HYDROLOGY AND WATER RESOURCES SESSION

THE IMPORTANCE OF MAINTENANCE OF RIVERS AND MARSHES IN THE SOUTH OF IRAQ

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ABSTRACT

The maintenance of water resources in Iraq is of special importance for its rarity and vitality. In this respect, many dams and reservoirs were built in Iraq. This construction was accompanied by unawareness of the importance of the drainage systems, as the main drainage channel was only built in 1992. The systems on both sides of the Tigris between Baghdad and Qurna and eastern Al-Gharraf, the drainage systems between Al-Ramadi and Al-Fallujah, and the drainage systems on both sides of the Euphrates between Shinaffia and Qurna drain their wastes into the rivers and the marshes, which led to the rise in the salinity of the Tigris and the Shatt Al-Arab at Amarah, Nasiriyah, and Maqil during the 1970s. The problem of salination was widely distributed in these soils (70-75%) of the agricultural lands. This indicates the severity of the problem, which needs a prompt solution by constructing a complete system of drainage water to protect the flora and aquatic fauna from the increased salinity in the region.

HYDROMETEOROLOGICAL STUDY OF THE AL-EEZ RIVER

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ABSTRACT

Three stations were chosen along the Al-Eez River to define the hydrometeorological properties of the river. These properties are controlled by hydro nutrition circumstances of the river and meteorological factors. Analysis was based on data of 2004. Some mathematical formulas were adopted to calculate flushing time for surface water masses mixed with the Al-Eez River water mass at the end of the water canal. Flushing time is considered as the time required for alternating the water mass of the Al-Eez River to the Shatt Al-Arab River. The results revealed a shortage in flushing time between the Al-Eez River water mass and the Shatt Al-Arab water mass due to a weak effect of a tide front and domination of drainage process in the study area.

THE INTERACTION BETWEEN THE WATER MASSES OF THE MARSHES AND THE SHATT AL-ARAB RIVER IN THE SOUTH OF IRAQ

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ABSTRACT

The aim of this study is to explain the role of the discharge of northern input rivers on the water balance of the Al-Huwaiza and Qurna Marshes and to discuss the effect of these two marshes on the quality of the Shatt Al-Arab River. The study period covered several years before and after the marshland drainage process. The results showed that the internal quantities of the water after the rehabilitation of marshes were temporarily increased. A difference was observed between internal and external water masses from Al- Hammar marsh located in Garmat Ali. A weak exchange between marshes and the Shatt Al-Arab River has developed as a result of the drainage process.

SOME GEOMORPHOLOGICAL FEATURES OF THE SHATT AL-ARAB RIVER IN THE SOUTH OF IRAQ

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ABSTRACT

The general geomorphological features of the Shatt Al-Arab from the site of confluence at Al-Qurna to its mouth in Ras Al-Beesha were studied. The study showed that the side channel of the river are the main causes of spatial changes in the depth of the main river, as it ranged from 7 m at Qurna to 24 m at Garmat Ali, the second union, decreased to 11 m at the head of the estuary in Al-Fao and reached the lowest depth, 3.5 m, at Ras Al-Beesha at the lowest low tide. The side channels have assisted in the formation of many small islands, as the concentration of islands is about 0.45 km south of Garmat Ali. The straight nature of the river causes the formation of longitudinal islands, as the shape coefficient in about 0.13, with the exception of M'hella Island, in which the meandering value was 0.64. The decline of the river discharge from 1377 m^3/s to 399 m^3/s is associated with a decrease of tidal currents.

IMPORTANCE OF THE EASTERN AL-HAMMAR MARSH AS A NURSERY AND FEEDING GROUND FOR SOME MARINE FISH SPECIES

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ABSTRACT

Ten estuarine marine fish species in the eastern Al-Hammar marshes (between Al-Mashab and Al-Naggara) were collected during the period from November 2004 to October 2005. One species was collected in January and another eight species were collected in April and June. The most dominant species was *Tenualosa ilisha* (Hamilton-Buchanan), which comprised the vast individual number of marine species. Most of the fishes sampled were juveniles, especially the individuals of *T. ilisha*, *Liza carinata* (Valenciennes), *Thryssa mystax* (Bloch and Schneider) *and Acanthopagrus latus* (Houttuyn). The percentages of stomachs that contained food were more than 96%. *T. ilisha*, *L. carinata* and *L. subviridis* (Valenciennes) mainly fed on diatoms, algae and zooplankton as well as on organic and inorganic materials, whereas *T. mystax* and *Bathygobius fuscus* (Rüppell) fed on zooplankton, insects, small fishes and shrimps. The eastern Al-Hammar marshes could be considered a nursery, protection and feeding ground but not a spawning area for several estuarine fish juveniles.

CHEMICAL AND SEDIMENTOLOGICAL STUDY OF THE MINERALS OF THE BOTTOM SEDIMENTS OF AL-HAMMAR MARSH, SOUTHERN IRAQ

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ABSTRACT

Fifteen bottom samples were taken from Al-Hammar marsh and were chemically analyzed to estimate the concentrations of some major elements (chloride, sulphate and carbonates) and some minor elements (Fe, Zn, Cr, Cu, Ni & Pb). Grain size analysis was done also, and indicated that clayey, silty and the major minerals are: calcite, quartz, feldspar, and clay minerals of which allite, montmorilonite, chlorite and some clayey balichlorskite. Minor elements were within their natural levels and there are no pollution threats.

ASSAFIA WILDLIFE PARK, THE RESTORED HERITAGE, ACTION AND NECESSARY STEPS TO PRESERVE ITS WELLBEING FOR THE NEXT GENERATIONS

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Establishing the wildlife parks or reserves is an essential step in preserving the biodiversity and limiting ecological destruction through human activity. This study deals with the ecological and socio-economical importance of Assafia Wildlife Park, as well as the importance of its location. The first steps of establishing the park and potential problems with establishing it will be discussed. The study will express the actions of the three working groups, which had been established after a scientific workshop. The scientific group started the construction of an Assafia database, which includes the available information on all the living components of the Assafia ecosystem. The construction group was responsible for the main design of the infrastructure in Assafia Wildlife Park, which includes an office, laboratories, a boat station, guard points, etc. This group began preparing the site and fixed the required units in the site; its work is still ongoing to complete the entire construction plan. Concurrently with the action of the two previous working groups, the third group, the media and ecological awareness group, had taken a good action in accomplishing its working plan, which was represented by workshops, lectures, media meetings, as well as publishing education leaflets and posters. The activity of this group was focused on the communities around the Assafia Wildlife Park, in order to insure the effectiveness of the awareness campaign.

ADOPTION OF COTTON CROP BY FARMERS IN THE MARSHLAND AT THI-QAR GOVERNORATE

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ABSTRACT

The study aimed at understanding the levels at which farmers at the marshes in Thi-Qar adopt the recommendations of cultivating the cotton flower. A sample of 100 farmers was taken randomly and they were requested to fill-in a questionnaire of 21 questions about the adoption of this crop. Statistical analysis was carried out using percentage, standard error and Pearson correlation coefficients. It was found that the level of adoption was acceptable and there was a positive correlation between the size of the family, farming income, size of farm, and level of education at the 0.01 level. There was no correlation between the level of adoption and the follow use of recommendations through the radio and television at both the 0.01 and 0.05 levels**.**