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PERFORMANCE OF MACROINVERTEBRATES-BASED BIOTIC INDICES FOR ASSESSING WATER QUALITY IN MARTIL RIVER BASIN, NORTHERN MOROCCO

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Abstract

To explore the spatiotemporal variation of benthic communities and assess their response to anthropogenic pressures and climatic variability, a seasonal biomonitoring of benthic macroinvertebrates in the Martil Basin was carried out. Macroinvertebrates were sampled seasonally at 19 sites from Autumn 2015 to Spring 2018, and the performance of the Iberian Biological Monitoring Working Party (IBMWP), the Standardized Global Biological Index (IBGN), the Average Score Per Taxon (ASPT), and the Family Biotic Index (FBI) indices was assessed. The results showed a clear decline in taxa richness from the upper to the lower river sections. The overall water quality of the Martil River Basin ranged from moderate to poor, but the different indices produced various classification outcomes. The IBMWP index showed highest correlation with taxonomic richness being the most appropriate for assessing the water quality. Notwithstanding, we suggest that biotic indices should be included as an essential tool for assessing the water quality in Moroccan streams, for maintaining the ecological integrity.

Keywords: biotic indices, Martil basin, mediterranean ecosystems, Morocco, water quality

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