

**ARAB STATES**

**THE AHWAR OF SOUTHERN IRAQ: REFUGE OF BIODIVERSITY AND THE RELICT LANDSCAPE OF THE MESOPOTAMIAN CITIES**

**IRAQ**



Central Marshes - © IUCN Faisal Abu-Izzeddin

## WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

### THE AHWAR OF SOUTHERN IRAQ: REFUGE OF BIODIVERSITY AND THE RELICT LANDSCAPE OF THE MESOPOTAMIAN CITIES (IRAQ) – ID No. 1481

**IUCN RECOMMENDATION TO WORLD HERITAGE COMMITTEE:** To defer the nomination under natural criteria.

**Key paragraphs of Operational Guidelines:**

Paragraph 77: Nominated property has the potential to meet World Heritage criteria.

Paragraph 78: Nominated property does not meet integrity or protection and management requirements.

**Background note:** This nomination file was submitted in 2014 for evaluation at the 39<sup>th</sup> Session of the World Heritage Committee; however, due to logistical and security matters, the State party requested to postpone the evaluation until 2015, for discussion at the 40<sup>th</sup> Session of the World Heritage Committee. The evaluation mission was undertaken in 2015, although logistical considerations prevented this being organized as a joint mission. IUCN and ICOMOS have met jointly with the State Party in face-to-face and skype meetings on at least 7 occasions to discuss the nomination during the evaluation process to date. In addition IUCN provided upstream advice on this nomination in a documented process that is referred to in the references below.

#### 1. DOCUMENTATION

**a) Date nomination received by IUCN:** 16 March 2015

**b) Additional information officially requested from and provided by the State Party:** Following the IUCN World Heritage Panel a joint progress report was made by IUCN and ICOMOS, and sent to the State Party on 27 January 2016. Further information was sought by IUCN on the minimum water flows required to maintain the wetland components of the nominated property, the degree to which these flows are being met, and the degree of threat to these essential water supplies. In addition IUCN requested a fully up-to-date statement on the biodiversity values of the nominated property, including threatened plants and species, and on a range of matters concerning the cultural components of the nomination, and the justification for a serial approach. IUCN and ICOMOS held a conference call with the State Party on 11 February 2016 to further discuss the joint request and interim report. The State Party responded with further information on 25 and 29 February 2016.

**c) Additional literature consulted:** Various sources, including records of the Ramsar Convention, and Garstecki, T. (2012). *Development of a Management Planning Framework for Ecosystem Management and Biodiversity Conservation in the Iraqi Marshlands*. UNEP / IUCN. Garstecki, T. and Amr. Z. (2012). *Biodiversity and Ecosystem Management in the Iraqi Marshlands – Screening Study on Potential World Heritage Nomination*. UNEP/Ministry of Environment/UNESCO. Jasim, I. (2013). *Environmental Laws in Iraq*. (Arabic). Ministry of Environment, Republic of Iraq. Republic of Iraq. Ministry of Environment. (2013). *The National Environmental Strategy and Action Plan for Iraq (2013 - 2017)*. Republic of Iraq. Ministry of Environment. (2014). *“The Ahwar” Marshlands of Southern Iraq. The Consolidated Management Plan for the Protected*

*Areas of the Huwaizah Marshes, the Central Marshes, East Hammar Marshes and the West Hammar Marshes*. Thesiger, W. (1964). *The Marsh Arabs*. Penguin Books. Fawzi, N. A.-M., K.P. Goodwin, B.A. Mahdi, and M.L. Stevens (2016) *Effects of Mesopotamian Marsh (Iraq) dessication on the cultural knowledge and livelihood of Marsh women*. *Ecosystem Health and Sustainability*. 2(3). Chatelard, G. and T. Abulhawa (2015) *The World Heritage Nomination of the Ahwar of Southern Iraq*. Report on upstream process published by Arab Regional Centre for World Heritage, Manama. Hoffman, F. T., Langendoen and T. Mundkur (2013) *Comparative analysis on the biological diversity and institutional management of the Marshlands of Southern Iraq*. Wetlands International. Magin, C. and S. Chape (2004) *Review of the World Heritage Network: Biogeography, Habitats and Biodiversity*. IUCN, Gland, Switzerland and UNEP-WCMC, Cambridge, UK.

