

# Peace Parks

## Conservation and Conflict Resolution

"It is a great relief to see the publication of *Peace Parks*. This is a full and definitive work on the subject by multiple experts. As hoped, it demonstrates a powerful instrument for achieving peace, one constructed at the intersection of science, environment, and international relations."

—Edward O. Wilson, Museum of Comparative Zoology, Harvard University



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## Iraq and Iran in Ecological Perspective: The Mesopotamian Marshes and the Hawizeh-Azim Peace Park

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Perhaps the most poignant conflict of contemporary times is in the land where the earliest human agricultural civilization evolved—Mesopotamia. This is the heartland of the Middle East, which has been at the crossroads of numerous civilizational expansions and hence identities have shifted over time.<sup>1</sup> Much of this ancient land is now encompassed by the states of Iraq and Iran, which are divided on linguistic and cultural grounds as Arab and Persian, respectively. This linguistic divide has also been exacerbated by sectarian differences that have existed between Shia and Sunni Muslims in this region.

So far peace park development has occurred largely between countries that do not have any active conflict. The conflict between Iran and Iraq over the Shat al Arab boundary extends back to the Peace Treaty of 1639 between Persia and the Ottoman Empire. Control of the Shat al Arab waterway has been a source of contention ever since. The Mesopotamian marshes have been a no man's land between countries that have been in conflict for 400 years. The area is even more in need of a buffer today, with the Gulf being a principle location for oil exports for both Iran and Iraq. Conservation in the form of establishing some form of transboundary peace park may provide an opportunity for environmental peace-building around common environmental and cultural resources. The marshes provide a no man's land between countries, helping prevent conflict in these areas. The wreckage of war throughout the Shat al Arab region makes this and the extensive al Ahwar marsh area a priority for peacekeeping as well as biodiversity conservation.

Investment in conserving and rehabilitating the Mesopotamian marshes may help reduce the cost of peacekeeping and humanitarian relief by attacking the roots of conflict and violence. Enhancing the intrinsic relationship between resource restoration and environmental management, linked to improvement of human health and the provision of sustainable livelihoods, may help stabilize the region in the long

term and reduce the likelihood of future conflicts. A transboundary protected area (TBPA) or transfrontier conservation area (TFCA) may provide an instrument for conflict mitigation. Despite ongoing conflict Iraqis have been involved in reflooding the marshes and monitoring ecological and hydrologic marsh rehabilitation since termination of the Baathist regime.

There is little doubt that environmental restoration of this region has been a priority for all Iraqis and indeed even their bellicose neighbors in Iran. This was exemplified at presentations at a unique conference hosted by the Iranian government in May 2005, titled "Environment, Peace and the Dialogue among Civilizations and Cultures." Prospects for environmental cooperation with Iraq, particularly in the marshlands region was a salient topic of discussion, and the conference was attended by the highest echelons of leadership including the president of Iran.<sup>2</sup> However, moving beyond such forums in both Iran and Iraq requires grassroots support as well as viable governmental infrastructure to implement conservation planning and implementation. This chapter attempts to provide some context for a peace park effort in perhaps the most troubled part of the world. Violence against the environment in this region has impacted an ancient indigenous culture, which has in turn become even more resolute to restore the landscape. Restoration of the landscape can be an important unifying theme in peace park formation and can also play a more figurative role in restoring ties between neighboring communities in the process.

### **The Marshlands of Mesopotamia: A Unified Ecosystem**

The al Ahwar<sup>3</sup> marshes of southern Iraq and Iran encompass the largest wetland ecosystem in the Middle East and western Eurasia, historically covering 15,000 to 20,000 square kilometers of interconnected lakes, mudflats, and wetlands. Also called the Mesopotamian marshes, the area is considered by Muslims, Christians, and Jews as the site of the legendary Garden of Eden. The marshes are a biodiversity center of global importance, have supported the traditional lifestyles of approximately 500,000 indigenous people—the Marsh Arabs or Ma'dan—and support important agricultural production of rice, wheat, millet, and dates.

The marshes and their inhabitants have suffered a variety of negative consequences over millennia as a result of regional conflicts, with perhaps the darkest chapter of their history occurring in just the last two and half decades. In what the United Nations Environmental Program has declared "one of the world's greatest

environmental disasters," more than 90 percent of the marshlands were desiccated as a result of upstream damming of the Tigris and Euphrates rivers, military operations during the Iran–Iraq war in the 1980s, downstream drainage projects, and ecocide and genocide undertaken by the Iraqi Baathist government in the 1990s.<sup>4</sup> The opportunity now exists for reversing the recent degradation of the marsh ecosystem through restoration and conservation projects. To the extent that these projects can involve both Iraq and Iran in a cooperative relationship, the al Ahwar marshes may be able to play a part in resolving conflict, instead of bearing its brunt.

### **Regional Geographic Context**

The Tigris–Euphrates catchment area is a highly variable mosaic of 950,876 square kilometers, with the headwaters in the mountains of Turkey and Syria in the north and Iran in the east. The Tigris and Euphrates rivers flow for about 1,300 and 1,000 kilometers respectively, through the great Mesopotamian<sup>5</sup> alluvial plain, and join to form the Shatt al Arab River, which flows for 190 kilometers into the Persian Gulf. The Karkheh River, originating in the Zagros Mountains of Iran, joins the Tigris River above the Tigris–Euphrates confluence.

