THE EDEN AGAIN PROJECT
RESTORATION OF THE MESOPOTAMIAN MARSHLANDS

This is the third edition of the Eden Again Project's newsletter. Again, much has happened within the last six months. The following sections provide a brief overview of the status of the marshlands, an update on our project activities and staff in Iraq, and links to more detailed information now available on our website.

STATUS OF THE MARSHLANDS

The news from the Mesopotamian Marshlands is astounding. In early 2003, Iraq’s Ministry of Irrigation was still constructing water diversion and drainage structures in the marshlands. By early 2004, Iraq’s Ministry of Water Resources had declared that restoration of the marshlands was its highest priority. In early 2003, less than 10% of the Mesopotamian Marshlands remained. By early 2004, 40% of the marshlands have been re-flooded. All of the re-flooding has occurred as a result of the direct actions of the marsh dwellers and by the Ministry of Water Resources at the request of the local populations. Local tribes have pooled their resources to hire backhoes to breach the embankments holding back the floodwaters; they have opened sluice gates, stopped pumping operations, and re-directed water flow back to where it was wanted – in the marshlands. And the water complied, slowly yet faithfully flowing back in its ancient pathways.

Where water has returned, desert vegetation has begun to die. In some places, regrowth of vegetation has been remarkably fast – within months, thick stands of reeds rose 10 feet tall. In other areas, regrowth has been slow, with reeds propagating through roots. And some areas remain barren. Fish have returned in abundance, fed from the rivers, and followed quickly by the fishermen. Birds, seeing the water from above, have re-established their population in the marshlands. In March 2004, our avian survey noted over 40 species of birds, many of them in a breeding state. The Iraq Babbler, an endemic species, was observed, but not the Basrah Reed Warbler. The noise of frogs can be deafening.

With the return of water, the people have come back. In early 2003, it was estimated that 85,000 marsh dwellers remained living in and around the dried marshlands. Since the re-flooding, we estimate that they have been joined by an additional 40,000 returning marsh dwellers. The returnees have rebuilt their villages with reed huts and exquisite mudthifs (guesthouses). Where reeds haven’t regrown, they have begun to replant by hand. They are harvesting reeds and fishing and hunting. The marsh dweller culture is flourishing.

The humanitarian situation in the marshlands is still grim; basic human needs such as clean drinking water and sanitation facilities are almost absent. A few schools and clinics have been established, but proper facilities are rare. The returning marsh dwellers have brought cattle from the pasturelands where they had been eking out a dry living; they need capital to restock the water buffalo that died when the marshlands were drained.

There is great hope for the future, yet much remains to be done. The Iraq Foundation, in partnership with the Center for Restoration of the Iraqi Marshlands (CRIM) has developed a workplan for preparing a Sustainable Restoration Plan (SRP) for the Mesopotamian Marshlands. The Iraq Foundation will work with CRIM towards developing the scientific basis upon which the SRP can be finalized through a participatory decision-making process. The scientific surveys include biological, ecological, soil, topographic, hydrologic, and sociological surveys.

NOTES FROM THE MARSHLANDS

ABU ZIRIG MARSH: The Italian Ministry of the Environment has provided support to the Iraq Foundation to monitor the restoration
success at Abu Zirig Marsh, located north of Nasiriyah on the western side of the former Central Marsh. This marsh was re-flooded in April 2003 as a result of the direct action of the Ministry of Water Resources at the request of the local population. The area is some 120 square kilometers, and recovery is progressing very well, with reeds growing higher than 2 meters. The Iraq Foundation is actively monitoring this marsh for physical water properties as well as ecological indicators. As many as 45 different bird species were spotted during a recent field visit. Three of the bird species are listed as endangered or endemic. The area is very heavily used for fishing by the people living in villages around the perimeter of the marsh. In February, approximately 120 fishing boats/teams were counted in one afternoon. Water flow into the marsh has been regulated by the Ministry of Water Resources and the marsh remains in a very healthy state, despite the oncoming of summer months. The photograph to the right shows reeds being harvested in Abu Zirig in the spring of 2004; the photograph to the left shows Dr. Azzam Alwash (center) in the mudthif of Sheikh al-Rumaidh (to Dr. Alwash’s left) in Abu Zirig and Mr. Abu al-Abbas (on Dr. Alwash’s right) a leader in the Chubayish area.