**d) Consultations:** 9 desk reviews received. The mission also met with the Governor, 1<sup>st</sup> Deputy and 2<sup>nd</sup> Deputy Governor of Basra; the Governor and 1<sup>st</sup> Deputy Governor of Thi Qar; and representatives from the Ministry of Health and Environment and from the Ministry of Water Resources (MOWR) in three Governorates. Further consultation took place with representatives of the Basra and Haritha Municipalities; the National Guard of Basra; NGOs; the Ahwar task force; the Ramsar Focal Point in MOWR; and with many local residents and stakeholders.

**e) Field Visit:** Faisal Abu-Izzeddin (IUCN), 15-22 November 2015, and Assaad Seif (ICOMOS), 6-13 October 2015

**f) Date of IUCN approval of this report:** April 2016

## 2. SUMMARY OF NATURAL VALUES

The nominated property lies in Southern Iraq, within the four governorates of Maysan, Al Basrah, Dhi Qar (which include the wetland areas of the nomination), and Al Muthanna. The nomination is of a serial property, and nominated under both cultural criteria (iii) and (v) and natural criteria (ix) and (x). It comprises three archaeological “cultural components” (the small but internationally significant archaeological sites of the Sumerian Cities of Uruk, Ur, and Tell Eridu (respectively 541 ha, 71 ha and 33 ha in size), and four larger areas termed “natural components” in the nomination, which consist of four freshwater, brackish and saltwater marshland areas in Southeastern Iraq. These four latter components are the Huwaizah Marshes (48,131 ha and included within a Ramsar Wetland of international importance), Central Marshes (62,435 ha), East Hammar (20,342 ha) and West Hammar (79,991 ha) Marshes. The total area of the property is 211,544 hectares, with an additional 209,000 hectares in buffer zones, which are defined around every component, with the exception of Huwaizah where there is no buffer zone at the national border with Iran.

The Ahwar of Southern Iraq (also known as the Iraqi Marshlands) is unique as one of the world’s largest inland delta systems in an extremely hot and arid environment. The marshlands are a highly dynamic system, characterized by short and long-term ecological succession processes. Short term ecological succession results from the fact that the marshlands receive little or no precipitation and are virtually entirely dependent on a seasonal influx of water from the Tigris and Euphrates rivers. Longer term succession has resulted from a range of factors including Earth tectonics, changes in sea level, riverine hydrology, mineral deposition and changes in climate dating back to the mid-Holocene 6,000-7,000 years ago. These longer term processes have resulted in the shifting of the entire Ahwar system from its previous location near the cultural components of the nominated property, to its current location to the East. Because these succession processes were fundamental in shaping the Ahwar of Southern Iraq over several thousand years, the marshlands have a high degree of resilience, and this has made it possible to begin re-flooding and restoring the marshlands ecosystem since 2003, after the marshlands had been almost completely drained in preceding decades. The nomination notes that current plans have the objective of ultimately re-flooding a larger area totalling 556,000 ha, corresponding to about 75% of the original extent of the marshlands in 1973.

The Ahwar is an area of high species diversity relative to the young age of the ecosystem, with a number of endemic and restricted range species and numerous populations of threatened species, especially birds. These include four mammals (the endemic Bunn’s Short-tailed Bandicoot Rat (EN) and a subspecies of the Smooth-coated Otter (VU), in addition to the restricted range species of Mesopotamian Gerbil (LC) and Euphrates Jerboa (NT)), five birds (including the endemic Basra Reed Warbler (EN) and Iraq Babbler

(LC), in addition to the three restricted range subspecies of the Little Grebe (LC), Black Francolin (LC) and Hooded Crow (LC)) and six restricted-range fish species: Pike Barbel (*Luciobarbus esocinus*-VU), Gattan (*Luciobarbus xanthopterus*-VU), Leopard Barbel (*Luciobarbus subquincunciatus*-CR), Smallmouth lotak (*Cyprinion kais*-LC), Mesopotamian catfish (*Silurus triostegus*-LC) and Binni (*Mesopotamichthys sharpeyi*-VU). In addition, the Ahwar provide habitat for three relict populations of three bird species (the African Darter (LC), the Sacred Ibis (LC), and the Goliath Heron (LC)) that are thousands of kilometers away from their core global populations in Africa.

Finally, the marshlands are also globally important for seasonal bird migrations as well as for fish (many of which are diadromous meaning they migrate between salt and fresh waters) and crustaceans coming from the Persian Gulf. As the only large-scale wetland system within thousands of kilometers along two bird migration routes, the marshlands have been recognized as one of the largest West Eurasian-Caspian-Nile staging points and wintering grounds for ducks as well as a major stopover point for shorebirds flying along the West Asian-East African flyway. Populations of at least 16 waterbird species appear to exceed 1% of the entire flyway population.