The rivers of the Mesopotamian plain support four marshland areas: the Al Hammar, Central and Al Hawizeh marshes in Iraq, and the Al Azim marsh in Iran (figure 17.1). The Hawizeh–Azim marshes are the highest quality marshes remaining in the larger al Ahwar ecosystem complex; they are fed by the Tigris River (the two major distributaries are the Al Mausharah and Al Kahla), and by the Karkheh River. The Hawizeh–Azim marshes are the focus of this chapter because they are transboundary marshes straddling the Iraq–Iran border with globally significant cultural and heritage values.

The verdant green marshes are surrounded by vast tracts of desert to the south and mountains to the north and east. The region is hot and dry, with only 10 centimeters of annual rainfall. Evapotranspiration rates are 25 times that of precipitation, sucking water from marshes, lakes, and irrigated agricultural areas.<sup>6</sup> The marsh ecosystem is therefore entirely dependent on moisture from outside Iraq: the headwaters of the Tigris–Euphrates Rivers in Turkey and Syria and the Karkheh River in Iran. Prior to upstream dam construction, the inter- and intra-annual hydrologic variability resulted in a fivefold fluctuation in the size of the marshes.<sup>7</sup> The flood pulse in spring released large quantities of water in a short time period; this replenished alluvial soils, provided nutrients, and flushed accumulated salts from

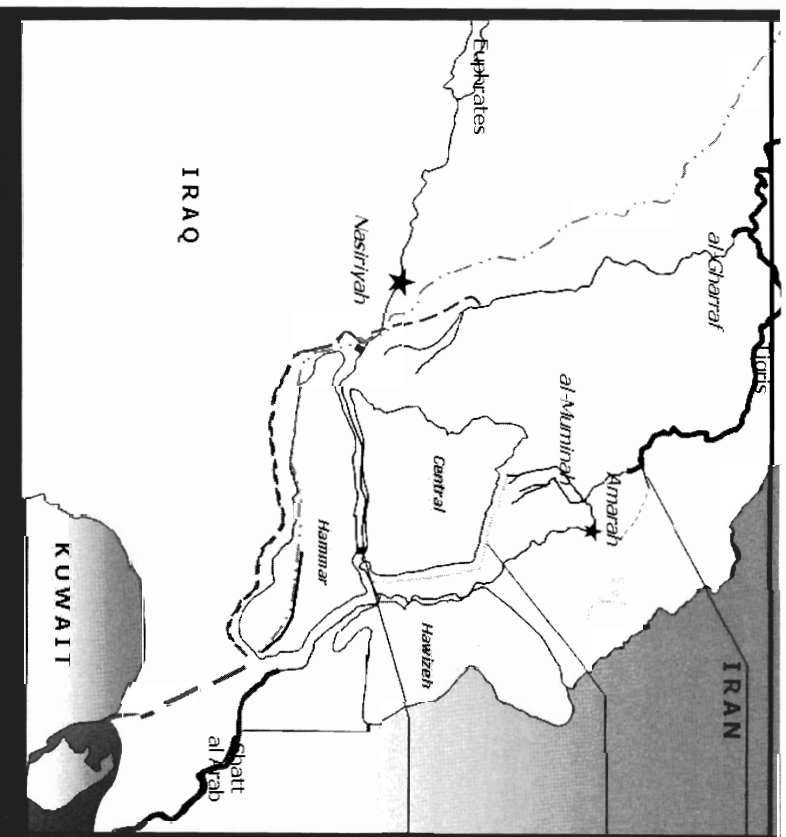


Figure 17.1  
Hawr al Ahwar Marshes: Hawzeih, Central, and Hammar marshes

the system. Spring floods are the boundary condition or driving force that shape marsh ecosystem dynamics. Upstream damming and water diversions have had a negative impact on water supply, water quality, and replenishment of the marsh surface.

### The Al Ahwar Ecosystem and Its Biodiversity Heritage

The Al Ahwar ecoregion is a complex of shallow freshwater lakes, marshes, and seasonally inundated plains dominated by reeds (*Phragmites australis*), fragments of riparian forest, and vast orchards of date palms along the Shatt al Arab. The wetlands are made up of a mosaic of permanent and seasonal marshes, shallow and deep water lakes, and regularly inundated mudflats.

A major haven of regional and global biodiversity, the marshlands support significant populations and species of wildlife.<sup>8</sup> Two-thirds of west Asia's wintering wildfowl, estimated at from one to ten million birds, are believed to winter in the marshes. Some of the largest world concentrations of several waterfowl species have been reported from the area.<sup>9</sup> The Mesopotamian marshes are a globally important center of endemism for birds, one of only eleven such wetland centers identified worldwide.<sup>10</sup> The marshes are the only breeding area of the rare and endemic Iraq babbler (*Turdoides althrostris*) and Basra reed-warbler (*Acrocephalus griseldis*).<sup>11</sup>

