basah).

Kata kunci : waduk plankton, nutrien, eutrofikasi



Spatial and Temporal Trophic State of Gajahmungkur Reservoir, Wonogiri

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Abstract

Trophic state is a fertility indicator of waters to monitor water quality. Aquatic trophic state is a complex phenomenon that can not be measured by a single parameter. The parameters of this study were N-total, P-total, chlorophyll-a, transparency of the water and the plankton abundance and physico-chemical parameters. Research conducted at the Gajahmungkur reservoir Wonogiri, Central Java. Gajahmungkur reservoir located between karst mountains and local people use it for aquaculture activity. The aims of this research was to compare the trophic state of the reservoir Gajahmungkur spatially and temporally. Spatially, sampling was conducted at six sampling points, labelles as B1, B2, B3, B4, KJA 1 and KJA 2 at three depths is 0 m, 1 m and 4 m in dry month and 0 m, 1 m, 10 m in wet month. Temporally, sampling was conducted in the dry month (November) and the wet months (February). The results showed that there were some differences between spatial and temporal condition. Water conditions at each sampling point experience a difference in both the physical, chemical and biological. Varies depend on environmental condition around the site. Water conditions in the dry and wet months are significantly different. Season greatly affects the condition of the waters, because of differences in intensity of sunlight, rainfall and input of nutrients. The conclusions of this study were 1) condition of physics, chemistry and biology Gajahmungkur Reservoir waters tend to differ spatially and temporally; 2) Trophic state of Gajahmungkur Reservoir range from mesotrophic to hypertrophic; 3) Gajahmungkur Reservoir trophic state different spatially (at any location either vertically or horizontally) and temporal (in dry and wet months).

Keywords: reservoir, plankton, nutrients, eutrophication