IUCN Conservation Outlook Assessment 2014 **(archived)**
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# Lakes of Ounianga

## SITE INFORMATION

Country:
Chad
Inscribed in: 2012
Criteria:
(vii)

Site description:
The site includes eighteen interconnected lakes in the hyper arid Ennedi region of the Sahara desert covering an area of 62,808 ha. It constitutes an exceptional natural landscape of great beauty with striking colours and shapes. The saline, hyper saline and freshwater lakes are supplied by groundwater and are found in two groups 40 km apart. Ounianga Kebir comprises four lakes, the largest of which, Yoan, covers an area of 358 ha and is 27 m deep. Its highly saline waters only sustain algae and some microorganisms. The second group, Ounianga Serir, comprises fourteen lakes separated by sand dunes. Floating reeds cover almost half the surface of these lakes reducing evaporation. At 436 ha, Lake Teli has the largest surface area but is less than 10 m deep. With their high quality freshwater, some of these lakes are home to aquatic fauna, particularly fish. © UNESCO

# SUMMARY

## 2014 Conservation Outlook

**Good with some concerns**

The values of the site are in good condition and there have been no signs of decline since inscription of the site in 2012. There are no immediate threats to the values of the site. Natural processes such as the silting-up of the small two eastern lakes of Ounianga Kebir and dune encroachment into most of the other lakes are natural processes occurring in this hyperarid environment. A new management plan (for 2014-2023) was finalized in 2014 and there appears to have been certain improvement in the management of the site. The implementation of the management plan and ensuring that a functioning management system is in place will be crucial for the long-term preservation of this site.

## Current state and trend of VALUES

**Good**
**Trend: Stable**

Just few years after the inscription of the lakes of Ounianga no evidence of any deterioration of the values of the site can be stated in comparison with the IUCN evaluation in October 2011 and the nomination files. To date the sites is in a well preserved state. On the other hand, there are various improvements in site management, education, monitoring, tourist facilities, sanitation, waste disposal etc. The security situation in northern Chad has remained stable in contrast to various other Saharan regions.

## Overall THREATS

**Low Threat**

There are no immediate threats to the values of the site. Natural processes such as the silting-up of the small two eastern lakes of Ounianga Kebir and dune encroachment into most of the other lakes persist, of course, in this hyperarid

environment. Potential threats to the site’s values include increase in tourism; however it is difficult to predict its potential impact.

## Overall PROTECTION and MANAGEMENT

**Some Concern**

A new management plan (for 2014-2023) was finalized in 2014 and there appears to have been certain improvement in the management of the site. The implementation of the management plan and ensuring that a functioning management system is in place will be crucial for the long-term preservation of this site.

# FULL ASSESSMENT

## Description of values

### Values

### World Heritage values

► **An exceptional example of permanent lakes in a desert setting**
**Criterion:(vii)**

The property represents an exceptional example of permanent lakes in a desert setting, a remarkable natural phenomenon which results from an aquifer and associated complex hydrological system which is still to be fully understood. Located in North-Eastern Chad, in a hot and hyperarid desert setting with less than 2mm of average rainfall per year, the Lakes of Ounianga comprises a total of 18 lakes, in two groups, displaying a variety of sizes, depths, colorations and chemical compositions. The saline, hyper saline and freshwater lakes are supplied by groundwater and are found in two groups 40 km apart. Ounianga Kebir comprises four lakes, the largest of which, Yoan, covers an area of 358 ha and is 27 m deep. Its highly saline waters only sustain algae and some microorganisms; larger aquatic fauna such as tadpoles, fish or toads are restricted to spring pools and narrow stretches along the shoreline where the fresh groundwater flows into the lake. The second group, Ounianga Serir, comprises fourteen lakes separated by sand dunes (SoOUV, 2012). The site is the largest known lake complex in a hyper arid environment (IUCN Evaluation, 2012).

► **Exceptional natural landscape of great beauty**
**Criterion:(vii)**

The aesthetic beauty of the site results from a landscape mosaic which includes the varied coloured lakes with their blue, green and /or reddish

waters, in reflection of their chemical composition, surrounded by palms, dunes and spectacular sandstone landforms, all of it in the heart of a desert that stretches over thousands of kilometres. In addition, about one third of the surface of the Ounianga Serir lakes is covered with floating reed carpets whose intense green colour contrasts with the blue open waters. Rock exposures which dominate the site offer a breathtaking view on all the lakes, of which the colours contrast with the sand dunes separated by bare rock structures (SoOUV, 2012).

## Assessment information

### Threats

#### Current Threats

**Low Threat**

Few years after the inscription, there are no immediate threats to the values of the site. Natural processes such as the silting-up of the small two eastern lakes of Ounianga Kebir and dune encroachment into most of the other lakes persist, of course, in this hyperarid environment.