The Shatt al Arab is rich in nutrients and is the main source of nutrients entering the northwest portion of the Persian Gulf.<sup>12</sup> These nutrients are responsible for much of the area's marine productivity. The marsh ecosystem sustains an economically important local and regional fishery, providing spawning habitat for migratory fin fish and penaid shrimp species that use the marshes for spawning migrations to and from the Gulf. The total fish catch in Kuwait nets \$19.41 million per annum, and pomfret alone nets \$9.477 million or 49 percent of the catch.<sup>13</sup> Preliminary economic assessments of activities associated with the marsh dwellers are estimated at more than \$300 million per annum.<sup>14</sup>

### Al Ahwar's Cultural Heritage

The al Ahwar marshes are the homeland of a distinct cultural group—the Marsh Arabs.<sup>15</sup> Primarily Shiite Muslim, they consider their ancestral territory and cultural identity to straddle the present Iraq–Iran border, and there are strong kinship ties between marsh dwellers in the two countries.

Traditionally Marsh Arabs lived in a watery landscape, sleeping in reed homes, traveling in their boats or *marshoofs*, and welcoming travelers in their *mudhifs*, large structures woven of reeds in a style that dates back to the Sumerian culture. Water buffalos played a role in the culture very similar to that of the camel in Bedouin Arab culture.<sup>16</sup> Life in the marshes traditionally centered around gathering reeds, caring for water buffalo, fishing, hunting for birds, and seasonal agricultural work in date palm plantations, rice fields, and other local crops.

During ethnographic interviews I conducted with ex-patriot Iraqis in San Diego, California, I found that the marshes are a considered a cultural icon, similar to the Statue of Liberty.<sup>17</sup> All interviewees expressed the desire that the marshes continue to exist and to thrive. One Iraqi said, “We grow like a bird in the marsh. Everything

is in front of us. We canoe inside the marshes for reeds for the animals and for fish.” They expressed a great desire to have the marshes restored, saying “the marshes are like our body, our blood. You cannot miss one part. It all should stay as marsh.” Interviewees estimated that 90 percent of the people from the marshes would want to go back, if they had autonomy and their own way of life. They also made it clear that people returning to the marshes would want clean water, health care, education, and other modern conveniences.

### **The Impact of Regional Conflict**

Rivalries between various kingdoms of Mesopotamia (modern Iraq) and Persia (Iran) have occurred for more than 7,000 years. Although events before the 1970s have some relevance to the current discussion, the specifics of this earlier history are beyond the scope of this chapter. The most salient facts are the division of Muslims in the region into two sects, Shi’a and Sunni (a split that dates to AD 661), and a more recent history of control by imperialist powers—the Ottomans and then the British. In the context of the region’s oil resources and the potential wealth they represent, these historical facts set the stage for the more recent conflicts affecting the marsh ecosystem and its inhabitants.

The principal cause of the 1980 war between Iran and Iraq was control of the Shatt al Arab waterway, which has been a source of contention since the 1639 peace treaty between Persia and the Ottoman Empire. After World War I, border delineations on the part of the British first placed the dispute in an Iran–Iraq context. The Algiers Agreement of March 1975 was established along the *thalweg* principle (mid-river) and was later rejected by Iraq.

In 1971 Iraq claimed sovereignty rights over islands in the Gulf near the mouth of the Shatt al Arab, an important channel for oil exports. Iraq invaded Iran in 1981, and the transboundary marshes were transformed into a frontline combat zone. Iraq used Tabun, a nerve agent, causing some 5,000 deaths and the flight of over a hundred thousand Iraqi civilians to Iran and Turkey. War was disastrous for both countries, stalling economic development, disrupting oil exports, and creating approximately 2.5 million refugees. Most fighting ended in 1988, when Iran accepted the UN-sponsored peace treaty.

Mounting war debts incurred by the war with Iran, the falling world price of oil, and the arguable provocation of a buildup of American troops in Saudi Arabia led Iraq to invade and annex Kuwait on August 2, 1990. The Gulf War lasted six

weeks, with an official cease-fire accepted and signed April 6, 1991. The conflict created between two and three million refugees and resulted in severe environmental damage as the retreating Iraqi army blew up and set fire to Kuwait's oil wells; oil spills affected large areas of the region.

An *intifada*, or uprising, against Saddam Hussein followed the cease-fire after the Gulf War, during which the Iraqi government lost control of 14 out of Iraq's 18 provinces.<sup>18</sup> Retribution by the Baathist regime was both brutal and swift, and fell particularly heavy on the marsh region. Saddam saw the Shi'ite Marsh Arabs as disloyal. The marshes had always been a place for people to escape government authority and disappear; strategically they were a difficult-to-control environment. The al Ahwar wetlands were drained, leaving a scarred landscape encrusted with salt. Every living thing was destroyed—villages were firebombed and leveled, people killed or displaced, the fish and precious water buffalo poisoned, and the rice fields fallowed. The Marsh people who survived were forcibly evicted and became environmental refugees.<sup>19</sup> By April 2003, only 83,000 of an estimated 500,000 people remained in the marshes; the rest had been forcibly displaced, "dumped on a drained, barren, sweltering piece of land."<sup>20</sup> The AMAR international charitable foundation (AMAR) provided primary health care, education, and sanitation for these refugees.