With regard to criterion (x), there is a range of additional information needed to better understand the biodiversity values of the nominated property. The nomination dossier lists 38 mammal species in the marshlands but notes this estimate relies on historical records rather than recent surveys. Confirming the presence of the mammal species in the components of the nominated property would be important. As noted above, more information would be needed on the minimum water flows necessary to sustain the biodiversity values of the nominated property. A more complete understanding of the tolerance limits for key plants and vegetation would also be useful as conditions in the marsh are still changing (water levels, salinity, nutrient levels, temperature etc.). This is essential information as aquatic and semi-aquatic plants are the structural and functional basis of the marsh community and are also crucial for traditional livelihoods. More data on the overall plant diversity in the Marshes is needed in particular the occurrence and status of endemic and globally threatened plants, as would further data on invertebrates. Little additional information is provided in the supplementary information on this aspect.

## 3. COMPARISONS WITH OTHER AREAS

The nomination has benefited from significant upstream support in relation to its nature conservation values, and the potential to meet the biodiversity criteria is documented in an IUCN commissioned study, undertaken by Garstecki and Amr in 2011. This study concludes that the area has potential to meet both biodiversity criteria, following an extensive analysis carried out in the broad methodology of the

World Heritage upstream process (although the study predates any formal adoption of the upstream process).

The nomination itself, based partly on this work and based on an extensive study by Wetlands International, undertakes a well-prepared comparative analysis of only the four “natural components” in relation to natural criteria. This analysis follows a clear methodology, initially screening to select 16 comparable sites, and then making detailed analysis of 7 of these. It concludes that in relation to criterion (ix) the nature of the wetland system in its arid setting, the endemism, the support for migratory species, and the ecological resilience demonstrated provide the basis for meeting this criterion. It also concludes that the high number of globally threatened and endemic animal taxa and the exceptional irreplaceability of the property for biodiversity conservation justify criterion (x).

In addition to this analysis IUCN and UNEP-WCMC undertook an extensive comparative analysis considering a wider range of sites than the comparison in the nomination. In relation to criterion (ix) this confirms that the nominated property represents ecosystems which are not yet well represented on the World Heritage list (Anatolian-Iranian Desert province; Flooded Grasslands and Savannas biome in the Palaearctic realm; Arabian Desert and East Sahero-Arabian xeric shrublands and Tigris-Euphrates alluvial salt marsh ecoregions; and Mesopotamian Delta and Marshes freshwater priority ecoregion).

In relation to criterion (x), the nominated property constitutes an important freshwater ecosystem situated within an arid environment. A low number of plant species has been inventoried within the nominated property compared to existing World Heritage sites, but it hosts a relatively rich fauna and is particularly important for bird species. It is indeed part of several global bird migration routes and overlaps with three Important Bird Areas. A high number of endemic and globally threatened animal species, and in particular globally threatened bird and mammal species, are found within the nominated property. The Mesopotamian Delta and Marshes freshwater priority ecoregion has also been mentioned as not represented on the World Heritage list in some past IUCN gap studies.

It should be noted however that the nomination’s focus on the natural criteria only concerns four of the seven component parts of the series, and no comparative analysis has been undertaken in relation to the cultural components. Given their small size, it is clear that none of those components contain significant nature conservation values, and certainly no globally significant biodiversity is conserved by those components as currently designated. Whilst an argument could be made that these areas show the deep history of the evolution of the natural evolution of the marshes, this element is not emphasised in the nomination (which terms them consistently cultural components) and they do not include landscape-scale areas that would be required to demonstrate how the

marshes have functioned in the past as an ecosystem. In the supplementary information the State Party provides a very brief analysis on the species found in the areas around the three archaeological components, with numbers of plants, mammals and birds cited, but no details of conservation significance. The configuration of this nomination as a proposed mixed site is further discussed in section 5 below.

Based on these extensive analyses, IUCN concludes that the Iraqi Marshlands has the potential to meet criteria (ix) and (x), but that at present the nomination does not make a convincing case to apply these criteria in relation to the series as a whole.

