Ramsar Information Sheet

Published on 1 September 2015

Iraq

Sawa Lake

Designation date:	3 March 2014
Ramsar ID:	2240
Coordinates:	31°18'46"N 45°0'22"E
Official area (ha):	500,00
Number of zones:	1

https://rsis.ramsar.org/ris/2240
Created by RSIS V.1.3 on Thursday 12 November 2015

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary *(This field is limited to 2500 characters)*

Sawa Lake is a permanent lake located in the western field of the Mesopotamian Plains, near the border with the Western Desert. The lake is unique for the biogeographic region because it is a closed water body in an area of sabkha with no inlet or outlet and is only fed by groundwater that originates from the higher western desert areas. It can also be temporarily fed by local wadies in case of flash floods caused by heavy rain in the desert area. The lake is formed over limestone rock and is isolated with gypsum barriers surrounding the lake. It is also distinguishable by its unique water chemistry.

The Site is home to several globally vulnerable bird species, namely, the Eastern imperial eagle (Aquila heliaca), Houbara bustard (Chlamydotis undulata), and Marbled duck (Marmaronetta angustirostris).

As Sawa Lake is the only water body nearby Samawa City it is a popular picnic and outing area. However, these recreational activities are also a major source of threats such as accumulation of solid waste, and disturbance to wildlife including the nesting and migrating birds because of the poor vegetation cover in the surrounding zones.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Name: Ms. Sameerah Al Shabeeb

Institution/agency: Center for Restoration of Iraqi Marshes and Wetlands

Postal address *(This field is limited to 254 characters)*

Center for Restoration of Iraqi Marshlands and Wetlands (CRIMW)
Ministry of Water Resource
Al Tayaran Square
Nedhal Street
Baghdad
Iraq

E-mail: abed.samira2004@gmail.com

Phone: 009647801631401

2.1.2 - Period of collection of data and information used to compile the RIS

From year: 2009

To year: 2014

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish): Sawa Lake

Unofficial name (optional): Sawa Lake

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Boundaries description (optional) *(This field is limited to 2500 characters)*

Sawa Lake is located in south-western Iraq, in its north-western part of Muthanna Governorate, at the border with Diwaniyah Governorate. The area is bounded mainly by desert areas with few urban settlements except for the presence of the capital city of Muthanna Governorate, Samawa, located about 25 km north-east of the lake, and representing the biggest city in the lake surroundings.

The boundaries of the site represent the maximum wetland extension derived from the analysis of satellite images during the period of 2000-2013. Since Sawa is a permanent lake whose boundaries showed minimum variations across the years, the final boundaries for designating the Ramsar Site has to possibly take into account other features of the surrounding area (e.g. the wide ‘sabkhas’ zones present) and incorporate considerations of administrative/land tenure character.

2.2.2 - General location

a) In which large administrative region does the site lie?	Muthanna Governorate
b) What is the nearest town or population centre?	Samawa City

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries?	Yes ○ No ◉
b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party?	Yes ○ No ◉

2.2.4 - Area of the Site

Official area, in hectares (ha):	500
Area, in hectares (ha) as calculated from GIS boundaries	501.24

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Arabian Desert and East Sahero-Arabian xeric shrublands

Other biogeographic regionalisation scheme *(This field is limited to 2500 characters)*

WWF ecoregion (http://worldwildlife.org/science/wildfinder/)
Ecoregion: Arabian Desert and East Sahero-Arabian xeric shrublands (PA1303)

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

☑ Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided *(This field is limited to 3000 characters)*

Sawa Lake is unique for the biogeographic region because it is a closed water body in an area of sabkha with no inlet or outlet and is only fed by groundwater that originates from the higher western desert areas. Sawa can be distinguished for its hydrological values and the surrounding zone is characterized by a groundwater karst system and by its unique water chemistry. The lake is formed over limestone rock and it is isolated with gypsum barriers surrounding the lake. Gypsum appears to be dominant and the major mineral forming the lake bottom wall.

☑ Criterion 2 : Rare species and threatened ecological communities

3.2 - Plant species whose presence relates to the international importance of the site

<no data available>

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA / AVES	*Aquila heliaca*	Asian Imperial Eagle;Eastern Imperial Eagle	☑	☐	☐	☐	☐	☐	☐	☐				VU	☑	☑		
CHORDATA / AVES	*Chlamydotis undulata*	Houbara Bustard	☑	☐	☐	☐	☐	☐	☐	☐				VU	☑	☑		
CHORDATA / AVES	*Marmaronetta angustirostris*	Marbled Duck	☑	☐	☐	☐	☐	☐	☐	☐				VU	☑	☑		

3.4 - Ecological communities whose presence relates to the international importance of the site

<no data available>

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

(This field is limited to 2500 characters)

Sawa Lake features two main types of landscapes/environments: the water body and the surrounding area, characterized by desert shrub vegetation and by the sabkha ecosystem.