#### **Causes of Marsh Desiccation**

The destruction of the Mesopotamian marshland ecosystem began well before the 1990s. Upstream dam and diversion activities in Turkey, Syria, and Iran prior to the 1980s reduced flows in the Tigris and Euphrates, ended the annual flood pulses, and trapped the rivers' life-giving sediment behind the dams.<sup>21</sup> More dams have continued to be built. The cumulative impacts of the construction of more than thirty large dams, particularly those recently built in the headwater region of Turkey under the Southeast Anatolia Project (GAP), have been enormous.<sup>22</sup>

During the Iran–Iraq war in the 1980s, the marshes were partially drained, mined, and damaged, as upstream diversions continued. Embankments were constructed that dried out the northwestern shores, which had traditionally been an important rice cultivation area.

In the early 1990s, the Iraqi government initiated a massive drainage program that included building a huge drainage canal<sup>23</sup> running between the Tigris and Euphrates rivers, draining water under the Euphrates River and out the Shatt al



Arab,<sup>24</sup> This was accompanied by construction of barrages, dams, dikes, and barrages to divert water away from the marshes. In early 2000, the Hawr al Hawizeh had been reduced to one-third of its 1973 to 1976 area, and the Hawr al Azim had been reduced to less than 50 percent, as Iran started to impound water behind its large dam on the Karkheh River.<sup>25</sup> Dam construction to control water flows greatly reduced and in some years eliminated the flood pulse. This resulted in increased turbidity, and organic loads—evidenced by a sediment plume extending out into the Gulf—have had adverse impacts on fin fish and penaeid shrimp productivity and on the marine food chain in general,<sup>26</sup> while decreased freshwater flows have increased the salinity of both groundwater and surface water in the marsh region. Desiccation of the marshes has resulted in warming of the microclimate by an estimated 5° Celsius and increased both the frequency and severity of dust storms.

### **The Potential for Restoration and Conservation of the Marshes**

Recent empirical research shows that less than 10 percent of the original marshes of Iraq remain as fully functioning wetlands.<sup>27</sup> Successful marsh rehabilitation is most likely to occur in the Hawizeh marsh, due to rapid colonization of native flora and fauna in the newly reflooded areas. High water quality, low salinity, and the presence of permanent lakes and dense vegetation give hope that this area can function as a refugia for sensitive species.

There are other encouraging signs. According to United Nations estimates, 30 to 40 percent of the al Ahwar marshes have been re-inundated since 2002.<sup>28</sup> Some areas are rejuvenating beautifully, with lush growth of reeds, and rebounding of some fish populations. Most important, people are returning to the marsh ecotonal area, living on the edges of the marshes. They are gathering reeds and rebuilding their homes.

If there is hope for restoring the marsh ecosystem, it may lie with the indigenous Marsh Arabs. They are powerfully motivated to re-inhabit the area and manage it sustainably. The intimate connection between a functioning marsh ecosystem and the cultural identity of Marsh Arabs is expressed well by the Iraqi poet Dr. Rasheed Bander al-Khayoun<sup>29</sup>:

The people of al Ahwar need water in the marshes... Their spiritual need surpasses the material need, since draining the marshes means putting the boats out of service and an end to regional poetry specific to al-Ahwar, and to singing, which can only be performed in that theatre of water and reeds and rushes. Indeed, draining the marshes means the death of a way of

life that people have practiced for tens of centuries. There is no doubt that the people desperately want their environment to return to its natural state. . . . All the people dream of is the marshes full with fishes, birds, cows and buffalos with modernized passageways and islands, because it is this vision that is in harmony with their spiritual heritages as found in their songs, poems and tales.

### **Eco-cultural Restoration**

The marshes are a culturalized landscape, formed over thousands of years by agricultural and traditional management practices such as the selective harvesting of reeds, the use of fire, and hunting and fishing. These intermediate-scale disturbances have long been key to ecosystem structure and function. Reeds were used for water buffalo fodder, weaving of mats for sale and for use in the home, and to replenish construction materials. Traditional management of the marshes included selective harvesting and burning of reeds on a seasonal basis, multiple species management (reeds, fish, waterfowl, bird eggs, rice), burning senescent vegetation to stimulate new growth, spatial and temporal restriction of fish harvest during spawning, and landscape patchiness management.

Because the marsh ecosystem is adapted to human management, any effort to restore the ecosystem must also be an effort to re-establish Marsh Arab culture and make use of the marsh dwellers' traditional management practices. Thus maintaining the integrity, identity, and culture of the Marsh Arab society must be pre-eminent in restoration planning, and this must include supporting the return of Marsh Arabs to the area. "The future of the 5,000-year-old Marsh Arab culture and the economic stability of a large portion of southern Iraq are dependent on the success of this restoration effort," write Richardson and coauthors,<sup>30</sup> but the converse is equally true: the success of the restoration effort depends on Marsh Arab culture and the economic stability of a large portion of southern Iraq.

### **Creating a Transboundary Conservation Area**

Given the region's history of conflict, the need for funding for conservation and sustainable development, the marshes' straddling of an international border, and the pressures for water diversion and resource-extraction activities, the Hawizeh-Azim marshes need some kind of internationally recognized protected area status.

