

Effectiveness of Peri-Urban Wetlands in Providing Ecosystem Services: Mankweng, Limpopo as a Case Study

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Abstract— Wetlands are known as kidneys of the earth. They play a pivotal role in providing habitats for aquatic species, storing water, mitigation of floods, and water purification. They also provide recreational opportunities, livestock grazing, and fishery activities. Mankweng was chosen as a case study because its wetlands are considered rich for their biodiversity and hydrological functions. Moreover, with the increase in anthropogenic, agricultural, and industrial development, they are experiencing degradation and run the risk of their water quality being compromised. This study aims to assess the effectiveness of Mankweng wetlands in providing ecosystem services; through the analysis of water quality parameters, diatoms, microbial diversity, and eDNA. OMNIDIA will be utilized to compute water quality, pollution, and eutrophication related indices to capture changes in water and ecosystem health. The findings will add to the body of knowledge and provide a baseline on the issues affecting the Mankweng wetlands' health and functionality.

Keywords— Diatoms, Environmental DNA, Wetlands, Services and Functions

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