

“The adornment of the inner selves is more beautiful than the adornment of the outer selves.”

Imam Ali bin abi Talib

Conducting the First Stage of a Consulting Project for ENI



MSC has completed the first stage of an environment observation project conducted for the Italian oil company ENI in Al-Zubair oilfield. Radiation and chemical analyses for soil and water have been completed at several locations within Al-Zubair which is located in south of Basrah. Al Zubair is currently under development by ENI and environmental monitoring of soil, water, and drilling wastes has been implemented.

MSC Participates in Toxic Algae Training Course in Iran



A representative of MSC, Dr. Imad Al-Shawi, from the Department of Marine Chemistry, has participated in a training course to identify and monitor the harmful algae Phyto toxine. The course was held by the international Regional Organization for the Protection of the Marine Environment (ROPME) at the Institute of Marine Environment in Bandar Abbas City, South of Iran, between Aug. 31st- Sept. 9th, 2015. Many researchers and experts from Iran, UAE, Qatar, and Oman participated in the training course which covered both theoretical and practical lectures.

MSc. Thesis on *Alburnus mossulensis*

MSc. candidate Mrs. Layla Abbood Ufi, a member in the Department of Aquaculture and Fisheries, has defended her thesis entitled “Some Biological Aspects of the Bleak, *Alburnus mossulensis*, in the Southern Reaches of Euphrates River, Iraq”. The thesis was supervised by both Prof. Abd Al-Razzaq M. Muhammed and Dr. Basim M. Jasim, from the College of Agriculture, University of Basrah.

The study included studying the nutrition and reproductive systems of 2307 fish of the above mentioned type from Euphrates, Al-Chibayish region, South of Iraq. The results have shown that this type of fish depend primarily on insects in its feeding. The value of the gonadosomatic index for males and females were 5.8 and 14.01 respectively in January.

Tissue sections of the male and female gonads have shown that the period of spawning was during February.



Salinity of Shatt Al-Arab: An MSC Workshop

Due to the water crisis suffered by the residents of Basrah, MSC held a workshop on the crisis of water salinity of Shatt Al-Arab on Oct. 10th, 2015. The workshop was sponsored by the Chancellor of the University of Basrah, Prof. Dr. Thamir A. Hamdan, and was attended by many researchers, academic personnel, consultants, as well as a delegation from the Irani Sanam Company.

The workshop presented all aspects of the water crisis of the governorate of Basrah. The reduction of the Shatt Al-Arab River water flow, the increase of salinity and its spread in Faw reaching the North parts of the Shatt Al-Arab stream have caused Shatt Al-Arab River to be converted into a marine estuary (Khor), a problem which has never been preceded.



The workshop concentrated upon the most applicable (immediate and long-term) solutions to treat this crisis and its great environmental impacts on the Shatt Al-Arab River and the surrounding regions. Additionally, alternative treatments for improving the drinking water of the Governorate of Basrah were discussed, concluding with a list of recommendations presented to the Ministry of Higher Education and Scientific Research.

A Scientific Project Suggested by an MSC Researcher Wins a Grant

As part of the Iraq University Linkages Program (IULP), a scientific project suggested by two researchers from the University of Basrah, namely Dr. Nadia A. Al-Mudhaffar, Head of the MSC Department of Biological Development, and Prof. Dr. Badir Al-Badran, from the College of Science, and one researcher from the South Carolina University, has won a grant.

The project, which extends over a period of one year, aims at building the capacity of the University of Basrah researchers, and other universities, as well as members of the South Oil Company and Basrah Environment Directorate.

The scope of the project lies in the success of environmental solutions which reuse water generated from oilfield processes and sewage treatment in benefiting natural and industrial wetlands. The results of the study will be beneficial in the current water scarcity situation. The project will be implemented by conducting several field trips to similar projects in the region and then by holding workshops at the MSC. In support of this project, an industrial marsh will be constructed for research and training purposes.



MSC Participates in a Crisis Cell for the Treatment of Red Tide in the Shatt Al-Arab River

Dr. Noori Abd Al-Nabi, from the MSC Department of Aquaculture and Fisheries and member in the Protection and Improvement of Environment Committee/ Basrah Governorate, and Dr. Imad Al-Shawi, from the Department of Marine Chemistry, have participated in an urgently called meeting held by the Protection and Improvement of Environment Committee in the Governorate of Basrah for investigating causes of the red tide occurring lately in the Shatt Al-Arab River. Samples collected from the Al-Bradhyia Water Station. have shown harmful water algae: *Dinophyceae* which belongs to the Gyrodinium family.

This kind of algae is usually uncommon in the waters and sediments of the estuaries and salty waters (fresh waters affected by the salinity of sea water) and marine environment. It was recorded several years ago in the water and sediments of North West part of the Arabian Gulf near Kuwait. Studies related to the algae's potential toxicity are ongoing.

MSC researchers have attributed the presence of this algae to elevated temperatures and high salinity of the river water, nutrient availability and suitable light. Several temporary and permanent solutions were suggested by MSC representatives. Immediate solutions included ceasing operation of water treatment stations in the vicinity of the Red Tide occurrence, restricting recreational water usage (such as swimming practices), as well as dispersing the algae bloom away from the water treatment stations. Awareness campaigns have been implemented involving advertising banners.

Future solutions included identifying strategies to reduce the discharge of organic pollutants into the Shatt Al-Arab River. Salinity reduction strategies are to include increasing the volume of fresh water releases during the periods in which Red Tide is expected. Ongoing efforts will include rehabilitating and protection of the water environment of Shatt Al-Arab River and continuing awareness campaigns.