THE CENTRAL MARSHES: Most of the Central Marshes remain desiccated in June 2004. Our project team travelled around the northern periphery of the Central Marshes in the spring of 2004, in the same general area where author Gavin Young and photographer Nik Wheeler travelled and photographed in 1977 for their book Return to the Marshes. There we found one of the marsh dwellers depicted in the book. Below, a "comedian of the marshes" as pictured in Return to the Marshes in 1977.
The "comedian of the marshes" still popular in 2004.

His lifestyle in 1977: ©Photograph copyright 1977 by Nik Wheeler

His lifestyle in 2004:

THE NEW EDEN TEAM

The majority of the Iraq Foundation's work in Iraq has been completed in partnership with the Italian Ministry of the Environment and with Italian experts through the "New Eden" project. The general objective of this project was to focus on the identification of key water management problems and to develop a priority action plan to improve the quality of life and the environment in southern Iraq. The New Eden team contacted relevant organizations to gather and review the available water resources and water infrastructure in Iraq over the last 50 years. The team also developed a modeling strategy to check for water availability in southern Iraq, and the developed a general hydrodynamic model of the Central and Hammar Marshes.

The results of the project were detailed in a report entitled "The New Eden Project: Final Report," presented by Dr. Corrado Clini, Director General of the Italian Ministry of the Environment, at the United Nations Commission for Sustainable Development CSD-12 meeting in New York, April 14-30. The report provides a detailed plan for development of an Integrated Water Resources Management Plan that includes potable water, irrigation water, environmental restoration, and other beneficial uses. The report also outlines a workplan for gathering the scientific data necessary to develop a Sustainable Restoration Plan in collaboration with Iraq's Center for the Restoration of the Mesopotamian Marshlands (CRIM). The Italian Ministry of the Environment has pledged substantial support towards
implementing the workplan as outlined in the new Eden Report.

The New Eden working group identified two immediate projects that the Italian Ministry of the Environment and Territory has sponsored. The first project is concerned with monitoring the Abu Zirig Marsh and developing engineering plans for improving water flow conditions and water quality in the Abu Zirig Marsh. This includes hydrologic modeling, ecological monitoring and restoration, monitoring of water quality, and engineering design studies for control structures and other engineering solutions to improve water flow and quality. The second project involves a Feasibility Study for Potable Water in the Qurnah-Basrah-Nasriyah Triangle. The project evaluates the feasibility of recovering energy from natural gas that is currently flared from the oilfields of the south, using that energy for desalination of brackish water of the rivers of southern Iraq.

The Italian scientists on the New Eden team have conducted field work in the Iraqi marshlands and assisted with training our Iraqi staff. The Italian experts who contributed their talents to this effort include:

- **Augusto Pretner**, a Consulting Engineer with 34 years experience managing environmental and hydraulic engineering projects covering a wide range of sectors including hydrology, hydraulics, water quality (for drinking and industrial purposes), sanitary engineering and environmental impact assessment.
- **Marco Gonella**, a Consulting Engineer specializing in the application of numerical models to hydraulic problems. Engineer Gonella also teaches the application of numerical techniques for remote sensing and Geographic Information Systems (GIS) applications at the University of Bologna.
- **Andrea Cattarossi**, a Consulting Engineer with experience in many aspects of hydrology, complex computer modeling, riverine and coastal hydraulics. Mr. Cattarossi also has significant experience in the development of GIS-based water management systems.

More information on these and other members of our International Technical Advisory Panel is available on our website.

**OTHER PROJECTS**

The Iraq Foundation is also conducting monitoring for U.S. Agency for International Development (USAID) in two marshland areas, where the process of restoration is progressing well. We also participated in USAID's field expedition in February 2004 along with Dr. Peter Reiss, Dr. Curtis Richardson, and Dr. Edward Maltby among other international experts. USAID has also undertaken other projects in the marshlands, including planting alfalfa crops in the dried marshlands, establishing date palm nurseries, and developing plans for fish farms and hatcheries. They are also establishing constructed wetlands for wastewater treatment and operating health clinics.