Sabkhas represent a very distinctive geomorphologic feature in Iraq. Investigations recognized two main types of sabkhas; the first is the inland sabkha which is more mature and the second is the coastal sabkha or supratidal flats which are more wide spread. Characteristically, both types are flat containing a shallow water table with highly saline groundwater. This groundwater may be either directly connected with the sea or with continental groundwater. Also surface water from tidal flooding, rainfall and run-off partially recharge the system. Sediments are mainly evaporite quartz grains and mud, sodium chloride is very frequent on the surface. Besides these a subsidiary type of anthropogenic sabkhas are also found near the inhabited areas and cultivated depressions.

From the vegetation point of view Sawa is surrounded by desert shrubs with the most typical shrubs and thickets found in this arid climatic zone (e.g. Tamarix aucherana, Seidlitzia rosmarinus, Suaeda sp., Nitraria retusa, and Haloxylon salicornicum). The terrestrial area surrounding the lake is known to host typical desert species, while the lake itself is important to waterfowl and various raptor species. No flora of endemic or conservation concern has been registered in the area.

4.2 - What wetland type(s) are in the site?

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Q: Permanent saline/ brackish/ alkaline lakes	sawa	1	491.2	Unique

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
Haloxylon salicornicum		
Nitraria retusa		
Phragmites australis		

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/AVES	Aythya ferina	Common Pochard	1200	8 jan 2014		
CHORDATA/AVES	Chroicocephalus genei	Slender-billed Gull	18	8 jan 2014		
CHORDATA/AVES	Egretta garzetta	Little Egret	6	8 jan 2014		
CHORDATA/AVES	Fulica atra	Eurasian Coot	800	8 jan 2014		
CHORDATA/MAMMALIA	Hyaena hyaena	Striped Hyena				
CHORDATA/AVES	Larus michahellis	Yellow-legged Gull	1	8 jan 2014		
CHORDATA/AVES	Netta rufina	Red-crested Pochard	30	8 jan 2014		

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
B: Dry climate	BWk: Mid-latitude desert (Mid-latitude desert)

(This field is limited to 1000 characters)

This Lake is located in the western field of Mesopotamian Plain near the border with the Western Desert. Annual rainfalls are in the order of 90 mm. Average air temperatures have been recorded ranging from 13 to 36 °C during the year. Humidity is about 37 % during the year. Annual evapotranspiration is in the order of 3,200 mm/year.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 14

a) Maximum elevation above sea level (in metres): 26

Not in river basin ☑

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.
(This field is limited to 1000 characters)

Sawa Lake is included in the Aquifer system 2, also called the “Mesopotamian Aquifer System” that covers an area of approximately 110,000 km2. It lies between two major rivers Tigris and Euphrates that are the only water courses flowing through the Plains, south of Baghdad. The base of the foundation are quaternary deposits that originated by the interacting fluvial sediments of Tigris and Euphrates, and the base of the Mesopotamian Aquifer Mega-system consists of several partly independent aquifer systems or sub-systems.

Subsystem 2B, where Sawa Lake is located is in the Mesopotamian Plains between the Tharthar Lake and the Shatt Al-Arab area. It is characterized by a general converging flow towards the center of the Plains that secondly turns to south east taking the waters into the Gulf.

4.4.3 - Soil

Mineral ☑

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes ◉ No ○

Please provide further information on the soil (optional) *(This field is limited to 1000 characters)*

The area of Sawa Lake is covered by recent alluvial and dune sediments that vary in thickness from 1 to 10 m. It is underlined by recent salt deposits. The main formation in this area from youngest to oldest can be described as follows: Quaternary sediments like Aeolian deposits; Slope deposits; Sabkha and salt sheet deposits; Depression filling deposits (the depression fill deposits are generally fine clastic, where calcareous silty clay or loam is more dominant), and Gypcrete deposits.

In the Early Eocene there was the deposition of the Euphrates Formation that consisted mainly of limestone with textures ranging from oolitic to chalky, which locally contain corals and shell coguinas. However, the area of Sawa Lake consists mainly of limestone with impermeable clay and marl, massive, cavernous, chalky limestone. It is 30 – 50 m thick.

