

ABSTRACT

ANALYSIS OF RIVER WATER QUALITY IN THE WAY KETEGUHAN WATERSHED BANDAR LAMPUNG

By

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Based on field study before the research, visually Way Keteguhan Rivers experience water quality degradation. It was found that the major pollution sources were from settlements, markets, shops and disposal waste. Unfortunately the detail research or analysis about water quality has not existed yet in the watershed. Hence, the water quality research in Way Keteguhan Watershed was conducted. The purpose of the research was to determine water quality rivers based on water quality standards. To achieve the goal, the water quality river was measured and observed at six sample points consisting of three points on Way Keteguhan 1 River and three points on Way Keteguhan 3 River. Sampling process was repeated three times with measured and observed parameters were DO, BOD, COD, $\text{NH}_3\text{-N}$, TSS, pH, and temperature. The methods used to analysis the water quality were Pollution Index (PI) and Water Quality Index (WQI). Pollution Index (PI) is a method based on the Decree of the Minister of Environment No. 115 of 2003, while WQI is a method base on Department of Environment (DOE).

The results showed that based on pollution index (PI) analysis, Way Keteguhan 1 River was categorized into Light Polluted ($1 \leq \text{PI} < 5$) with the highest PI value was 1.976, and Way Keteguhan 3 River was Medium Polluted ($5 \leq \text{PI} < 10$) with the highest PI value was 5.873. While based on the DOE-WQI analysis, the Way Keteguhan 1 River was characterized into Light Polluted or Class III ($61 \leq \text{WQI} < 80$) with the highest score was 75.91. While at Way Keteguhan 3 River was Highly Polluted or Class V ($0 \leq \text{WQI} < 40$) with the highest score was 39.21. Pollution Index (PI) states that the higher the value of PI the worse water quality, while the higher value of WQI the better water quality. The attempt to resolve the pollution of river water in the Way Keteguhan watershed is through pollution control strategies.

Keywords : Way Keteguhan Watershed, Pollution Index, Water Quality Index, Pollution Control Strategy.