# KAJIAN STATUS MUTU AIR DAN DAYA TAMPUNG BEBAN PENCEMARAN LIMBAH KEGIATAN BUDIDAYA IKAN DALAM KERAMBA DI WADUK RAWA JOMBOR, KABUPATEN KLATEN

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## INTISARI

Waduk Rawa Jombor telah dimanfaatkan selama puluhan tahun sebagai lokasi kegiatan budidaya perikanan. Aktivitas tersebut berpotensi memberikan tekanan terhadap kualitas air, terutama melalui peningkatan beban pencemar berupa unsur hara seperti fosfor (P) dan nitrogen (N) yang berasal dari sisa pakan dan kotoran ikan. Penelitian ini bertujuan untuk menentukan status mutu air berdasarkan baku mutu kelas II menurut PP No 22 Tahun 2021, menganalisis daya tampung Waduk Rawa Jombor karena pencemaran limbah budidaya perikanan, dan menentukan luasan keramba yang diperbolehkan berdasarkan beban pencemaran budidaya di Waduk Rawa Jombor.

Data kualitas air terdiri dari parameter fisika dan kimia pada tujuh titik pengambilan dengan metode *purposive sampling.* Metode perhitungan status mutu air menggunakan Indeks Pencemaran berdasarkan Kepmen LH No.115 Tahun 2003 dan perhitungan daya tampung beban pencemaran berdasarkan Permen LH No.28 Tahun 2009. Hasil penelitian menunjukkan bahwa status mutu air Waduk Rawa Jombor dikategorikan tercemar ringan dan tercemar sedang dengan indeks pencemaran 4,91-5,77. Alokasi beban pencemaran TN dan TP bernilai negatif mengindikasikan Waduk Rawa Jombor sudah tidak mampu menerima beban pencemar TN dan TP dari budidaya perikanan untuk baku mutu kelas II. Sementara itu, luasan keramba yang diperbolehkan berdasarkan daya tampung beban pencemaran di Waduk Rawa Jombor adalah 116.308,558 $m^2$ atau 6,9% dari total luas permukaan waduk.

***Kata Kunci :*** *Waduk Rawa Jombor, Status Mutu Air, Daya Tampung, Beban Pencemar*

# *WATER QUALITY INDEX AND POLLUTION LOAD CARRYING CAPACITY FROM FISH FARMING WASTE IN FLOATING NET CAGES AT RAWA JOMBOR RESERVOIR, KLATEN REGENCY*

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## *ABSTRACT*

*Rawa Jombor Reservoir has been utilized for decades as a site for aquaculture activities. These activities have the potential to exert pressure on water quality, primarily through increased pollutant loads in the form of nutrients such as phosphorus (P) and nitrogen (N) originating from uneaten feed and fish waste. This study aims to determine the water quality status based on Class II water quality standards according to PP No. 22 of 2021, to analyze the pollutant load carrying capacity of Rawa Jombor Reservoir due to aquaculture waste, and to determine the allowable area for fish cages based on the pollution load from aquaculture activities in Rawa Jombor Reservoirs.*

*Water quality data consist of physical and chemical parameters measured at seven sampling points using a purposive sampling method. The water quality status was assessed using the Pollution Index method based on the Kepmen LH No.115 of 2003, while the pollutant load carrying capacity was calculated based on the Permen LH No. 28 of 2009. The results show that the water quality status of Rawa Jombor Reservoir falls into the categories of lightly polluted to moderately polluted, with Pollution Index values ranging from 4.91 to 5.77. The pollutant load allocation for TN and TP yielded negative values, indicating that the reservoir can no longer accommodate additional TN and TP loads from aquaculture activities under Class II standards. Furthermore, the allowable area for fish cages based on the pollutant load capacity in Rawa Jombor Reservoir is 116,308,558 m², which represents 6.9% of the total surface area of the reservoir.*

***Keywords:*** *Rawa Jombor Reservoirs, Water Quality Index,Capacity, Pollutant Load*