



# Ramsar Information Sheet

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Update version, previously published on : 1 January 2001

## Kenya Lake Baringo



|                  |                       |
|------------------|-----------------------|
| Designation date | 10 January 2002       |
| Site number      | 1159                  |
| Coordinates      | 00°36'08"N 36°04'45"E |
| Area             | 31 469,00 ha          |

## 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

Lake Baringo is a freshwater lake situated in the eastern arm of Kenya's Great Rift Valley between latitude 0°30' - 0°45'N and longitude 36°00' - 36°10' E at an altitude of 975 m asl and approximately 60 km north of the equator. It is one of the seven inland drainage lakes within the Rift Valley drainage basin. It is located 140 km north of Nakuru city and about 300 km north of Nairobi city, the capital of Kenya. The total area of the Ramsar site is 314.69 km<sup>2</sup> (31,469 ha) consisting of a water body of 166.62 km<sup>2</sup> (16,662 ha) and riparian zone of 148.07 km<sup>2</sup> (14,807 ha). However, due to the recent flooding in the rift valley lakes, the water body expanded to an estimated area of 268.06 km<sup>2</sup> in 2020 (GOK & UNDP, 2021). Several seasonal rivers drain into the lake, including OI Arabel, Makutan, Tanguibei, Endao and Chemeron, Pekerra and Molo are perennial rivers, although with significantly reduced water discharges during dry seasons. As a freshwater body, its important to the communities in its basin as a source of water, for domestic use and livestock consumption. Other important uses are income generation through tourism, biodiversity conservation and fishing. The indigenous human communities earn their living mainly through pastrolism and agro-pastoralism. Ecologically, the lake constitutes a critical habitat and refuge for more than 500 avifaunal species. Some of the migratory waterbird species are of regional and global conservation significance. The lake is an invaluable habitat for seven fresh water fish species of which one (*Oreochromis alcalicus baringoensis*) is endemic to the lake. Local fisheries are particularly important towards sustainable socioeconomic development of the communities. In addition it is a habitat for many species of animals such as Hippopotamus (*Hippopotamus amphibius*), Crocodile (*Crocodylus niloticus*) and a wide range of mammals, amphibians, reptiles and the invertebrate communities. It has high natural and cultural attractions that contribute immensely towards ecotourism development in the region.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

##### Responsible compiler

|                    |   |
|--------------------|---|
| Institution/agency | Wildlife Research and Training Institute (WRTI) |
| Postal address     | P.O. Box 842 - 20100, Naivasha, Kenya           |

##### National Ramsar Administrative Authority

|                    |   |
|--------------------|---|
| Institution/agency | Kenya Wildlife Service                  |
| Postal address     | P. O. Box 40241 - 00100, Nairobi, Kenya |

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

|           |      |
|-----------|------|
| From year | 2016 |
| To year   | 2022 |

#### 2.1.3 - Name of the Ramsar Site

|   |              |
|---|--------------|
| Official name (in English, French or Spanish) | Lake Baringo |
| Unofficial name (optional)                    | NA           |

#### 2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

|  |   |
|--|---|
| (Update) A. Changes to Site boundary                       | Yes <input type="radio"/> No <input checked="" type="radio"/> |
| (Update) B. Changes to Site area                           | No change to area   |
| (Update) For secretariat only. This update is an extension | <input type="checkbox"/>                                      |

#### 2.1.5 - Changes to the ecological character of the Site

|   |  |
|---|--|
| (Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?  | Yes (likely)   |
| (Update) Are the changes  | Positive <input type="radio"/> Negative <input type="radio"/> Positive & Negative <input checked="" type="radio"/> |
| (Update) No information available   | <input checked="" type="checkbox"/>  |
| (Update) Changes resulting from causes operating within the existing boundaries?  | <input checked="" type="checkbox"/>  |
| (Update) Changes resulting from causes operating beyond the site's boundaries?  | <input checked="" type="checkbox"/>  |
| (Update) Changes consequent upon site boundary reduction alone (e.g., the exclusion of some wetland types formerly included within the site)?                           | <input type="checkbox"/>   |
| (Update) Changes consequent upon site boundary increase alone (e.g., the inclusion of different wetland types in the site)?   | <input checked="" type="checkbox"/>  |
| (Update) Please describe any changes to the ecological character of the Ramsar Site, including in the application of the Criteria, since the previous RIS for the site. |  |
| Heavy rains during the period 2009 to 2013 resulting to increased water volumes in the influent rivers resulting to lake flooding.                                      |  |
| (Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change)                                  | Yes <input checked="" type="radio"/>   |
| (Update) Has an Article 3.2 report been submitted to the Secretariat?   | Yes <input type="radio"/>  |

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

b) Digital map/image  
<2 file(s) uploaded>

|             |   |
|-------------|---|
| Former maps | 0 |
|-------------|---|

Boundaries description

The lake lies within the Kenyan Rift Valley, occupying a depression formed by geological processes. To the west and south west, it is bordered by the Tugen Hills which rise steeply from the lake's edge, hence providing a scenic view. To the north west, it is delineated by the road. The South is surrounded by rich community lands who practice agriculture and pastoralism. The shoreline is rugged and curved along the water's edge. It encompasses rocky cliffs, beaches and on some occasions marsh. A very rich riparian region also surrounds the lake. The lake also has several Islands, notably Ol Kokwe, Samatian and Giralta.

