IUCN Conservation Outlook Assessment 2014 **(archived)**
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Ichkeul National Park

SITE INFORMATION

Country:
Tunisia
Inscribed in: 1980
Criteria:
(x)

Site description:
The Ichkeul lake and wetland are a major stopover point for hundreds of thousands of migrating birds, such as ducks, geese, storks and pink flamingoes, who come to feed and nest there. Ichkeul is the last remaining lake in a chain that once extended across North Africa. © UNESCO

SUMMARY

2014 Conservation Outlook

Significant concern

The conservation outlook for Ichkeul National Park is of high concern but improving overall. The hydrological status of the property has improved significantly over the last 10 years but the site remains vulnerable with regards to its hydrological management and the recovery of its values could be reversed by a series of low-precipitation seasons.
Following the water supply crisis of the 1990s and early 2000s, and thanks in part to unusually rich rainfalls in 2004-06, Lake Ichkeul has recovered a significant part of its outstanding value as a waterbird resting and breeding site and as one of the last intact examples of coastal lakes along the southern Mediterranean. Since the sustainable development of this ecosystem cannot rely on favourable weather conditions alone, there is now an urgent need to mainstream conservation of the national park and strengthen the institutional setup, local support and management of Ichkeul National Park.

Current state and trend of VALUES

High Concern
Trend: Improving

The main values of the Ichkeul National Park underwent a severe crisis starting in the early 1990’s due to critically reduced water supply. Since 2004, these values have partially recovered, partly due to increased precipitation and partly thanks to the improved hydrological management. The effects of this recovery have been sustained through sluice water provision even during the low-precipitation season 2007/08. However, the recovery of the site’s values could be reversed in the future by a series of several consecutive low-precipitation seasons, or as a consequence of a relaxation of the current hydrological management regime of the property.

Overall THREATS

High Threat

By far the greatest pressure on Ichkeul National Park has been insufficient water supply due to dam construction, with salinization, partial desiccation and shifts in the vegetation to halophytic forms of low food value to waterbirds. Recent activities aimed at hydrological management have contributed to reducing this pressure. Secondary pressures and potential threats to the park’s values are poaching, agricultural encroachment, and unsustainable grazing. Climate change is likely to aggravate existing pressures in the future. Potential impa0cts are unclear.

Overall PROTECTION and MANAGEMENT

Some Concern

Significant efforts aimed at hydrological management of Ichkeul National Park have contributed to its recovery since 2004. A management plan was developed with GEF support in 2005-2008. At the same time, there is still no sufficiently broad consensus, adequate institutional setup and strong local participation for the sustainable long-term management of the site.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ **Freshwater and wetland vegetation**
Criterion:(x)

Complex assemblage of reeds, tamarisks, submerged macrophytes (mainly Potamogeton), cord grasses, bulrush (Scirpus), halophytes, typical for coastal lakes along the southern Mediterranean (UNEP-WCMC, 2012).

▶ **Waterbirds of global conservation concern**
Criterion:(x)

Species of worldwide interest for their protection (e.g. the white-headed duck (Oxyura leucocephala), the ferruginous duck (Aythya nyroca) and the marbled duck (Marmaronetta angustirostris) are present in the area.

▶ **Wintering area for palaearctic waterfowl**
Criterion:(x)

Ichkeul National Park contains important natural habitats as an essential wintering site for western Palaearctic birds. Each winter, the property provides shelter to an exceptional density of water fowl with, in certain years, numbers reaching more than 300,000 ducks, geese and coots at the same time (SoOUV, 2010). It is one of the four top wintering sites in the western Mediterranean at that time (UNEP-WCMC, 2012).

Other important biodiversity values

▶ Other designations

The lake is located inside one of WWF's global 200 priority ecoregions (WWF, 2013) and belongs to CI's Mediterranean Biodiversity Hotspot (CI, 2013). It is also a Ramsar site (Wetlands International, 2013) and Important Bird Area (Birdlife International, 2013a).