Any consideration of a transboundary conservation area would need to include a core area of wildland or traditionally managed marshes, with buffer zones of

agricultural production. Local stakeholders and site conditions would inform development of zone characteristics, and conservation plans would need to integrate cultural uses. The Ecosystem Approach, adopted by the contracting parties on the Convention on Biological Diversity, offers the possibility of balancing biodiversity conservation, sustainable use, and equitable sharing of the benefits of genetic resources, and it puts a human perspective at the center of the process.<sup>31</sup> The Ecosystem Approach stresses management at appropriate spatial and temporal scales, and points to transboundary cooperation as key to maintaining the ecological integrity of the area and an adequately diverse and sufficiently large gene pool.

Parallel conservation measures, ecosystem surveys, ethnographic interviews, and adaptive resource management will make sustainable biodiversity conservation far more likely. Harmonization of the relevant legislation and regulations across each component of the transboundary park designation, including development of specific infrastructure for marsh management, will assist in sustainable park establishment and management.

Key challenges to establishment of any protected area status for the Hawizeh-Azim include engagement of all appropriate stakeholders, including traditional marsh dwellers and women.<sup>32</sup> Currently the New Eden project with Nature Iraq is conducting a socioeconomic survey in 250 villages, selected to represent the populations most affected by the condition of the marshes. The Amar Appeal has also been instrumental in marsh surveys, primarily with a human health focus.<sup>33</sup>

Given the violence and conflict in the area, empowerment, education, and employment opportunities are essential to build local support for any type of transboundary reserve or park. Marsh security will depend on inventorying and eliminating land mines, unexploded ordinance, and military toxins from the environment. Legitimate and well-informed decision making structures need to be instituted, including resource management strategies for sustainable fisheries. International support and transboundary cooperation will depend on a combination of integrated approaches to conservation, restoration, resource management, and sustainable development. This is definitely significant for regional security, especially given the vast oil resources and global multinational interest in those resources. There is always the potential of wars erupting over access to, and control over, vital natural resources such as oil, natural gas, and water.

Another key challenge to restoration, conservation, and sustainable development of al Ahwar is water management in Iraq. According to Dr. Azzam Alwash, director

of the Nature Iraq project, “From the Iraqi perspective, the new Iraqi constitution gives the power over water management to the federal government, but there is ambiguity as to how the power of the federal government is to interact with the powers of the local governments and the various regional entities that will be created in the future.”

Iran has immediate influence on Iraqi politics because of history and geography as well as economic, ethnic, religious, and paramilitary ties. According to Geoffrey Kemp, US Institute of Peace Special Report, 2005, “Iran has two fears as the nascent government of Iraq begins to emerge: (1) chaos and civil war among the Shiite factions, Sunnis, former Baathists, Kurds, and Turks; and (2) creation of a stable, pro-Western secular democracy that enjoys good relations with the United States, Saudi Arabia, Jordan, and Israel. A stable Iraq is a competitive threat for primacy in oil exports.” Oil revenue, as well as development of natural gas reserves, are a critical component in Iran’s capacity to ride out its disputes with the United States. A transboundary conservation area provides a moat or buffer between the two countries in area that has been a traditional source of conflict. It also helps maintain the unopposed usage of the Shatt waterway.<sup>34</sup>

#### **Transboundary Park Alternatives**

There are several possible international instruments to support conservation and cooperative adaptive management of the Hawizeh-Azim marshes. As a first step, the Iraq Council endorsed participation in the Ramsar Convention on Wetlands with the designation of the Hawizeh marshes as the first Ramsar wetland of international importance in 2006. The Iraq Cabinet needs to ratify this for there to be final approval, but it is considered to be a nearly automatic step. These approaches can be combined to maximize benefits to local communities, resource conservation, and regional security. They include the following: creation of a Shared Peace Park or Transboundary Biosphere Reserve,<sup>35</sup> designation as Ramsar Sites (Wetlands of International Significance),<sup>36</sup> and designation as a World Heritage Site.<sup>37</sup> Other possible designations at the country level include National Park, National Monument, Habitat/Species Management Area, and Managed Resource Protected Area. Iran and Iraq are most likely to be successful in obtaining funds and resources if they jointly nominate the marsh area under one of the international instruments mentioned above. Given the political situation in the two countries at this time, it is

more likely that separate designation of conservation status for the Al Azim and Al Hawizeh marshes is a more timely first step to the environmental peacemaking process.

### **Shared Peace Park**

Parks for peace are transboundary protected areas that are formally dedicated to the protection and maintenance of biological diversity, natural and associated cultural resources, and the promotion of peace and cooperation. The advantage of peace park status is that there is an explicit purpose to promote peace and cooperation between governments. The first step is to collaboratively, with strong grassroots input, develop a common vision. Local genesis of a vision for the Hawizeh–Azim Peace Park will help formulate the linkages between the environment and regional security. Peace parks in other parts of the world have a proven strategic value in bringing parties together and accessing new funding sources for sustainable development.

