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Determining Tamblingan Lake water quality status using method of STORET and AVSWAT model

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Tamblingan Lake is a natural lake has a function as a sources of raw water dan tourism destination. The change in the cultivation of farmers around Tamblingan from hard cropping pattern (coffee) to the annual plantations (flowers and horticulture), if can't be controlled may cause decreased of water quality. The objective of this study to determine the pollution load from the agricultural element, and the water quality index based on existing condition. This research conducted tree stages; chemical analysis of water quality indicators in laboratory, analysis of water quality status using STORET method and water pollution load analysis using application AVSWAT Program. Based on measurement of water quality parameters obtained Nitrate (NO3-N) amount to 1,002 mg/l, BOD5 amount to 934 mg/l, DO amount to 683 mg/l and phosphorous as P amount to 764 mg/l. Water quality analysis using STORET method, total score from the results of the calculation is -10. These value with range -1 to10 so that status of water quality of Tamblingan Lake is "B Class". The pollution load of existing land Tamblingan Lake for phosphorous inflow of 14,374 mm/ton/ha, Nitrate inflow of 47,515 mm/ton/ha/month, BOD5 inflow of 469,635 mm/ton/ha/month, DO inflow amounted to 2054,8317 mm/ton/ha/month. The value is between (-1) to (-10), the Water Quality Status of Tamblingan Lake Class B with contaminated lightly lake water condition.

Recent Publications

1. Laksni Sedyowati, Turijan, Suhardjono, Ery Suhartanto and Mohammad Sholichin (2018) Runoff behavior on urban road intersection based on flow profile simulation. International Review for Spatial Planning and Sustainable Development 6(1):32-44.
2. Laksni Sedyowati, Turijan, Suhardjono, Ery Suhartanto and Mohammad Sholichin (2017) Runoff velocity behaviour on smooth pavement and paving blocks surfaces measured by a tilted plot. Journal of Water and Land Development 33(IV–VI):149–156.
3. Mohammad Sholichin, Very Dermawan, Suhardjono and Denik Sri Krisnayanti (2016) Energy dissipation of skimming flow on flat and pooled stepped spillways. Australian Journal of Basic and Applied Sciences 10(6).
4. Moh Sholichin (2012) Field investigation of groundwater contamination from solid waste landfill in Malang, Indonesia. International Journal of Civil & Environmental Engineering IJCEE-IJENS 12(2):74-81.
5. S M Shirazi, M Sholichin, Mohammed Jameel, Shatirah Akib and Mokhtar Azizi (2011) Effects of different irrigation regimes and nitrogenous fertilizer on yield and growth parameters of maize. International Journal of Physical Sciences 6(4):677-683.

Biography

Moh Sholichin has completed his PhD from Malaya University, Malaysia in 2010. He was a Head of Water Resources Engineering Department, Engineering Faculty, University of Brawijaya from 2010 until 2017. He has actively presented his papers in international seminars in many countries and has published more than 12 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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