## 4. INTEGRITY, PROTECTION AND MANAGEMENT

### 4.1. Protection

The nomination lists a range of laws, bylaws, regulations and strategies, in effect and being planned, that are of direct relevance for the Ahwar. These include general laws that provide for overall regulation of environmental matters. However, only two of the natural components currently have protected area status, and as noted above the cultural components as nominated are not conceived to have a nature conservation function. The Central Marsh has been designated as a National Park and the Huwaizah Marsh is listed as a Ramsar site, however East Hammar and West Hammar are currently not officially designated. The nomination dossier states that designations are expected for all components in 2014, but these designations do not yet appear to have been completed at the time of the evaluation. In addition, the nomination notes that the buffer zones of several of the components could be subject to oil extraction activities, which might risk inconsistency with the protection of the nominated property. It would thus appear that the role of the buffer zones needs to be better defined and regulated.

Stakeholders freely admit that most of these laws are not being implemented at the present time. Part of the stated problem is that the laws are written in a language the stakeholders do not always understand, and thus in addition to establishing an adequate legal regime, it is also necessary to take steps to communicate the legal system more effectively.

IUCN considers that the protection status of the nominated property does not meet the requirements of the Operational Guidelines.

### 4.2 Boundaries

The size of the nominated property proposed for World Heritage nomination is more than 210,000 ha which is comprised in the main by the wetland components. According to the dossier, and confirmed by the field evaluation, the design of the boundaries of the four natural components of the nominated property was based on inclusion of the natural values and attributes associated with its global importance; providing optimal habitats for all key species and their

conservation; covering areas targeted by the national environmental and nature conservation strategies; and avoiding overlap with existing and/or planned pressures such as oil prospecting. The buffer zone was based on extensive field assessments conducted with the help of international initiatives since 2004. The buffer zones are adequate and were designed as a protective belt around the main area of the nominated property in order to minimize harmful developments such as oil exploration and urban development. Some villages are located within these buffer zones but they are small and do not appear to pose a threat to the nominated sites themselves.

A further boundary related issue is to maintain ecological connectivity through effective ecological corridors between the component areas and their buffer zones. The four natural components of the nominated property represent four stand-alone hydrological systems, designated independently from each other. However, these areas are ecologically interdependent, and the Iraqi Ministry of Health and Environment and its partners indicated that they wish to establish a set of ecological corridors to ensure ecological connectivity of the serial property. This work has not yet been undertaken.

IUCN has considered jointly with ICOMOS the position regarding the so-called cultural components, and takes note that ICOMOS considers that these areas should be enlarged, as well as potentially made the subject of a separate nomination. IUCN notes that as currently proposed these components neither address the natural criteria, nor are sufficiently large to meet integrity requirements in relation to consideration of the natural criteria. IUCN considers that if these areas were to be enlarged, it would be important to consider the options to define boundaries that might better respond to the overall application of natural criteria to a mixed serial site – this exercise could both consider the opportunity for wetland restoration in any of the recently drained areas, and also the way in which the ancient marshland landscape could be better represented in the nomination. Such an approach could also then allow the ancient city components to demonstrate more clearly the ancient evolution of the rivers and the extent of the related marshlands.

IUCN considers that the boundaries of the nominated property do not fully meet the requirements of the Operational Guidelines.

### 4.3 Management

As part of the nomination procedure an overall management plan for the nominated property is being developed (including management plans for each of the four components of the Marshlands of Southern Iraq), and the latest versions of these documents have been provided. In particular there is an active and ongoing process that is being coordinated by UNEP, and involving over a number of years the IUCN Regional Office for West Asia, who has been also providing technical assistance and coordination regarding the development of the management plan for the nominated property, as has the Arab Regional

Centre for World Heritage. Despite all of these efforts more work is needed to detail the plan such that it effectively drives management of the site.

The management plan for the natural components provides a coherent and useful list of planning objectives. However, the plan restates large sections of the nomination and provides little information on implementation. In particular, essential information relating to staffing levels, budgets, and timelines for implementation to achieve the planning objectives is not provided. IUCN considers that a more detailed management plan is necessary and that the current management plan needs to be strengthened substantially.

In addition, the field mission noted a conspicuous absence of site level management capacity throughout the nominated property, except with respect to the Huwaizah Marshes, where border guards are present and provide some monitoring capacity. While the Marshlands have benefited from a variety of protected area planning, monitoring and water planning, there seems to be little current activity at site level. Management capacity to implement any plan is not sufficient, and the current plan does little to address the roles and activities of the site management teams that will be the key to the success or failure of the management structure of this potential World Heritage site. The recruitment and management of increased human resources, in particular the site manager, site rangers and site guides, are paramount. At the present time the main actors have little prior experience in protected area management and the documented management system and plans are not understandable to most stakeholders, and at the time of preparation of the report had not been translated into Arabic. A simplified and illustrated management plan in Arabic has been suggested as a key need by a number of stakeholders during the evaluation mission.