Assessment information

Threats

Current Threats

High Threat

By far the greatest pressure on Ichkeul National Park has been insufficient water supply due to dam construction, with salinization, partial desiccation and shifts in the vegetation to halophytic forms of low food value to waterbirds. Recent activities aimed at hydrological management have contributed to reducing this pressure to a certain extent. Secondary pressures and potential threats to the park's values are poaching, agricultural encroachment, and unsustainable grazing.

▶ Dams/ Water Management or Use

High Threat
Inside site
Outside site

1996 – 2006 the site was listed as World Heritage in danger because of damming, resulting in salinization and degradation of vegetation (WHC 1996, 2006). Inclusion of site in World Heritage in Danger list was already suggested by IUCN in 1985 and in 1987 (IUCN, 1985, 1987).

Reduction of water inflow from 350 to 230-270 million m3 following dam construction and salinity increase to 73 g/l lead to shift in vegetation to halophytes and dramatic reduction in waterbird numbers (Baccar et al., 2000). Exceptionally abundant rainfall in 2002/03 - 2005/06 winters replenished water resources of lake and contributed to desalinization to acceptable levels (IUCN, 2004, 2005). This replenished the water table and reduced salinity to 5-6 g/l, resulting in partial ecosystem recovery, but threat from potentially insufficient water input remained. Positive trend maintained through sluice water release in 2006/07 (IUCN, 2007, 2008). The site was removed from World Heritage in Danger list 2006. Highly fluctuating water inflow of 6-345 million m3 (average 140 million m3) between 2003 and 2009 (IUCN, 2010).

► Erosion and Siltation/ Deposition

Very Low Threat
Inside site

Sedimentation might eventually lead to the drying-up of the lake. High sedimentation rates have been observed for the last 30 years (Trabelsi et al., 2012) . Partly a natural process, it is exacerbated by dams, and requires further monitoring.

► Livestock Farming / Grazing

Very Low Threat
Inside site
Outside site

2,500 head of livestock within PNI in 1988 (UNEP-WCMC, 2012). 1,000 people living inside PNI until 2004 (UNEP-WCMC, 2012), 400 in 2008. Overgrazing is most serious at Jebel Ichkeul, but in general the site is little used (GOPA, 2008).

► Commercial hunting, Subsistence hunting, Fishing / Harvesting Aquatic Resources

Low Threat
Inside site
Outside site

Poaching was considered a threat in 2004, and (to a lesser degree) in 2008. Hunting was permitted in the periphery of PNI 2008. Illegal fishing was

considered a significant but manageable problem in 2008 (GOPA, 2008, UNEP-WCMC, 2012).

► Crop production

Low Threat
Inside site

800 ha (ca. 6%) of land within PNI was cultivated in 2007.

► Tourism/ visitors/ recreation

Very Low Threat
Inside site

The area is moderately populated and is not a major tourism destination, but some disturbance by local inhabitants and visitors is likely.

Potential Threats

Data Deficient

Climate change is likely to aggravate existing pressures in the future. Potential impacts are unclear.

► Habitat Shifting/ Alteration, Droughts, Temperature changes

Data Deficient
Inside site
Outside site

Climate change is likely to aggravate existing pressures in the future.

Protection and management

Assessing Protection and Management

► Relationships with local people

Some Concern

In 2008 there were around 400 persons living on southern Jebel Ichkeul (GOPA, 2008). Locals reportedly felt disenfranchised after the creation of PNI because of loss of economic opportunities and livelihoods (grazing, timber,

fish). Poor communication with farmers around the park and little involvement was noted in 2008. Community livelihood projects and public outreach and information campaigns implemented until 2010 (IUCN, 2010). Agenda 21 process for participative environmental management in the PNI area was initiated 2008. Areas for sustainable natural resource use were foreseen in 2008 draft management plan, as compensation areas (GOPA, 2008).

