

Kajian Daya Tampung Pencemaran Danau Merdada di Kecamatan Batur Kabupaten Banjarnegara

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Intisari:

Danau Merdada merupakan danau vulkanik yang berlokasi di Desa Karangtengah, Kecamatan Batur, Kabupaten Banjarnegara. Daerah tangkapan air (DTA) Danau Merdada yang dibatasi oleh igir perbukitan digunakan untuk lahan pertanian kentang yang ditanam sepanjang tahun. Limbah pertanian tersebut sebagian besar masuk ke dalam danau sebagai limpasan permukaan dapat menurunkan kualitas air danau, sedangkan air Danau Merdada digunakan untuk pengairan lahan pertanian serta memenuhi kebutuhan rumah tangga. Penelitian ini bertujuan untuk mengetahui kualitas air, status mutu serta Daya Tampung Beban Pencemaran (DTBP) danau. Metode penentuan status mutu yang digunakan adalah metode STORET, sedangkan perhitungan DTBP menggunakan rumus yang dikeluarkan oleh menteri negara lingkungan hidup dalam Peraturan Menteri Negara Lingkungan Hidup Nomor 28 Tahun 2009. Secara keseluruhan kondisi status mutu air Danau Merdada berada di kelas sedang yang berarti danau mengalami pencemaran sedang, sedangkan hasil perhitungan DTBP menunjukkan bahwa kadar fosfat dan TSS dalam Danau Merdada sudah melebihi daya tampung yang diperbolehkan. Kadar fosfat pada Danau Merdada berasal dari limbah pertanian terbawa limpasan air hingga masuk ke dalam danau, sedangkan kadar TSS lebih dipengaruhi oleh tingginya laju erosi pada lereng igir DTA Danau Merdada. Status mutu air dan DTBP menunjukkan bahwa adanya pertanian intensif di sekitar danau dapat menurunkan kualitas air Danau Merdada.

Kata kunci : Kualitas air, Metode STORET, Daya tampung beban pencemaran, Danau Merdada, Pertanian.

***Study of the Permissible Load Capacity of Pollution In Merdada Lake,
Kecamatan Batur, Kabupaten Banjarnegara***

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Abstract:

The water from Merdada Lake was used to fulfil the irrigation for agriculture and household need. Recharge area of Merdada Lake was a hill slope which used for an intensively potato agriculture for a whole year. Its agricultural waste could affected the decreasing of lake water productivity from its water quality aspect, meanwhile the water of Merdada Lake is being pumped for irrigation and households nessesity. The purpose of this research are to find out the condition of its water quality, water quality status and its load capacity of pollution. The method used to determine water quality status using STORET method, while the load capacity of pollution was calculate using the formula from the Minister State of the Environment in its regulation number 28, 2009. In general, the water quality status in Merdada Lake was classified as moderate which means that the lake got a minor pollution. The result of load capacity of pollution calculation showed that the concentration of phosphate and TSS in Merdada Lake had exceed its allowed load capacity of pollution. Phosphate concentration in Merdada Lake came from agricultural waste which taken along by the run off and went in to the lake. The TSS content was more influenced by the high rate of slope hill erosion which occurred in Merdada Lake's recharge area. The status of water quality and load capacity of pollution in Merdada Lake showed that the intensive agriculture could affect in the decreasing of its water quality.

Keywords : Water quality, STORET Method, Load capacity of pollution, Merdada Lake, Agriculture.