In June 2004, the Canadian International Development Agency (CIDA) with the assistance of the Eden Again project and the Government of Iraq held a workshop in Amman Jordan to discuss the needs of Iraq for the restoration of the marshlands. Canada has granted $3 million (Canadian$) to the University of Waterloo's Wetlands Research Centre towards this effort. The meeting was attended by over 40 Iraqi scientists, engineers, and government officials from the Ministries of Water Resources Environment, and Science and Technology, along with over 30 representatives from the Iraq Foundation and other international partners supporting work or with interest in being involved in the marshes (UNEP, USAID, Italian Ministry of the Environment, UNESCO, AMAR, IUCN, BirdLife). The Canadian assistance will focus on building scientific and wetland policy capacity with various stakeholders in Iraq. Dr. Barry Warner of the University of Waterloo and Mr. Clayton Rubec of Environment Canada are the team leaders for the Canadian initiative.

Stakeholder meetings have begun in the marshlands. The Eden Again Project addressed the first meeting of the Maysan Marsh Arab Council in Amarah with several hundred participants. We assisted with organizing the al-Huda Scientific Association meeting in Amarah in April 2004 attended by 750 Marsh Dwellers. We are assisting with initiation of the Iraqi Society for Conservation of Nature - the first conservation organization in Iraq in decades. The Iraq Foundation is also sponsoring a meeting involving about 500 Marsh Dwellers in Naseriya in August. We are also mentoring smaller groups in villages among the re-flooded marshes, including Chubayish, Hammar, and Islah. Our message at these meetings is that restoration of the marshlands is possible, but the local people need to be involved in the decision-making process, and therefore the Marsh Dwellers must make their voices heard.

**THE EDEN AGAIN WEBSITE**

The Eden Again website (www.edenagain.org) has been updated and enhanced to provide more detailed information about our work and the work of others, and to provide more detailed information about the marshlands to the world.
Under the section "About Us" we have a listing of our scientific and technical staff members in Iraq along with available photographs. The Iraq effort continues to be led by our Project Director Dr. Azzam Alwash, who remains live and well in Baghdad if somewhat exhausted and overheated. Our Project Manager, Dr. Ali Douabul, is a native of Iraq and has a Ph.D. in Water Chemistry and Ecology from the University of Liverpool. His primary area of research has been the Mesopotamian Marshlands. Dr. Douabul has previously worked with several ministries of the Iraqi government, and with the United Nations Development Program, the Regional Ocean Program for the Marine Environment, the Kuwait Institute for Scientific Research, and Scripps Institute of Oceanography. Dr. Douabul left Iraq following the draining of the marshlands, and returned this year to assist with their restoration. Our Senior Project Advisor, Dr. Jamal Abayachi, is a Professor of Environmental Chemistry at the University of Baghdad. Our Executive Director, Rend al-Rahim, is on leave as she is currently serving as Iraq's Ambassador to the United States. We also have a staff of enthusiastic young engineers and scientists who have taken on the responsibility of conducting field work under extremely difficult circumstances. Please keep them in your thoughts and prayers.

Also in the section "About Us" we have updated information on our projects and our International Technical Advisory Panel. Our "Mission and Goals" remain the same and our progress towards achieving those goals has been updated.

Under the section "Marshland Information" we now have a photograph gallery containing over 50 images of the marshlands with brief captions, including a reference map with location names. Now those individuals who have not been able to go to Iraq can travel the marshlands with us, on foot, in car, and on mashoof (canoe). We have also updated the sections on "Media Coverage," "Satellite Images and Maps" (including the satellite image from February 2004) and "Reports" and have added a section with recommendations for "General Reading".

Under the section "Links" we have summarized the available information concerning other organizations who are actively conducting research, assisting with restoration planning, or providing humanitarian services in the marshlands. The purpose of this information is to assist these organizations in coordinating their activities with each other and with the CRIM. If you know of an organization or an activity that should be listed here, please let us know, and accept our apologies if we have omitted useful information.

We deeply appreciate the concern and encouragement shown by so many around the world. Please visit our website at http://www.edenagain.org/ to keep up with events in the marshes and the progress of our project. We continue to develop additional proposals and seek participation from any group or individual that desires to achieve restoration. We thank you for your continued support and good wishes and hope to see you someday in the marshes.

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