WATER QUALITY INDEX ASSESSMENT OF KOUDIAT MEDOUAR RESERVOIR, NORTHEAST ALGERIA USING WEIGHTED ARITHMETIC INDEX METHOD

Abstract

Water quality index (WQI) is a mathematical tool used to transform large quantities of water quality data into a single number which present water quality level. The aim of the present study is to evaluate the quality of Koudiat Medouar Dam in Batna (Algeria) to assess its suitability for drinking purposes. Samples were assessed for ten (10) physicochemical settings namely pH, electrical conductivity, total hardness, nitrate, sulphate, chloride, calcium, magnesium, dissolved oxygen and turbidity. The calculation of WQI was done via weighted arithmetic index method. The WQI values ranged from 99.097 to 174.92 during 2015. It reflected that the water samples were in February in the range of very poor quality and ranged to be in unsuitable for drinking range in the all other months. The WQI of the present study reveals dam water is contaminated and not suitable for drinking purpose without giving treatment.

Key words: assessment, Koudiat Medouar Reservoir, physicochemical parameters, water quality index, weighted arithmetic index