A further central issue is that changes in ministerial responsibility are evident in Iraq, and given the complexity of the plans for the mixed site there appears to both be an issue of lack of clarity of overall responsibility for the site, and changes in national focal points that has made the continuity of implementation of the plan challenging. Given that it is apparent that there needs to be overall reflection on the nature of the mixed site proposed, it will also be important to more clearly decide the eventual focus of the nomination, in order to complete management planning, and appropriate governance and implementation arrangements that are fit for purpose. Financial resources do not seem to be an immediate constraint to the nomination, but additional technical resources need to be secured, and budgets revised accordingly.

The State Party's stated commitment to the nominated property and to strengthening its on-ground management have been reinforced in all of the different meetings held and basic plans are documented in the supplementary information. One positive area is that there are clearly a range of organizations engaged, including IUCN, ICOMOS and UNESCO, UNEP and the Arab Regional Centre for

World Heritage. These partners have both some available resources to support the completion of the management plan, and good levels of technical capacity to be able to provide further support to the State Party, provided there is clarity on the eventual configuration of the nomination. In future it will be important to ensure good coordination among the various technical partners to the nomination.

IUCN considers that the management of the nominated property does not meet the requirements of the Operational Guidelines.

#### 4.4 Community

The nomination includes a summary of the socio-economic setting of the Ahwar, and the long history of cultural use is noted, in particular by the long-term inhabitants of the Ahwar, the Marsh Arabs or Ma'adan. The nomination does not provide a specific number for the community living in the nominated property, but estimates this to be c.5% of the total of 350,000 people living in the Ahwar as a whole (which would amount to 17,000 people). The nomination also recalls both the perceived social trends, and the level of disadvantage and poverty that exists within this community (for instance noting the highest levels of illiteracy in Iraq particularly amongst women). It also acknowledges the brutal forcing out of the population associated with the deliberate draining of the marshes – reported in the literature as resulting in a reduction from a population of 500,000 in the 1950s, to c.20,000 by 2003. Relevant research including past anthropological records of the traditional use exists and is also documenting the changes that have resulted from the drainage, such as the loss of traditional knowledge held by women regarding marshland management. The restoration of the wetlands is therefore both an activity relevant to nature conservation, but also to the maintenance of traditional knowledge and the restoration of rights.

The specific descriptions of the wetland components imply very few permanent settlements in the Central Marshes (near Abu Zirq, and in Ach Chibayish), and in East Hammar, and note that there are a number of settlements in the buffer zones. In addition the nomination identifies that local uses of the wetlands continue, some regarded as sustainable and others creating challenges, as is discussed further below. The nomination makes little reference to this aspect in relation to the cultural criteria, and IUCN considers it important to look further into the values of the wetlands as a cultural landscape, and looks forward to ICOMOS review of those aspects of the nomination.

In the Ahwar decision-making processes, co-management and stakeholder involvement are still at an early stage. The governance of the wetland through the co-management by the three Governorates of Basra, Thi Qar and Maysan appears the strongest element of management system. Stakeholder consultation has been undertaken in the preparation of the nomination, and regarding the management plan, and more such efforts are planned. Local communities met by the evaluation mission appear to be aware of and supportive of the nomination and traditional use

and local/tribal customs appears to be respected and is continuing in the nominated area, but as noted above is challenged in relation to the continuity of cultural practices of men and women. However, the nomination also explicitly states that customary land management regimes have not been recognized by government authorities in any official way and that the government reserves the right to change the land tenure without acquiring permission from the local population. The lack of formal recognition of customary rights creates a potential risk of significant conflict over traditional uses in the future. IUCN considers that additional measures should be taken to recognize customary rights, support traditional ecological knowledge, and ensure effective community engagement as a key component of management, in revising the nomination.

