ABSTRAK

Muara Sungai Serayu yang terletak di bagian selatan Pulau Jawa, Indonesia, merupakan kawasan dengan keanekaragaman ekologi dan ekonomi yang signifikan. Sungai Serayu mengalir melalui beberapa kabupaten, berhulu di pegunungan dan mencapai pantai selatan. Sebagai sungai terbesar di wilayah Banyumas yang mengalir ke Cilacap, Sungai Serayu dilalui berbagai aktivitas antropogenik seperti pemukiman, pertanian, industri, dan budidaya perikanan, yang berpotensi mempengaruhi konsentrasi nitrat dan ortofosfat. Nitrat dan ortofosfat sangat penting untuk pertumbuhan dan kelangsungan hidup organisme, dan keberadaannya digunakan sebagai indikator kesuburan air. Penelitian ini bertujuan untuk mengetahui konsentrasi nitrat dan ortofosfat di muara Sungai Serayu. Pengukuran kualitas air meliputi oksigen terlarut (DO), pH, salinitas, dan suhu. Hasil penelitian menunjukkan konsentrasi nitrat berkisar antara 12,3 hingga 23,7 mg/l, sedangkan konsentrasi ortofosfat berkisar antara 0,0327 hingga 0,0985 mg/l. Berdasarkan kadar nitrat dan ortofosfat tersebut, muara Sungai Serayu termasuk dalam baku mutu air Kelas II yang sesuai untuk keperluan perikanan, peternakan, dan pariwisata.

Kata kunci: Nitrat; ortofosfat;, kualitas air; perikanan; peternakan; pariwisata; muara sungai serayu

ABSTRACT

The estuary of the Serayu River, located in the southern part of Java Island, Indonesia, is an area of significant ecological and economic diversity. The Serayu River flows through several districts, originating in the mountains and reaching the southern coast. As the largest river in the Banyumas region, which flows into Cilacap, the Serayu River passes through various anthropogenic activities such as settlements, agriculture, industry, and aquaculture, which potentially affect to the concentration of nitrate and orthophosphate. Nitrate and orthophosphate are essential for the growth and survival of organisms, and their presence is used as an indicator of water fertility. This study aimed to determine the concentrations of nitrate and orthophosphate in the Serayu River estuary. Water quality measurements included dissolved oxygen (DO), pH, salinity, and temperature. The results showed that nitrate concentrations ranged from 12.3 to 23.7 mg/l, while orthophosphate concentrations ranged from 0.0327 to 0.0985 mg/l. Based on these nitrate and orthophosphate levels, the Serayu River estuary falls into Class II water quality standards, which is suitable for fisheries, livestock, and tourism purposes.

Keywords: Nitrate; orthophosphate; water quality; fisheries; livestock; tourism; serayu river estuary

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