Lake Qarun is the third largest lake in Egypt and its water surface elevation is about (43.7 m) MSL. The lake is situated at the northern edge of Fayoum Depression. The length of the lake is 42 km, while the width varies between 5 km and 9.54 km. The depth of the water varies between 5 m in the east to 12 m in the west. Lake Qarun is receiving its water from two main drains, namely EL Bats and El Wadi drain besides several minor drains. The lake has a unique feature; it is a closed lake and has no outlet. The lake loses water by evaporation only which affects the water levels of the lake and its salinity. Lake Qarun can be considered as a natural reservoir in Fayoum Depression. In 1994, the water level of Lake Qarun has declined 15 cm. The mean level reached 43.6 m MSL. In 1995, the salinity was 39 g/L. The maximum water level for tourism is (43.5 m) MSL. At this level, the salinity is 36 g/L. If the salinity exceeds this value, there will be a negative impact on tourism. The lake is facing many problems. The most important one is the annual fluctuation of its water level, and increase of the salinity. The salinity of the lake has been increasing for several decades. This has caused a serious threat to the biodiversity and species populations of fish and birds. It has also threatened the socio-economic systems.

A two-dimensional numerical model named SOBEK is applied to Lake Qarun to investigate the water level, volume, and surface area at the current conditions and in case of decreasing the inflow to the lake by 25%. It was found that decreasing the inflow to the lake 25% decreases the maximum water level from 42.60 m to 42.66 m, and decreases the minimum water level from -43.1 m to -43.25 m.