4.4.4 - Water regime

Water permanence

Presence?
Usually permanent water present

Source of water that maintains character of the site

Presence?	Predominant water source
Water inputs from groundwater	☑

Water destination

Presence?
Unknown

Stability of water regime

Presence?
Water levels fluctuating (including tidal)

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology: *(This field is limited to 1000 characters)*

Groundwater quality: In Sawa Lake zone the general prevailing groundwater flow is from southwest to northeast. The groundwater level fluctuates during dry and wet seasons. When groundwater level is relatively high, surface water can be present in depressions. Evaporation increases the salinity in the remaining water and soils. As this process was repeated, large quantities of salts were accumulated in the groundwater and soils.

The chemical composition of groundwater is relatively fresh and varies especially in the shallow zone, being also influenced

by seepage from surface watercourses and reservoirs. Under this shallow fresh water lies highly mineralized salt water with salinities of many tens of g/L. In particular, for the unconfined aquifers, the salinity’s values in most part of this lake are relatively medium-high and the values are mostly within a range of values from 3000 to 10000 mg/l.

(ECD) Connectivity of surface waters and of groundwater	Porosity and permeability of aquifers and aquitards; Lithological variations and structural geological conditions control the hydrogeological environment affecting groundwater flow and accumulation

4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site ☑

Significant accretion or deposition of sediments occurs on the site ☑

Significant transportation of sediments occurs on or through the site ☑

Please provide further information on sediment (optional): *(This field is limited to 1000 characters)*

The area of Sawa Lake is covered by recent alluvial and dune sediments that vary in thickness from 1 to 10 m. It is underlined by recent salt deposits.According to GEOSURV, the main formation in this area from youngest to oldest can be described as follows: Quaternary sediments like Aeolian deposits (sand dunes and sand sheets); Slope deposits; Sabkha and salt sheet deposits; Depression filling deposits (the depression fill deposits are generally fine clastic, where calcareous silty clay or loam is more dominant), and Gypcrete deposits.

(ECD) Water turbidity and colour	From 0.24 NTU to 1.5 NTU
(ECD) Water temperature	water temperature is, on average, 15°C

4.4.6 - Water pH

Circumneutral (pH: 5.5-7.4) ☑

4.4.7 - Water salinity

Mixohaline (brackish)/Mixosaline (0.5-30 g/l) ☑

Please provide further information on salinity (optional): *(This field is limited to 1000 characters)*

Salinity is around 17 ppt, confirming therefore the brackish nature of this Lake.

(ECD) Dissolved gases in water *(This field is limited to 1000 characters)*

DO average value is 7.1 and these values are within the range of the lakes

4.4.8 - Dissolved or suspended nutrients in water

Unknown ☑

Please provide further information on dissolved or suspended nutrients (optional): *(This field is limited to 1000 characters)*

NO3 (ppm) 3.1

(ECD) Water conductivity	36 (ms/cm)

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar (●) ii) significantly different ( )

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	Low
Wetland non-food products	Other	Medium

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Climate regulation	Local climate regulation/buffering of change	Low

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	Low
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Nature observation and nature-based tourism	Low

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	Medium

Other ecosystem service(s) not included above: *(This field is limited to 1000 characters)*

The water body of the lake is used for recreational purposes and for fishing. The immediate surroundings of the lake are used for tourism and recreation as they represent a popular recreation and picnic spot for the residents of Samawa City. Other uses, related to wider area surrounding the Lake refer to grazing and legal/illegal hunting.

In Iraq, like in other arid-zone countries, desert rangelands make up a very important part of an ecosystem that is fully utilized for livestock food and production, firewood, and hunting, thus providing an essential part of the livelihood of its inhabitants.

Sabkhas are very fragile ecosystems but they also represent important source of livelihoods for nomadic shepherds and locals, therefore it is essential to properly assess the sustainable utilization of these ecosystems and the pressures to which they can be exposed.

Within the site: 0

Outside the site: 100

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes ○ No ◉ Unknown ○

4.5.2 - Social and cultural values

<no data available>

4.6 - Ecological processes

<no data available>

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Provincial/region/state government	☑	☑

Provide further information on the land tenure / ownership regime (optional): *(This field is limited to 1000 characters)*

The land within the Ramsar site and the surrounding areas are owned by the State. Center for Restoration of Iraqi Marshes and Wetlands is responsible for managing the Ramsar Site while the provincial government of Muthanna Governorate is responsible for managing the area outside of the Ramsar Site's boundaries.