#### ► Erosion and Siltation/ Deposition

**Low Threat**
**Inside site**
**Outside site**

Natural processes, such as silting-up of the small two eastern lakes of Ounianga Kebir and dune encroachment into most of the other lakes persist in this hyperarid environment, however they do not represent a threat to the site’s values (Kröpelin, 2013).

#### ► Water Pollution

**Very Low Threat**
**Inside site**

The measures undertaken during the past years to prevent the

eutrophication of lake Yoan by the ban to use detergents at the shore appear to have clearly reduced the former hyper-abundance of floating algae; it still occurs, however, during rare longer windless periods (Kröpelin, 2013).

## Potential Threats

**Low Threat**

It is yet difficult to foresee the impact of the expected increase in tourism which will be mainly due to the regular direct flights from Marseille to Faya planned by the French travel agencies Point Afrique and Terres d'Aventure for the winter season. They will facilitate even short trips to Ounianga. The only risk for any substantial increase in tourist numbers would be a real or perceived deterioration of the security situation in the region as a consequence of conflicts in other Saharan countries. This, however, would not imply any danger to the site itself

### ► Tourism/ visitors/ recreation

**Low Threat**
**Inside site**

It is yet difficult to foresee the impact of the expected increase in tourism which will be mainly due to the regular direct flights from Marseille to Faya planned by the French travel agencies Point Afrique and Terres d'Aventure for the winter season. They will facilitate even short trips to Ounianga. The only risk for any substantial increase in tourist numbers would be a real or perceived deterioration of the security situation in the region as a consequence of conflicts in other Saharan countries. This, however, would not imply any danger to the site itself (Kröpelin, 2013). To maintain the site's integrity, in agreement with administrative and traditional authorities, it has been decided that any future touristic facility or hotel must blend in with the local architectural features such as height, color, materials, shape of buildings, etc. Moreover, these facilities must meet eco-touristic and environmental principles and uses. Again the implementation of Decree No. 630 will be needed to consider and regulate these impacts (IUCN Evaluation 2011).

### ► Crops

**Very Low Threat**

**Inside site**
**Outside site**

The main potential threat is linked to potential development of intensive agriculture in this area. The Government has addressed this potential threat by the recently adopted Decree No. 095 which aims to maintain traditional agricultural practices in the area instead of intensive agriculture as this could lead to impacts on the values of the site (IUCN Evaluation 2011).

### ▶ Roads/ Railroads

**Low Threat**
**Outside site**

Cross-border road traffic might have negative impacts on the site (SOC report, 2014).

## Protection and management

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### Assessing Protection and Management

### ▶ Relationships with local people

**Mostly Effective**

Although a good number of people live around lakes Yoan and Teli, local initiatives are assuring the compatibility between human activities and conservation of the site’s values. Activities planned in the management plan strengthen and complement these initiatives. In addition the recently adopted Decree No. 095 which aims to maintain traditional agricultural practices in the property instead of intensive agriculture will enhance the conservation of the property (SoOUV, 2012). The local communities and associations of Ounianga Kebir and Ounianga Serir already benefit from the national and beginning international attention as well as from the funds provided by the Chadian government (120 mio. FCFC or ~185,000 €).

### ▶ Legal framework and enforcement

**Mostly Effective**

Decree n° 1077/PR/PM/MCJS/2010 of 15.12.2010 designated the Lakes of

Ounianga as a “Natural site”; the protected area system of Chad, as established in Law n°14/PR/2008, focuses on fauna and flora conservation and, alone, is not fully suited to Ounianga; thus, responsibility for the property is vested in the Ministry of Culture. Under the decree, all activities that could threaten the integrity of the property, including mining, are forbidden. This decree is complemented by the Decree No. 630 which regulates the need to prepare Environmental Impact Assessments for development projects (SoOUV, 2012). Overall, the protection of the property is adequate. However, the legislation is very recent and, consequently, its application has not really been tested (IUCN Evaluation, 2011).

### ► Integration into regional and national planning systems

**Data Deficient**

Data deficient

### ► Management system

**Mostly Effective**

Conservation efforts focus on factors that could impact the site’s integrity, which include effective measures to regulate urban development, address litter and waste management, support sustainable agriculture and ensure that traffic, tourism and other uses is maintained at levels that do not impact the Outstanding Universal Value of the property. Several local associations created at the initiative of the local governmental authorities and the local communities are also responsible for the conservation of the property. These activities are implemented with the support of a Local Management Committee, which provides input for improving the existing management plan (SoOUV, 2012). The management plan referred to in the nomination document is in fact more of an operational plan for the period 2010-2012 (IUCN Evaluation 2012). A new management plan was finalized in 2014.

### ► Management effectiveness

**Some Concern**

A new management plan (for 2014-2023) was finalized in 2014 and there appears to have been certain improvement in the management of the site. The implementation of the management plan and ensuring that a functioning management system is in place will be crucial for the long-term preservation

of this site.

### ▶ Implementation of Committee decisions and recommendations

**Mostly Effective**

In 2014 the State Party submitted a revised 10-year management plan, in conformity with the recommendation of Decision 36 COM 8B.7.

