



## An Assessment of the Water Quality of Some Areas of Shatt al-Arab and the East Hammar Marsh Using the Water Quality Index WQI

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### ARTICLE INFO

#### Article History:

Received: Aug. 14, 2024

Accepted: Nov. 29, 2024

Online: Dec. 31, 2024

#### Keywords:

Water quality,  
WQI,  
East Hammar Marsh,  
Shatt Al-Arab

### ABSTRACT

The Canadian model water quality index (CCME WQI) was used to evaluate the water quality in some areas of the Shatt al-Arab and the East Hammar Marsh from October 2020 to September 2021. The variables used in calculating the index included water temperature, pH value, biological oxygen demand, salinity, and dissolved oxygen. According to the CCME WQI, the water quality of the Shatt al-Arab was categorized as "Marginal," while the water quality of the East Hammar Marsh was ranked as "Poor." This indicates that the environmental factors studied were often outside the permissible normal levels. The statistical analysis revealed no significant differences between the first station (Al-Dair) and the second station (Al-Haritha), but significant differences were found with the third station (Al-Mashab).

### INTRODUCTION

The majority of Iraq's aquatic habitats are increasingly affected by modern challenges and issues. To establish effective and well-managed specialized institutions based on contemporary artistic and technological foundations, it is crucial to urgently address these crises through scientific planning, underpinned by thorough consultations (Moyel *et al.*, 2023).

Water is a vital natural resource for sustaining life on Earth, but with population growth and increasing human and biological activities, water quality and the aquatic environment are increasingly threatened (Al-Saboonchi *et al.*, 2011). The world is currently facing an environmental crisis due to careless planning and irresponsible environmental practices. The root cause of this crisis is widespread environmental contamination, particularly water pollution (Al-Darraji *et al.*, 2023). Pollution has emerged as a significant threat to the natural environment, driven by factors such as population growth and industrial and agricultural expansion to meet the growing demands