► Legal framework and enforcement

Some Concern

Most of the site is ceded to Direction de Forêts for conservation (1974). Recognized as UNESCO Biosphere Reserve 1977. The area has National Park status since 1980, but its administration is not independent, but falls under Regional Commissariat for Agricultural Development/Department of Forestry Bizerte and other State institutions (UNEP-WCMC, 2012). A need for clear institutional setup, mandate and strengthening of PNI Administration has been noted several times since 2000 (Baccar et al., 2000), and corresponding steps were initiated by the State Party in 2007 (Ministry of the Environment and Sustainable Development, 2010). limited staff capacity noted in 2004 and 2008. 38 staff 2008, among them 25 guards. Additional enforcement infrastructure and equipment planned 2008 (GOPA, 2008). Stepwise establishment of autonomous, permanent management authority has been ongoing since 2010 (IUCN, 2010).

► Integration into regional and national planning systems

Data Deficient

No specific information about the integration of the site’s management into regional and national planning systems is available although there have been concerns in the past that too many poorly coordinated State Institutions with overlapping mandates are involved in the management of the site (UNEP-WCMC, 2012).

► Management system

Some Concern

First management plan was approved 1977. A need to update the management plan has been reiterated since 2000 (Baccar et al., 2004). A

GEF supported management planning project ($2.2 million, including hydrological management) was implemented in 2003-2008. Scientific Management Council was established 2007. Draft 5-year participatory management plan (GEF project output) was finalized 2008 (GOPA, 2008). This draft management plan aims at sustainable hydrological management, zoning, conservation management, institutional strengthening, staff development, monitoring, participation and local community development and ecotourism development. Complex responsibilities, inter-institutional conflict and lack of mainstreaming remain a challenge to the management of PNI (UNEP-WCMC, 2012).

► Management effectiveness

Some Concern

Although not expressed in terms of a formal PA management effectiveness assessment, a lack of effectiveness of the overall management framework of the park has been highlighted at various occasions in the past (e.g. GOPA, 2008, IUCN, 2007, 2010). Key issues have been lack of autonomy and authority and resources of the management authority. There has reportedly been progress in creating an autonomous management structure and thus increasing overall management effectiveness until 2020 (Ministry of the Environment and Sustainable Development, 2010) but no more recent information is available.

► Implementation of Committee decisions and recommendations

Some Concern

Programme of corrective measures for freshwater supply was requested from the State Party at 20.COM and 21.COM, and a threat mitigation report was provided by the State Party at 23.COM. Progress report on 5-yr monitoring was requested at 23.COM, submitted by 25.COM. Five requests of SP Reports on conservation status of PNI between 28.COM and 32.COM were generally followed within 1-2 years (e.g. Ministry of the Environment and Sustainable Development, 2010). Commitment to provide 80-100 million m3/yr of water to the lake was requested at 27.COM, followed by a discussion about water supply management on year-to year basis at 30.COM, which resulted in the removal from the List of World Heritage in Danger without a formal commitment (WHC, 2006). Water allocation in 2006/07 was unclear and a

request to commit to minimum allocation was renewed at 30.COM (IUCN, 2006). Establishment of a participatory management plan and permanent/ independent management authority for NPI was requested at 27.COM-30.COM, draft plan submitted at 32.COM (IUCN, 2008); steps to strengthen and clarify PNI Administration were undertaken in 2007-09, and were still ongoing by 34.COM (IUCN, 2010). Request to launch Agenda 21 Committee in PNI area at 30.COM was met by 32.COM (IUCN, 2010). Request to submit EIAs for three additional dams and to use these dams to ensure water supply to site at 34.COM (WHC, 2010), implementation thus far unclear.

► Boundaries

Mostly Effective

Boundaries and zoning (including core, buffer, and peripheral zones) of Ichkeul National Park are mapped in the draft Management Plan 2008 (GOPA, 2008). Some fences were installed to protect core zone by 2010. Boundaries and zoning are likely to be adequate if implemented and respected by all stakeholders.

