Abstract

This study highlights the environmental situation of the Al-Zarqa reserve's water quality, which is located in west Beitillo. This is achieved through chemical and physical experiments on the area's water springs, and through defining the percentages of the components/elements. The goal of the study is to examine whether the water can be used by humans or not. The study also examines the water quality and its annual flow.

This study follows the descriptive and analytical methodology, keeping up with the beginning of the problem and the factors that led to the pollution of some water springs. Throughout the study, the analysis of the aerial photographs using the Geographical Information System (GIS) and studying the change in land use of the reserve. Moreover, the study tests the samples of the water springs that are taken before and after raining. It measures the flow of water spring through three levels in 20 water sample.

Among the most important findings of the study, the presence of high salinity in both Abu Issam and Al_Bawlale springs and this is due to the high proportion of dissolved solids in them and high electrical conductivity while the other springs with medium salinity. For the water quality of the springs, it is (Ca_HCO_3-) and due to the spread of limestone in the region, the highest positive element in the springs water is calcium, where as the negative element is bicarbonate because of the nature of calcareous rocks of the region. It also contains magnesium due to the presence of dolomite rock in the region. The study also showed high percentage of iron in Kikaba

spring which is above universally acceptable level. In general, most spring’s water in the area is appropriate for human use except Abu Issam, Al bawale, and Kikaba springs because of their contamination, It's due to the high of Fe in this springs.

The study shows that the most significant sources of pollution in the region is due to the presence of cesspit near the water of the spring specially Abu Issam and Al-bawale springs. In addition to the proportion of nitrates was decreased in the sample springs, Finally, the accumulation of solid waste and the presence of landfill near the main springs led to a distortion of the aesthetic appearance of the reserve. The study shows the effect of building spread in the region on the deterioration of the environmental situation of the reserve, and the role of Israel occupation in restricting the growth and development of Alzarqa reserve.