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: *(This field is limited to 1000 characters)*

Center for Restoration of Iraqi Marshes and Wetlands

Provide the name and title of the person or people with responsibility for the wetland: Samira Abed

Postal address: *(This field is limited to 254 characters)*

Center for Restoration of Iraqi Marshlands and Wetlands (CRIMW)
Ministry of Water Resource
Al Tayaran Square
Nedhal Street
Baghdad
Iraq

E-mail address: abed.samira2004@gmail.com

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Salinisation	Medium impact	Medium impact	☑	☐

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Non specified	Low impact	Low impact	☑	☑

Energy production and mining

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified	Low impact		☑	☐

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads		Low impact	☑	☑

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Hunting and collecting terrestrial animals	Medium impact		☐	☑
Fishing and harvesting aquatic resources	Medium impact		☑	☐

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	High impact		☑	☑

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Garbage and solid waste	High impact		☑	☑

Please describe any other threats (optional): *(This field is limited to 2500 characters)*

As Sawa Lake represents a unique system of sabkha and groundwater recharge, it is important to assess the threats that might damage the ecological features of the site. Human intrusion is considered as a serious threat because Sawa Lake is the only water body close to Samawa City and its surroundings and is a popular picnic area. Garbage from the outings have accumulated around the lake. The wildlife, nesting or migrating birds for instance, is particularly exposed to such disturbance because of the poor vegetation cover. Illegal hunting (of the Houbara Bustard - Chlamydotis undulata) is the main threat associated with the surrounding area. Unregulated fishing also occurs.

Because of the construction projects that might start in the area, potential threats (estimated at lower levels) include: disturbance caused by the opening of transportation corridors, pollution caused by these developments.

5.2.2 - Legal conservation status

<no data available>

5.2.3 - IUCN protected areas categories (2008)

<no data available>

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Proposed

Habitat

Measures	Status
Land conversion controls	Proposed

Human Activities

Measures	Status
Research	Proposed

Other: *(This field is limited to 2500 characters)*

The most recent and comprehensive inventory on biodiversity of Iraq is the Key Biodiversity Areas (KBAs) Project – the result of widespread and comprehensive surveys conducted from 2005 to 2010 in the framework of the New Eden Project (Ministry of Environment (MoE) and Nature Iraq (NI), with support from the Italian Ministry of Environment, Land & Sea).

The goal of the KBA programme was to identify the areas of outstanding global or regional importance in terms of their biodiversity and to provide a foundation for developing a protected area network in Iraq.

The KBA surveys began in southern Iraq in the winter of 2005 and were extended to Kurdistan, northern Iraq, in 2007, and to Central and Western Iraq in 2009. Over 220 individual survey sites throughout Iraq's governorates (except for Nineva) were visited, often over several years, with a particular focus on wetland and marshland environment. The surveys covered birds, other fauna and plants/habitats and threats.

Sawa Lake has been one of the sites to be surveyed in the framework of the KBA project.

5.2.5 - Management planning

Is there a site-specific management plan for the site? No

Has a management effectiveness assessment been undertaken for the site? Yes ○ No ◉

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes ○ No ◉

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, but a plan is being prepared

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Proposed

(This field is limited to 2500 characters)

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

(This field is limited to 2500 characters)

Ajmal Khan M. et al (eds.), 2006, Sabkha Ecosystems, Volume II: West and Central Asia, 211-217.

Ashour MM, 2013, Sabkhas in Qatar Peninsula, Landscape and Geodiversity, Studies of integrated geography, Issue 1-2013, 10-35.

Evans I., 1994, Important Bird Areas of the Middle East, BirdLife International, Cambridge, United Kingdom.

Nature Iraq, Draft Inventory of KBA sites, available at http://www.natureiraq.org/draft-inventory-of-sites.html.

New Eden master plan for integrated water resources management in the marshlands area – Volume I – Book 4 – Marshlands, September 2006, Iraqi Ministries of Environment, Water Resources, Municipalities and Public Works.

Ruaa Issa Muslim Al-Quraishi, 2013, "Hydrogeochemistry of the Sawa Lake, Southern Iraq", B.Sc.Geology, University of Baghdad.

Saad Z. Jassim and Jeremy C. Goff, 2006, The Geology of Iraq, published by Dolin, Prague and Moravian Museum, Brno.

Scott D., 1995, A Directory of Wetlands in the Middle East, International Waterfowl and Wetlands Research Bureau, Slimbridge, United Kingdom.

World Wildlife Fund, 2006, WildFinder: Information about Ecoregions, available at http://worldwildlife.org/science/wildfinder/.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<1 file(s) uploaded>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<no file available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:

Western view Sawa lake (*CRIMW, 08-01-2014*)

Eastern view of Sawa lake (*CRIMW, 08-01-2014*)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation: 2014-03-03