► Sustainable finance

Some Concern

Annual budget (excluding project funds) of ca. $11,600 was considered insufficient in 2004. Necessary annual budget was defined in 2008 (GOPA, 2008) – at this time no independent budget was provided, but allocations from budget of Directory of Forestry Bizerte. Support of GEF project and various donors in the past, e.g. WWF for monitoring workshop ($50,000, UNEP-WCMC, 2012). Total WHF assistance of $140,000 was provided between 1981 and 2002 (WHC, 2013).

► Staff training and development

Data Deficient

Room for improvement of staff number and qualification, as well as measures to address this were noted in the new (2010-2014) management plan of the property (GOPA, 2008). No more recent information is available on the implementation of these measures.

► Sustainable use

Mostly Effective

The lake is used legally for fishing by one concession holder (GOPA, 2008). This may have had an impact on the fish community in the lake although this appears to have been altered primarily because of hydrological changes (Sellami et al., 2010). Although hunting and grazing are officially illegal in the park (UNEP-WCMC, 2012), some livestock enters the property from its periphery, and some poaching persists (GOPA, 2008). The new (2010-2014) management plan includes a community development plan with measures to support sustainable alternative livelihoods (e.g. beekeeping, agricultural improvement outside the property, microcredit) of the local population (Ministry of the Environment and Sustainable Development, 2010).

► Education and interpretation programs

Mostly Effective

The State Party reported a number of education and interpretation activities in 2010, including school visits, TV commercials, the production of guides to this and other parks, and workshops (Ministry of the Environment and Sustainable Development, 2010). The new (2010-2014) management plan also contains measures to raise awareness, particularly in relation to key threats like poaching (GOPA, 2008).

► Tourism and interpretation

Some Concern

Establishment of some visitor interpretation facilities (network of trails, Museum/visitor centre) since 1989 (UNEP-WCMC, 2012). Extended exploitation of the tourism area of the site, aimed at improving living conditions of local populations, was included in draft management plan 2008, and some facilities were rehabilitated 2009. Visitor management was considered weak in 2008 (GOPA, 2008).

► Monitoring

Mostly Effective

There has been a waterfowl monitoring programme with international

collaboration since 1963 (UNEP-WCMC, 2012). 5-year hydrological monitoring programme was developed with the World Heritage Centre and IUCN in 1999. Need for systematic monitoring programme was noted in 2000 (Baccar et al., 2000). Monitoring programme developed jointly with IUCN 2002 and some reports published afterwards (Ministry of the Environment and Sustainable Development, 2009). Need for centralized storage of scientific and monitoring data (including bird data) was noted 2008 (IUCN, 2008), some steps in this direction started in 2009/10 (Ministry of the Environment and Sustainable Development, 2010).

► Research

Mostly Effective

Considerable ornithological and ecological research has been carried out at Ichkeul (UNEP-WCMC, 2012). A hydrological model was developed in 1996 and is in need of updating, in order to guide hydrological management in a sustainable way (see Ministry of the Environment and Sustainable Development, 2010).

Overall assessment of protection and management

Some Concern

Significant efforts aimed at hydrological management of Ichkeul National Park have contributed to its recovery since 2004. A management plan was developed with GEF support in 2005-2008. At the same time, there is still no sufficiently broad consensus, adequate institutional setup and strong local participation for the sustainable long-term management of the site.

► Assessment of the effectiveness of protection and management in addressing threats outside the site

Some Concern

Dams were erected in 1983 and 1995 for irrigation and drinking water provision in spite of objectives of the 1977 management plan. As mitigation measure, Oued Tindja sluice was established 1996 (Baccar et al., 2000). A rehabilitation programme was launched in 2002. Some additional hydrological mitigation measures had been established by 2002. Proactive hydrological management and planned water provision were first tested

2007, with satisfactory success (IUCN, 2008). Project on integrated water resource management (Wetlands International) started in 2009 (Wetlands International, 2013b). Grazing management and provision of alternative grazing areas for local resource users since 2007/8 (Ministry of the Environment and Sustainable Development, 2010).

