

ABSTRACT

The trophic state of Lake Baringo and factors that could be limiting the development of algal biomass in it were investigated during one wet/dry hydrological cycle in 2014–2015. Water samples were analysed for dissolved inorganic nutrients, including , and , total phosphorus and Chlorophyll a. Light attenuation was estimated using Secchi depth. The trophic state was determined using Carlson trophic state indices (CTSI). Deviations in CTSI, nutrient ratios and ambient nutrient concentrations were used to identify factors limiting phytoplankton growth. The mean values measured for Secchi depth, nitrate, total phosphorus and Chlorophyll a showed significant seasonal variation ($p < 0.05$). Based on the Carlson trophic state index, the results show that Lake Baringo is eutrophic. However, the lake is also experiencing phosphorus limitation and poor light penetration, because of high turbidity, which is more pronounced during the wet season.