### ▶ Boundaries

**Highly Effective**

The boundaries of the 62,808 ha property have been designed to ensure its integrity. The property includes the area situated below the 450m contour line within the immediate lake watershed. The 4,869 ha buffer zone includes the village of Ounianga Kebir beside Lake Yoan. Zoning for management of the site takes into account pressures which are now mainly concentrated on Lake Yoan. Ounianga Serir, the smallest village (population of c. 1,000 in 2012) is next to the lake Teli, inside the property (SoOUV, 2012). The property is large enough to ensure visual integrity. The boundaries offer an appropriate degree of protection for the natural functions and specifically the underground hydrological

### ▶ Sustainable finance

**Mostly Effective**

To implement the action plan, an annual budget has been prepared and its funding has been guaranteed by Order of the Prime Minister, Head of Government (Order N°2893/PR/PM/MC/2011 dated 6 September 2011). A budget of 120 Million CFA francs (about 183’000 €) has been allocated for 2012 and 2013 by the Ministry of Culture to the management committees of the Lakes of Ounianga. The State Party has also confirmed that a 10 year budget would be allocated as part of the new management plan that is being prepared (IUCN Evaluation, 2011).

### ▶ Staff training and development

**Data Deficient**

Data deficient

### ▶ Sustainable use

**Highly Effective**

The local communities' use of the natural resources, in particular of the date palms and the groundwater, is as sustainable as it has been for centuries in this traditional "date culture". The impact of the very limited fishing is difficult to assess (Kröpelin, Survey, unpublished, 2013).

### ▶ Education and interpretation programs

**Some Concern**

There have been some awareness activities organized in schools and for visitors (including the importance of protecting the lake waters), However education activities need to be continued and increased (IUCN Evaluation 2011).

### ▶ Tourism and interpretation

**Data Deficient**

Data deficient

### ▶ Monitoring

**Some Concern**

Scientific research needs to be increased (i.e. no data is available on fauna and flora); simple monitoring actions established (regular photo-surveys, monitoring of the lakes level and of silting up, water quality, visitor counts and traffic monitoring coming from Libya, etc.) (IUCN Evaluation, 2011).

### ▶ Research

**Highly Effective**

A number of international research institutes have been conducting research in the area.

## Overall assessment of protection and management

**Some Concern**

A new management plan (for 2014-2023) was finalized in 2014 and there appears to have been certain improvement in the management of the site. The implementation of the management plan and ensuring that a functioning management system is in place will be crucial for the long-term preservation of this site.

▶ **Assessment of the effectiveness of protection and management in addressing threats outside the site**
**Data Deficient**

Data deficient

## State and trend of values

### Assessing the current state and trend of values

#### World Heritage values

▶ **An exceptional example of permanent lakes in a desert setting**
**Low Concern**
**Trend:Stable**

The hydrological system of the Lakes of Ounianga is functioning and the water level is stable apart from a slight seasonable variation, thanks to a groundwater supply which compensates evaporation losses (IUCN Evaluation, 2012).

▶ **Exceptional natural landscape of great beauty**
**Good**
**Trend:Stable**

The beauty and aesthetic values of the property have been well conserved. Although a good number of people live around lakes Yoan and Teli, local initiatives are assuring the compatibility between human activities and conservation of the site’s values. (SoOUV, 2012).

### Summary of the Values

▶ **Assessment of the current state and trend of World Heritage values**

**Good**

**Trend: Stable**

Just few years after the inscription of the lakes of Ounianga no evidence of any deterioration of the values of the site can be stated in comparison with the IUCN evaluation in October 2011 and the nomination files. To date the sites is in a well preserved state. On the other hand, there are various improvements in site management, education, monitoring, tourist facilities, sanitation, waste disposal etc. The security situation in northern Chad has remained stable in contrast to various other Saharan regions.

## Additional information

### Key conservation issues

▶ **Cross-border transportation and tourism traffic**

**Regional**

Cross-border traffic is one of the issues that remains to be addressed.

### Projects

### Compilation of active conservation projects

| № | Organization/ individuals | Project duration | Brief description of Active Projects |
|---|---|---|---|
| 1 | Association pour le développement socioculturel d’Ounianga (ADSCO) | | data deficient |
| 2 | Association pour le développement du Borkou, Ennedi et Tibesti | | data deficient |

| № | Organization/ individuals | Project duration | Brief description of Active Projects |
|---|---|---|---|
| 3 | Association pour la protection de l’environnement et la lutte contre la désertification | | data deficient |
| 4 | Association des femmes pour le développement et la protection de l’environnement d’Ounianga | | data deficient |

# REFERENCES


| № | References |
|---|---|
| 1 | IUCN, 2012. Advisory Body Evaluation. |
| 2 | Kröpelin, 2013. Report from a research visit to the site. |
| 3 | Nomination File, 2012. |
| 4 | World Heritage Committee Decision 36COM 8B.7. |