Water pollution levels in the suwung estuary, Bali, based on biological oxygen demand

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Abstrak

Biological Oxygen Demand (BOD) is generally used for determining water pollution levels in bodies of water. Estuary is a semi-enclosed body of water that can be polluted via land areas or rivers. This study was conducted to determine the spatial distribution of water pollution levels in the Suwung Estuary in Bali based on BOD5 analyses conducted in January and February 2016. Samples were taken in 20 points (19 points in the Suwung Estuary and 1 outside the Suwung Estuary as control). BOD5 samples were then analysed in the laboratory. Our BOD5 analyses used the amperometric method based on the National Field Manual for the Collection of Data Water-Quality, Chapter A7. BOD5 samples were taken at all tide cycles, during low to high tide and high to low tide. BOD5 values ranged from 0.84 mg/Lâ€“9.47 mg/L during lowto high tide and 0.96 mg/Lâ€“8.75 mg/L during high to low tide. Results of the BOD5 analyses showed slight contamination in the Suwung Estuary during both tidal conditions. The BOD5 valuesâ€™ spatial distribution showed higher values around cage aquacultures, rivers, the Suwung Landfill, and around the Benoa Harbour.