Cooperation between Iran and Iraq could potentially result in coordination and co-management of this globally significant area, and future establishment of a demilitarized zone between the countries. The two countries could host joint events, field days, and festivals, building on recent events such as the “Environmental Peace building in Iran” conference held in 2005, two international meetings of the Regional Organization for Protection of the Marine Environment (ROPME) held in the Gulf region,<sup>38</sup> and two conferences on the marshes held in Iraq.<sup>39</sup> In the long run the romantic legacy of Wilfred Thesiger,<sup>40</sup> Gavin Maxwell, and Gavin Young may help create a marketable draw for ecotourism, once the region is safe and stable. Working jointly on peace park status will enable the countries to address land and natural resource rights—including the vast oil reserves under the marshes—to the mutual advantage of both nations. The Iran–Iraq war of the 1980s illustrates the cost in lives and livelihood of war to each nation.

### **Ramsar Wetland of International Importance**

The Hawizeh–Azim wetlands are habitat for endemic, vulnerable, endangered, and critically endangered species.<sup>41</sup> These wetlands are critical to the regional conservation of biological diversity, particularly considering the extensive drainage and destruction of the Mesopotamian Marsh ecosystem and local culture; as such they are good candidates for inclusion on the list of “Wetlands of International Importance” under the Ramsar convention.<sup>42</sup>

Under the Ramsar Convention, designation of the Azim and/or Hawizeh marshes requires appropriate legal and institutional frameworks that are essential to avoid misunderstandings or disputes between countries. While Iran is a signatory to the convention, Iraq is not. It is anticipated that Iraq will join the Convention this year (2005), and designate the Hawizeh Marsh as its first site.<sup>43</sup> Iran and Iraq have been engaged in dialogue to give transboundary conservation status to the marshes, facilitated through the UNEP Iran–Iraq Dialogue. If both countries become signatories to the wetland treaty, its provisions will help ensure the sustainable wise use and conservation of the wetland ecosystem. Designation as a Wetland of International Significance makes it possible to obtain funds from the Global Environmental Facility (GEF). GEF disperses funds for research-oriented monitoring and management that come from the World Bank, the United Nations Development Program (UNDP), and United Nations Environmental Program (UNEP). Designation under the Ramsar Convention should be paired with regional protected area status of some kind in each country.

#### **World Heritage Site**

The World Heritage Convention, promoting Transboundary Conservation Cooperation through UNESCO World Heritage and Biosphere Reserves, links ecological conservation and the preservation of cultural properties. The Convention recognizes the way in which people interact with nature, and the fundamental need to preserve the balance between the two. The Convention has been signed by all countries in the Tigris–Euphrates watershed (Iraq, the Islamic Republic of Iran, Kuwait, Syrian Arab Republic, and Turkey). Signatories to the Convention pledge to protect not only the World Heritage Sites on its own territory but also to protect its national heritage. Nomination of the Hawizeh–Azim marshes as a World Heritage Site would be a logical choice due to their natural and cultural heritage value. The benefits to establishment of a World Heritage Site to the participant countries include technical assistance, professional training for staff, support for public education, and encouragement of participation of the local population in preservation of their cultural and natural heritage.

Hawizeh is currently under review as a World Heritage Site (WHIS). Benefits of WHS designation include international status as well as associated United Nations funds and technical support. It often takes a very long time to get WHS designation, and it is now years away for the Hawizeh and Azim marshes.

### **Coordination of International Efforts**

Restoration and sustainable use of the Mesopotamian marshlands needs to be anchored in a regional framework, as the water supply for the marshes largely originates from outside of Iraq, and the impacts of marshland desiccation extend to the marine environment of the Persian Gulf. Several regional planning efforts are underway, coordinated by the Center for Restoration of the Iraq Marshlands, UNEP, the Regional Organization for the Protection of the Marine Environment (ROPME), UNDP, UNESCO, the Kuwait Institute of Scientific Research (KISR), the Nature Iraq/New Eden Project, the Canada Iraq Marshlands Initiative (CIMI), Italian Ministry of Environment and Territory (MET), Environmental NGP Roundtable and Regional Environmental Forum, Iraqi Universities, Iraqi stakeholders, and funding and technical assistance from donor countries. Comprehensive planning efforts currently underway include a Master Plan for Integrated Water Resources Management, a Sustainable Restoration Plan for the Mesopotamian Marshes, and a Feasibility Study for Potable Water.<sup>44</sup>

To date, only about \$30 million has been designated for restoration, while billions have been designated for other Iraq reconstruction activities. The US Agency for International Development (USAID) has contributed \$4 million, the Canadian International Development Agency (CIDA) \$3 million, and the Italian government approximately \$10 million. The Japanese government, under the banner of "Support for Environmental Management of the Iraqi Marshlands," has contributed \$11.4 million.

UNEP promotes the sustainable restoration of the Mesopotamian marshlands by pursuing two high-priority areas for cooperation: (1) promoting bilateral dialogue and cooperation between Iran and Iraq on the shared Hawizeh-Azim marshlands, which may include developing an integrated management plan for the shared wetlands, and (2) re-engaging Iraq with other countries in the region by including it within the activities of ROPME, a possible starting point for broader discussions involving all Tigris-Euphrates countries in cooperation at the river basin scale.