#### 4.5 Threats

The nominated property appears to be subject to a number of significant threats, the most notable of which is that water flows fluctuate significantly and the continued adequacy of flows in the future are uncertain. Water supply issues dominated each and every meeting held during the evaluation mission. A shared concern is the need to allocate more water for the Ahwar region from the upstream transboundary countries who have built dams on the Tigris and Euphrates rivers. The lack of sufficient inflow of water is seen as the major threat in the Ahwar and is beyond the control of local authorities and need national and international action to guarantee Iraq the minimum water requirements of the marshes. Stakeholders attribute the historical periods of water shortage to the loss of water due to offtake in Iraq, and the activities of upstream countries (Turkey, Syria and Iran) who are also using large quantities of water (dams and diversions) from both the Tigris and Euphrates rivers, and plan to increase such use. A mission by the Ramsar Convention to the nominated property in February 2014 noted that one of the projects with the greatest expected impact is the Ilisu Dam in Turkey which forms part of the Southeastern Anatolian Project. The dam as planned would create an 11 billion m<sup>3</sup> reservoir with a surface area of 31 km<sup>2</sup>, and will generate some 2% of Turkey's electricity supply. But it could halve the amount of water Iraq receives from the Tigris River, affecting some 670,000 hectares of arable land and in the worst case leaving the Mesopotamian Marshes dry. IUCN also notes the construction of a weir along the Iraq-Iranian border, which bisects the Huwaizah Marsh Ramsar Site, restricting water flow from Iran to the Huwaizah component. Climate change and drought in the region further exacerbate the water supply problem. In addition to water supply, there are also substantial concerns related to water quality as a result of agricultural run-off and domestic waste, and a potential threat from oil spills and pollution from oil operations nearby.

The supplementary information provided by the State Party notes that 3.3 billion m<sup>3</sup> of water has been allocated to the marshlands, which is deemed sufficient to flood the 556,000 ha of marshlands

targeted for restoration. This water allocation would presumably be more than sufficient to flood the 211,544 ha of the nominated property. However, it is also clear that water flows fluctuate significantly on an annual basis. Only 2.1 billion m<sup>3</sup> reached the marshlands in 2015 and the supplementary information noted there were concerns over the water quality in the marshlands that year. IUCN considers that more data is needed to indicate what the minimum water flows are required to sustain the Ahwar and its succession processes and to provide assurances that this minimum water flow can be generated and sustained into the foreseeable future.

The nomination dossier indicates that there will be no oil development in the property but that there may be ongoing and/or planned oil extraction in the buffer zones of several components. Further clarification will be needed on this point as oil extraction activities in the buffer zone could potentially adversely impact on the nominated property.

Habitat loss from agricultural expansion and unsustainable reed gathering is also noted as impacting the marshlands, and overfishing and hunting are also significant in some parts of the nominated property. Local use, such as fishing and game hunting which occur at varying intensities and localities, is noted in the nomination as posing a potential threat to one or more of the wetland components. Fishing in the marshes has used traditional techniques, although the nomination notes that the famous spear fishing (faleh) which started being used some 3,000-4,000 years ago is little practiced. Game bird hunting is regarded in the nomination as a more serious challenge to biodiversity, especially during migration seasons. The nomination also notes that reed harvesting requires management due to the impacts on birdlife, such as the Basra Reed Warbler.

Tourism is not considered a current threat to the Ahwar, however there is undoubted potential for future tourism growth. It is not fully clear how this will be managed, and what staff, infrastructure and facilities will be made available, and whether the local inhabitants will become the major beneficiaries of such tourism.

These different factors indicate the importance of continued work to define and then implement a strengthened management system for the nominated property, in a way that considers traditional use and also the dependency of communities on the nominated property. In this regard the nomination contains a useful summary of the ecosystem services provided by the Ahwar, although not differentiating between the nominated property, the buffer zones and the wider area.

In conclusion, for the reasons outlined above, IUCN considers that the integrity, protection and management of the extended property do not currently meet the requirements of the Operational Guidelines.

## 5. ADDITIONAL COMMENTS

### 5.1 Justification for Serial Approach

When IUCN evaluates a serial nomination it asks the following three questions:

#### a) What is the justification for a serial approach?

The separate natural components of the Ahwar serial nomination were once a single functional unit that witnessed a drastic reduction of its water supply over a period of several decades. The key factor justifying the serial approach is that the area is now fragmented, and a serial approach allows the best opportunity to protect the most significant remaining areas of wetland whilst addressing issues of fluctuating water quality and quantity, controlling illegal hunting and fishing, managing the harvesting of vegetation cover, and monitoring oil extraction.

The wetland components of the nominated property are relatively large protected areas (albeit at different stages of formal protection). Each of the natural components has its own character and specific biodiversity. However, the four together cover all the natural habitats and on-going ecological and biological processes that characterize this particular "wetland island in a vast ocean of desert."

All components within the series do not, however, collectively respond to the natural criteria, since the "cultural components" are very small and do not conserve significant biodiversity. Thus a revised approach to the series as a whole needs to be considered, taking into account the evaluations of IUCN and ICOMOS, and the need for further work on the nomination.

