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Assessment of the Ecological Status and Threats of Welala and Shesher Wetlands, Lake Tana Sub-Basin (Ethiopia)

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Author(s)

Negash Atnafu, Eshete Dejen, Jacobus Vijverberg

ABSTRACT

The ecological status of the Welala and Shesher Wetlands, on the eastern side of Lake Tana, were studied during pre-rainy, main-rainy, post-rainy and dry seasons from May 2009 to January 2010. Species composition, diversity and abundance of macrophytes, benthic macro-invertebrates and birds were assessed and physico-chemical parameters were measured. Phosphate and silicate concentrations, conductivity, TDS and turbidity varied significantly ($p < 0.05$) between dry and wet seasons in both wetlands. Physico-chemical parameters did not differ ($p > 0.05$) between the two wetlands. The values for dissolved oxygen and pH ranged between 4.8 - 7.8 mg/l and 6.7 - 7.6, respectively. The values for nitrate and phosphate ranged between 0.2 - 3.1 mg/l and 0.2 - 3.3 mg/l, respectively. A total of 274 benthic macro-invertebrate individuals belonging to 5 families were collected, 32, 699 individual birds belonging to 62 species were enumerated and 13 species of macrophytes were identified. The two wetlands are shrinking at an alarming rate, mainly because of unsustainable farming practices and a huge irrigation project on Ribb River which is at presently under construction. Farming practices include draining and pumping of water for irrigation and expansion of farmland at the cost of the wetlands. The construction of a dam in Ribb River prevents overflow from Ribb River into the wetlands and disrupts the connection with Lake Tana which is vital for the survival of these two wetlands. We conclude that the Welala and Shesher Wetlands are valuable wetlands which need urgently protection.

KEYWORDS

Fogera, Macrophytes, Macro-Invertebrates, Birds, Abundance, Species Composition, Species Diversity, Socio-Economics

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