UNEP hosted an Iran-Iraq Technical Meeting on the shared al-Hawizeh/al-Azim marshlands in May 2004. The Centre for the Restoration of the Iraqi Marshlands (CRIM) under the Ministry of Water Resources emphasized a holistic restoration vision based on ecological, sociocultural, and economic criteria. Both delegations reaffirmed the need to increase international awareness and support of the marshlands, and in particular to enhance the role of international financial institutions

including the World Bank and the Global Environmental Facility. They agreed that there is a need to collaborate internationally and regionally through the Ramsar Convention on Wetlands, ROPME, UNESCO, and other multilateral Environmental Agreements.

A March 2005 ROPME/UNEP conference on the restoration of the Mesopotamian Marshes emphasized the functional and cultural linkages between the Mesopotamian marshes and the marine environment, underlining the importance of restoration and cooperation to the people of the ROPME sea area and beyond in terms of economic benefits and environmental security. The meeting endorsed the potential benefits of membership of the Ramsar Convention on Wetlands and recognized the advantages of Wetland-of-International-Importance designation to both Iran and Iraq.

#### **Iraq's Marsh Stakeholders: Sustainable Development and Restoration**

The Eden Again/New Eden Project sponsored a National Conference on Development and Needs Assessment of the Marshes was held in Iraq in December 2004, with over 400 people attending.<sup>45</sup> The level of national pride and interest in this effort was indicated by the participants call for December 2 to be designated the annual national day of the Iraqi marshes, and proposed that an international conference on the restoration of the marshes be held in Iraq. A "Rehabilitation of Southern Iraqi Marshes" Conference was held at Basrah University on April 11–12, 2005. Iraqi Prime Minister Ibrahim Al-Jaafari sent a telegram to be read at the conference, congratulating the participants in their efforts to restore the marshes, and affirming the marshes are humanity's heritage. Prime Minister Al-Jaafari pledged the support of the Iraqi government to restore the marshes. Seven Iraqi ministries were represented; the event was widely reported in the Arabic press (and not mentioned in the English press). More than eighty-six papers were presented by Iraqi scientists; there was broad attendance by the indigenous Marsh Arabs at the meetings, with several exhibits related to their traditional lifestyle. The beauty of the marshes and the Marsh Arab way of life were reflected in an inspirational art gallery. In 2006 the second Canadian–Iraq Consultation Workshop on Iraqi marshlands was held, with sixty representatives of the national ministries, local councils and Iraqi NGOs participating. The objectives of the meeting were to discuss long-term development planning, stakeholder outreach, and governance for the Mesopotamian marshes of Iraq.



### Future Threats to Sustainable Water Supply

An adequate water supply is the most crucial factor in restoring and sustaining the marsh ecosystem and the downstream marine environment of the northwestern Gulf, but such a supply is by no means assured.

The Karkheh Dam, Iran's largest reservoir, is under construction and will divert water away from the marshes. Iran is also building a 34 kilometer-wide dike along the border of the two countries that will bisect the marshes. Additional threats are emerging from planned hydroelectric dam construction on the tributaries of the Tigris River in Iraq. The largest of these is the Beckme Dam in north Iraq, with a capacity of 14.4 square kilometers on the Great Zab River. Water flow currently sustaining the marsh ecosystem would be diverted for agriculture. Further blockage of sediment flow by the dams could result in bank and channel erosion and marsh subsidence. In a recent meeting in Rome on October 21, Italy joined Iraq in a \$300 million hydroelectric mega-dam building program intended to make Iraq an electricity exporter. It will be difficult to discourage Turkey and Syria from building dams in the headwaters of the Tigris and Euphrates if Iraq and Iran are draining their wetlands for hydroelectric production and irrigation.

### Conclusion

Perhaps the most compelling conflict of contemporary times can also be an exemplar of the power of environmental peacemaking. Idyllic as this may seem, the fact that restoration projects in the marshlands have continued despite the Iraqi insurgency suggests that there is indeed a visceral respect for conservation among Sunni and Shia communities of this region. Despite the hawkish stance of Iran on most matters of international relations, the willingness of the administration to engage in dialogue on the environment at the highest level (as exemplified by the Tehran conference of 2005) challenges many realist assumptions. Similar to the cases in Afghanistan discussed in chapter 16, the establishment of such a park would not end all territorial conflicts, but it could provide a means of building trust and a cooperative nexus between disparate communities.

Designation of the Hawizeh–Azim marshes as an internationally recognized conservation area or transboundary peace park is important for the restoration and sustainable management of this cultural and ecological treasure. It will allow Iran, Iraq, and the international community to protect regional biodiversity, maintain tra-

ditional cultural integrity, support regional economic growth, and promote peace and cooperation among the countries in the watershed. Peace park or conservation status would have the added benefit of providing a buffer between two countries that have been in conflict over the Shat al Arab waterway for centuries. Establishing a conservation park would ensure vital shipping access for Iraq, which is seen as vital to economic and security interests. Cooperation and mutually beneficial goals are crucial for regional security in an area with limited sweet water and the world's largest oil reserves.

The majority of the people on both sides of the Iran-Iraq border want the marshes restored and whole. In the words of an Iranian ecologist, "We share the joy of winter-hosting millions of migratory birds in our south-western wetlands, which cannot be assumed separate from the Mesopotamian wetland system, and know the value and role of the mother lakes and reed-beds in southern Iraq." Iraq poet Dr. Rasheed Bander al-Khayoun adds, "The al-Ahwar has its own heritage and is distinguished from the region, from Iraq and Iran, and the rest of the world. Because of the brevity of the period of destruction, the heritage has remained, and the spiritual heritage is still there. The poetry, songs, poems and arts will return with the water."

