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Assessment of Water Quality Parameters in Two Nigerian Major Rivers

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Abstract

Water quality parameters of two major rivers (River Benue and River Niger) were investigated for two seasons (rainy and dry seasons) using standard methods. The ranges of results in both rivers for the rainy season are as follows: turbidity, 12 – 90NTU; electrical conductivity, 48.4 – 74.0µS/cm; DO, 5.2 – 6.0mg/L; BOD, 59 – 70mg/L; COD, 122 – 144mg/L; alkalinity, 0.8 – 3.8mg/L; pH, 7.2 – 7.7; chloride, 3.5 – 5.8mg/L; phosphate, 4. – 10.4mg/L; total hardness, 40 – 80mg/L; TDS, 19 – 35mg/L; TSS, 130 – 220mg/L. The ranges of results in the two rivers for the dry season are as follows: turbidity, 7 – 59NTU; electrical conductivity, 63.8 – 74.2 µS /cm; DO, 4.9 – 5.8mg/L; BOD, 48 – 66mg/L; COD, 102 – 134mg/L; alkalinity, 1.0 – 1.8mg/L; pH, 7.2 – 7.6; chloride, 2.29 – 5.14mg/L; phosphate, 0.96 – 1.36mg/L; total hardness, 80 – 120mg/L; TDS, 28.4 – 42.8mg/L; TSS, 80 – 160mg/L. The results showed that most of the parameters are within the permissible limits specified by National Guideline and standards for Water Quality while COD, BOD and phosphate, alkalinity and TSS fall outside the specified permissible limits.

Biography

Ishaq Shaibu Eneji has completed his Ph. D in the year 2010, at the age of 45 years from University of Agriculture, Makurdi Nigeria. He is currently the Head, Department of Chemistry University of Agriculture Makurdi Nigeria. He has published more than 22 papers in reputed journals. One of his publications was among the top 20 most cited paper in Environmental Monitoring and Assessment in 2012 (Titled: As assessment of heavy metals loading in River Benue in the Makurdi metropolitan Area in Central Nigeria). He is serving as an reviewer of Journal of Chemical Society of Nigeria.