Available online at **www.joac.info**

ISSN: 2278-1862

Journal of Applicable Chemistry

2019, 8 (1): 329-334

(International Peer Reviewed Journal)

Wallo Wetland, its Regulatory Role and Implications to Downstream Lake Chamo, Ethiopia

Ehit Bekele Belachew [1] and Alemayehu Hailemicael Mezgebe[2*]

1. Livestock and Fishery office, Arba Minch, **ETHIOPIA**
2. Arba Minch University College of Natural Sciences, Biology Department, **ETHIOPIA**

Email: aleenviro@gmail.com

Accepted on 23rd December, 2018

ABSTRACT

Wetlands are important ecosystems because of their hydrological and ecological functions. The provision of screening, regulatory, protective and filtration services are among the prominent contributions of wetlands. The present study was carried out to investigate the regulatory functions of Wallo wetland, found between lake Abaya and river Kulfo (Lake Chamo main tributary). A total of six sampling sites were selected for water sampling. Among those sites three were selected around inlet of wetland at the outskirt of lake Abaya; and the other three at outlet of wetland before joining river Kulfo. Sampling was made during months of dry season January and rainy season of August. The analyses were made for 13 water quality parameters both on site and in laboratory. Standard method of sampling, storage and analysis was done according to APHA. The study revealed a significant variation in physico-chemical characteristics of the water between the inflow and outflow. A significant decrease in concentration was recorded except for DO. Removal percentages of above 50% was recorded for parameter like Turbidity, TDS, EC and TSS with values of 83.3, 63.1 54.4 and 52.9 respectively. In addition, the removal efficiency of the wetland for Mn, Salinity, T-N, Cr, T-PO_4^{3-}, Cu, was found to be 43.1, 40.7, 40.2, 37.2, 33.6 and 22.1 respectively. The surface water pH has improved by average value of 1.2; and a decrease in temperature up to 11.2^oC was recorded. Hence, it could be concluded that Wallo wetland has been playing an effective regulatory function when overflows of lake Abaya pass through it. The wetland has had great role in improving the water quality discharged from lake Abaya (less productive) to lake Chamo(highly productive lake).

Graphical Abstract

Wallo wetland

Keywords: Wallo wetland, Lake Abaya and Chamo, Regulatory Function.