#### Notes

1. Lewis (2001: 10).
2. International Institute for Sustainable Development, *Dialogue among Civilizations Bulletin*, vol 108, no. 1, May 2005.
3. The term *al-ahwar* is derived from Aramaic and means "whiteness" or "the illumination of sun on water."
4. UNEP (2001).
5. Mesopotamia means, literally, *the land between two rivers*.
6. Mean annual precipitation ranges from 10 to 40 centimeters in the wetlands. Annual evaporation is about 275 centimeters.
7. Prior to dam construction, considerable variation in stream flow occurred as a result of annual precipitation. Between 1923 and 1946 the flow of the Euphrates River averaged 14 billion cubic meters per year (bcm/yr), but ranged from 5 to 20 bcm/yr. Similarly the flow of the Tigris River averaged 37 bcm/yr, but ranged from 16 to 59 bcm/yr over the same time period.
8. UNEP (2001).
9. Scott (1995).
10. Evans (2001), Scott (1995), and Stattersfield et al. (1998).

11. Clay Rubec, CIML, 2006. Ongoing surveys are being conducted by Nature-Iraq, the New Eden Project, and the Canada-Iraq Marshlands Initiative.
12. Personal communication, Faiza al Yamani, September 2005.
13. Personal communication, Faiza al Yamani, Kuwait Institute of Scientific Research, September 2005.
14. The main categories of economic activities of the marsh dwellers are fishery, hunting, manufacturing of handicraft articles of cane, buffalo breeding, maintenance of small domestic animals, and growing wheat, rice, and other crops in small and microscopic plots for domestic consumption. Alexander Tkachenko (in Clark and Magee, 2001).
15. The area's inhabitants are commonly known as Ma'dan, Marsh Arabs or marsh dwellers. Ethnically the population's composition is intermingled between the Persians to the east and Arab Bedouins to the west. The Marsh Arab way of life is largely based on the traditions of the Arab Bedouin (Thesiger 1964).
16. Thesiger (1964).
17. M. Stevens, unpublished field notes, 2002-2005.
18. The uprising was carried out primarily by Kurds in the north of Iraq and Shi'ites in the south, and was publicly supported by President Bush.
19. People of the Altraba villages alone were displaced 14 to 17 times at gunpoint. Nicholson and Clark (2002).
20. Baroness Emma Nicholson, personal communication, 2005. About 200,000 Iraqis became refugees in Iran, about 95,000 of whom went to camps in Khuzistan in southwestern Iran. Other refugees were relocated to the United States, United Kingdom, Germany, and Australia.
21. UNEP (2001).
22. More than twenty additional dams are planned for the Twin Rivers watersheds, or are currently under construction.
23. The drainage canal has been called the Third River, Leader River, Saddam River, or Main Outfall Drain (MOD).
24. Mitchell (2002).
25. UNEP (2001).
26. Al Yamani et al. (2004).
27. Richardson et al. (2005).
28. UNEP (2005) and Eden Again (2005).
29. Carnegie Council on Ethics and International Affairs (2004).
30. Richardson et al. (2005).
31. Smith and Malby (2003).
32. UNEP (2001); Eden Again (2005).
33. *Nature Iraq Newsletter*, vol. 2, no. 1, p. 2, Winter 2006.
34. Kemp (2005).

35. ROPME/UNEP High-Level Meeting on the Restoration of the Mesopotamian Marshlands (al Ahwar) in Bahrain, 2005, recommended that a transboundary analysis of coastal and marine environmental issues in the Arabian Peninsula and Iran include evaluation of a shared peace park or transboundary reserve.
36. Ramsar (2000).
37. Parow and Maltby (2004).
38. ROPME/UNEP High-Level Meeting on the Restoration of the Mesopotamian Marshlands (al Ahwar) in Bahrain (2005).
39. The Canada Iraq Marshlands Initiative and New Eden/Eden Again (2004 and 2006); several field training courses in support of national assessment of key biodiversity areas; a national conference on Development and Needs Assessment of the Marshes (2004); a special session on the Mesopotamian Marshes with Iraqi scientists at the Ecological Society of America meetings in Montreal, Canada (2005); and National Wetland Management Training Courses (2005–2007).
40. Thiesiger (1964), Maxwell (1957), and Young (1977).
41. Species in the marshes are on the IUCN Red List, the appendixes of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), and the Convention on Migratory Species (CMS or Bonn Convention).
42. Ramsar defines wise use of wetlands as their “sustainable utilization for the benefit of mankind in a way compatible with the maintenance of the natural properties of the ecosystem.” Community involvement and participation in co-management of wetland sites have been recognized as essential throughout the history of the Ramsar Convention.
43. The Canada Iraq Marshlands Initiative has offered to facilitate and advise Iraq on this process, and has offered to assist in sponsoring an Iraq Delegation to the Ramsar ninth Conference of the Parties Meeting in November 2004.
44. Eden Again/New Eden (2004).
45. Azzam Alwash, Eden Again, personal communication, 2004.