#### b) Are the separate component parts of the nominated property functionally linked in relation to the requirements of the Operational Guidelines?

The natural components are functionally linked. As part of their plan to reclaim the marshes, the Iraqi authorities selected four non-contiguous components of the Ahwar and their buffer zones - and plans are underway for ecological corridors that link the key habitats. Key taxa of birds and fish continue to move freely through the air and water connecting the four wetland components of the nominated property. The marsh systems are also hydrologically linked. The functional linkage between the natural components and cultural components is however not clear, and potentially weak in the nomination.

#### c) Is there an effective overall management framework for all the component parts of the nominated property?

There is an overall management framework being developed in the form of the Consolidated Management Plan for the Ahwar and its component parts, however it cannot be called 'effective' until it has been completed and moved into implementation. As noted above the plan needs to be more operational, and be easier to understand and more effective in responding to the local stakeholders.

## 5.2 Mixed site configuration

IUCN considers that the interaction of cultural and natural values provides the Ahwar nomination with an important part of its potential Outstanding Universal Value. The “cradle of civilization” as we know it today began in wetlands surrounded by desert. The size of the wetlands fluctuated with the rise and fall of the water level, and the major ancient cities that flourished on the periphery of the marshes responded to those changes. Thus the wetlands and their interaction with people have been a continuous fact of this landscape, but the relationships have changed throughout history, and are clearly impacted by the most recent drainage programme up to the early 2000s, which had disastrous impacts on both people and nature. The nomination further notes that the ecosystem services of the wetlands of the property include unique cultural services that are both tangible and intangible parts of the heritage of Iraq.

The nomination, whilst emphasizing the narrative of a mixed site, has approached the consideration of a mixed site in a way that is problematic, in separating “natural components” from “cultural components”, and resulting in what is, in effect, two separate nominations – one related to (an archaeological) cultural value, and the other to a modern nature conservation value. This approach results in problems in reconciling the nomination with the Convention’s Operational Guidelines – since for a mixed property there should be a basis to see that the series as a whole corresponds to both the natural and cultural criteria. The absence of consideration of how the ancient cities relate to the illustration of natural processes is evident in the justifications offered in the nomination, and in their constrained boundaries, whilst the so-called natural components do not give much consideration to the traditional use values of these components, nor the limited archaeological remains that lie within the wetland area. In reviewing how to proceed with the nomination, IUCN is of the view that the option to revise and represent a mixed nomination is worth further exploration, to try to rectify the problems in the way the nomination was conceived. Pursuing two separate nominations, which IUCN understands is favoured by ICOMOS, might be worth further exploration but IUCN considers that it would be better to maintain that as an option in the event that a revised mixed site proposal proves to not be viable.

Finally IUCN notes that in this instance it is problematic that ICOMOS was not able to be engaged directly throughout in the upstream process that considered the options for the nomination from the outset. IUCN considers that as an operational matter, any intervention on the upstream process related to potential mixed nominations by a State Party, should seek to ensure the direct involvement of both IUCN and ICOMOS as a minimum requirement to ensure effective and early advice.

## 6. APPLICATION OF CRITERIA

**The Ahwar of Southern Iraq: refuge of biodiversity and the relict landscape of the Mesopotamian Cities** has been nominated under natural criteria (ix) and (x), as well as under cultural criteria (iii) and (v) which will be evaluated by ICOMOS.

### **Criterion (ix): Ecosystems/communities and ecological/biological processes**

The Ahwar of Southern Iraq demonstrates internationally significant ecological succession processes in one of the most arid inland deltas in the world, and is notable for its high degree of speciation in a relatively young ecosystem, and for its habitats which sustain bird migration. It is one of the largest West Eurasian-Caspian-Nile staging points and wintering grounds for ducks as well as a major stopover point for shorebirds flying along the West Asian-East African flyway. It is also significant for the migration of fish and shrimp species from the Persian Gulf to the marshlands: at least 20 of the 44 fish species of the Ahwar are diadromous (migratory between salt and fresh waters) species from the Persian Gulf, most of which migrate to the West and East Hammar Marshes. These values are represented in the four wetland components of the nominated property, but no contribution is made to them from the three Sumerian cities, and these cultural components are not configured to contribute to either the modern nature conservation values of the area, nor to represent the historical ecological evolution of the marshes. There are a range of significant integrity concerns, and additional information would be critically important to indicate the minimum water flow required to maintain succession in each of the marshes in the nominated property. Further evidence is also needed to demonstrate that effective management of the nominated property is in place.

