

Abstract

Physicochemical and microbiological analyses were carried out on water and sediment samples from Ruguti River in Meru South, to ascertain the water quality. The mean of the results obtained were compared with WHO (2011) standards for drinking water. The physicochemical parameters such as temperature, electrical conductivity, total dissolved solids, total alkalinity, total hardness, sulphates, chlorides, fluorides were in compliance with the WHO (2011) standards. Turbidity, nitrite and nitrates levels were above WHO (2011) standards. The concentration of phosphorous was below detection limit of the analytical method used. The mean values for all trace metals at all the sampling sites of the water samples were below the WHO (2011) standards for drinking water except Fe, Mn and Al. The results of sediment samples indicates that silicate, iron, calcium and aluminium are present in major quantities while other minerals are present in trace amounts. Sediments have lower carbonaceous matter and higher mineral contents. The concentration of the Cd in the sediment was below its detection limit. Total coliform bacteria/100 ml are greater than 2420 while E. coli/100 ml varied from 1203 to 1986. These results reveal that the Ruguti River is contaminated and use of the water for domestic purposes by the inhabitants could lead to hazardous side effects.