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Freshwater and wetland vegetation**

High Concern
Trend:Improving

Strongly altered/degraded following shift in species composition and vegetation structure in response to salinization (Baccar et al., 2000). Ecologically crucial Potamogeton submerged macrophyte area reduced from 3,000 to 500 ha in 1989. Since 2003 the area has been recovering. Re-appearance of reed beds has been observed since 2007 (Ministry of the Environment and Sustainable Development, 2009).

▶ **Waterbirds of global conservation concern**

Data Deficient
Trend:Improving

Limited recent information is available on the status of breeding (as opposed to migratory) waterbirds although a general recovery of their populations has also been reported (Ministry of the Environment and Sustainable Development, 2009).

▶ **Wintering area for palaearctic waterfowl**

High Concern
Trend:Improving

Abundances reduced to 25-50% of original numbers by 2000 and shifts in community structure were noticed (Baccar et al., 2000, Hamdi et al., 2012).

Significant reduction of Greylag Geese (Anser anser) numbers (Hamdi et al., 2008). Reportedly 300,000 wintering waterbirds in 2007/08. Avifauna remains sensitive to hydrological state of property.

Other important biodiversity values

► Other designations

The lake is located inside one of WWF's global 200 priority ecoregions (WWF, 2013) and belongs to CI's Mediterranean Biodiversity Hotspot (CI, 2013). It is also a Ramsar site (Wetlands International, 2013) and Important Bird Area (Birdlife International, 2013a).

Summary of the Values

► Assessment of the current state and trend of World Heritage values

High Concern

Trend: Improving

The main values of the Ichkeul National Park underwent a severe crisis starting in the early 1990's due to critically reduced water supply. Since 2004, these values have partially recovered, partly due to increased precipitation and partly thanks to the improved hydrological management. The effects of this recovery have been sustained through sluice water provision even during the low-precipitation season 2007/08. However, the recovery of the site's values could be reversed in the future by a series of several consecutive low-precipitation seasons, or as a consequence of a relaxation of the current hydrological management regime of the property.

► Assessment of the current state and trend of other important biodiversity values

Data Deficient

Trend: Data Deficient

Data deficient

Additional information

Key conservation issues

▶ Hydrological regime

Local

The existing hydrological management of the site needs to be strengthened in order to safeguard its values.

Benefits

Understanding Benefits

▶ Is the protected area valued for its nature conservation?

The property provides nature conservation benefits not only at the national level, but also beyond its boundaries, particularly to migratory waterbirds and fish stocks of the northeastern Atlantic. This is reflected in its World Heritage status, as well as its recognition as an Important Bird Area and Ramsar site.

▶ Does management of the site provide jobs (e.g. for managers or rangers)?

The property provides direct jobs in park management (e.g. rangers, guides), and more additional jobs (e.g. in fishery, tourism) depend on it.

▶ Fishing areas and conservation of fish stocks

Ichkeul National Park sustains a small licensed fishery.

▶ Outdoor recreation and tourism

The property has a considerable, as yet underused potential for nature based

tourism, such as birding tours.

▶ **Importance for research**

Ichkeul National Park comprises a wide range of phenomena, which in turn support global knowledge generation on shallow lagoon ecosystem dynamics, bird migration, and ichthyology.

▶ **Contribution to education**

The property has a potential to support increased environmental education at the local, regional and national level.

Summary of benefits

The conservation benefits of Ichkeul National Park reach beyond its boundaries, as illustrated by its role in bird migration. There are also significant potential benefits, which could be developed further, such as those related to tourism and education.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Wetlands International		Integrated water management and biodiversity conservation

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