IUCN considers that the nominated property has potential to meet this criterion, but that a reflection on the mixed site approach and boundaries is required, together with further work to address integrity, protection and management concerns.

### **Criterion (x): Biodiversity and threatened species**

The Ahwar is an area of high species diversity relative to the young age of the ecosystem, with a number of endemic and restricted range species and numerous populations of threatened species, especially birds. These include four mammals (the endemic Bunn’s Short-tailed Bandicoot Rat and a subspecies of the Smooth-coated Otter, in addition to the restricted range species of Mesopotamian Gerbil and Euphrates Jerboa), five birds (including the endemic Basra Reed Warbler and Iraq Babbler, in addition to the three restricted range subspecies of the Little Grebe, Black Francolin and Hooded Crow) and six restricted-range fish species: *Luciobarbus esocinus*, *Luciobarbus xanthopterus*, *Luciobarbus subquincunciatus*, *Cyprinion kais*, *Silurus triostegus* and *Mesopotamichthys sharpeyi*. In addition, the Ahwar provide habitat for three relict populations of three bird species (the African Darter, the Sacred Ibis, and the Goliath Heron) that are thousands of kilometers away

from their core global populations in Africa. The marshlands function as a stopover on the West Asian-East African flyway and protect internationally significant numbers of at least sixteen waterbird species. The four natural components represent the most significant areas of the wider Ahwar ecosystem to protect these values, but the cultural components, as conceived, do not provide any significant contribution to the nomination in meeting this criterion, although further work is required to fully document the biodiversity of these components and their surroundings, and to address connectivity between the components.

IUCN considers that the nominated property has potential to meet this criterion, but that a reflection on the mixed site approach and boundaries is required, together with further work to address integrity, protection and management concerns.

## 7. RECOMMENDATIONS

IUCN recommends that the World Heritage Committee adopts the following draft decision, noting that this will be harmonised as appropriate with the recommendations of ICOMOS regarding their evaluation of this mixed site nomination under the cultural criteria and included in the working document WHC/16/40.COM/8B:

The World Heritage Committee,

1. Having examined WHC/16/40.COM/8B and WHC/16/40.COM/INF.8B2;

2. Defers the nomination of **The Ahwar of Southern Iraq: refuge of biodiversity and the relict landscape of the Mesopotamian Cities (Iraq)**, taking note that the region has biodiversity values that are potentially of global significance, in order to allow the State Party, with the support of IUCN and ICOMOS if requested, to:

- a) Reconsider the options for the nomination as a mixed property, and how a significantly revised nominated property as a whole could be reconsidered to respond to both natural and cultural criteria as they apply to all of the selected components, taking into account the evaluation reports of IUCN and ICOMOS;
- b) Conduct further studies regarding minimum water flows needed to sustain the biodiversity and ecological processes for which the site is nominated, and demonstrate that these water flows will be provided;

- c) Conduct further studies to confirm the plant and invertebrate diversity within the nominated property and its surrounding landscapes, as a key contribution to reconsidering the nomination;
- d) Complete the designation of all of the components of the nominated property as legally protected areas, and ensure the effective legal protection is in place to regulate oil and gas concessions, and other potentially impacting activities in the buffer zones of the nominated property;
- e) Revise and complete a comprehensive and integrated management plan for a revised nominated property, in Arabic, and ensure its effective consultation and communication with local communities and other stakeholders;
- f) Put in place a programme to ensure an adequate level of protection and effective management capacity for all components of the nominated property, and appropriate capacity building activities, including support for the maintenance of the traditional ecological knowledge held by the men and women of the Ma'adan communities, and for rights-based approaches to management, recognising the customary use of the nominated property.

3. Considers that any revised nomination would need to be considered by an expert mission to the nominated property;

4. Congratulates the Government of Iraq for the restoration work that has been undertaken to recover the wetland areas in the Ahwar of Southern Iraq to date, and strongly encourages this work to continue, and welcomes the mutual dialogue between the State Party of Iraq and the upstream countries (Turkey, Syria and Iran) in order to permanently secure the minimum flows needed to the nominated property and its buffer zones;

5. Takes note of the significant further work required to support this nomination, and requests the World Heritage Centre and the Advisory Bodies, and their relevant regional organisations, in conjunction with UNEP and the Arab Regional Centre for World Heritage, and the Secretariat of the Ramsar Convention, to work in coordination to support inputs to the nomination process that may be requested by the State Party of Iraq.

**Map 1:** Location of the nominated area in Iraq



**Map 2:** Proposed nominated area and buffer zone