2.2.2 - General location

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

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):
- Area, in hectares (ha) as calculated from GIS boundaries

2.2.5 - Biogeography

Biogeographic regions

| Regionalisation scheme(s)                 | Biogeographic region     |
|---|--------------------------|
| Freshwater Ecoregions of the World (FEOW) | South Eastern Rift       |
| WWF Terrestrial Ecoregions                | East African Halophytics |
| Marine Ecoregions of the World (MEOW)     |                          |
| Freshwater Ecoregions of the World (FEOW) |                          |

Other biogeographic regionalisation scheme

### 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

Lake Baringo is freshwater lake located in an arid zone unlike other Rift Valley Lakes which are mostly saline hence it is an important source of freshwater for domestic use, livestock, fisheries, biodiversity and agricultural production. The lake is fed by perennial rivers Molo and Perkerra and seasonal rivers Ol Arabel, Makutan, Endao, Tangulbei and Chemeron. Lake Baringo has no outlet but outflow is through groundwater seepage. The lake level fluctuates over the years depending on seasonality and other factors and it has risen significantly due to the recent floods. The rivers and the lake ecosystem provide many hydrological functions for example freshwater storage and ground water discharge and recharge, flood control and water purification.

The lake's surrounding area is home to several irrigation schemes, including the Baringo-Suguta irrigation scheme, which supports the production of crops such as maize, beans, and vegetables. The lake's fishery is also an important source of livelihood for the local communities, with several fish species such as tilapia and catfish and being caught in the lake

Other ecosystem services provided

Lake Baringo is a significant ecosystem that provides a wide range of ecosystem services to the local communities and beyond. These services include:  
 Water supply: Lake Baringo serves as a vital source of freshwater for domestic, agricultural, and industrial purposes. The lake's water is used for irrigation, and domestic use.  
 Fisheries: The lake supports a diverse fishery, including tilapia, catfish and several other species. Fishing is an important economic activity for the local communities, providing them with a source of income and protein.  
 Tourism and recreation: Lake Baringo's unique ecosystem, including several bird species and hippos, makes it an attractive destination for tourists. The lake provides recreational opportunities such as bird watching, boating, and camping, contributing to the local economy.  
 Climate regulation: The lake helps regulate the local climate by providing a cooling effect on the surrounding areas, reducing the impacts of high temperatures.  
 Cultural significance: The lake has significant cultural and spiritual value to the local Njemps, Pokot and Tugen communities, who consider it a sacred site. It is also an important site for cultural events and ceremonies.  
 Biodiversity: Lake Baringo is home to several endemic and endangered species, including the giraffe and several fish species. The lake's ecosystem plays a crucial role in supporting biodiversity in the region.

Criterion 2 : Rare species and threatened ecological communities

Optional text box to provide further information

The lake is an important habitat for the endemic *Oreochromis niloticus baringoensis* which is found only in Lake Baringo. The site also harbors the threatened *Labeo cylindricus* and *Barbus intermedius*.  
 Lake Baringo is home to a number of regionally threatened bird species including; Great crested grebe, African darter, Great egret, Saddle-billed stork, White backed duck, White headed vulture, Martial eagle, Baillon's crane and African skimmer

Criterion 3 : Biological diversity

**Justification** Lake Baringo is a critical habitat for more than 500 avifaunal species including species of regional and global conservation significance such as the Lesser Kestrel (*Falco naumanni*), Pallid Harrier (*Circus macrourus*) and Madagascar Pond-Heron (*Ardeola idea*). It harbors mammalian species such as the threatened Hippopotomous (*Hippopotamus amphibious*) and Rothschild's giraffe (*Giraffa camelopardalis rothschildi*) at Ruko Community Conservancy which borders the lake. The lake has a high diversity of amphibians, invertebrates and reptiles such as crocodiles (*Crocodylus nilotica*) and a range-restricted snake *Coluber keniensis*

**Criterion 4 : Support during critical life cycle stage or in adverse conditions**

**Optional text box to provide further information** The Ol'Kokwe Island on the lake is an important breeding habitat for Goliath heron (*Ardea goliath*) and the wetland is an important stopover and a wintering ground for palaeartic migrants.

**End year** 2022

**Optional text box to provide further information** XXXX

**Criterion 7 : Significant and representative fish**

**Justification** Lake Baringo fishery comprise three commercially important species (*Oreochromis niloticus*, *Clarias gariepinus* and *Protopterus aethiopicus*) while *Labeo barbus intermedius* and *Labeo cylindricus* rarely appears in fishermen's catches. *P. aethiopicus* was the most abundant fish landed in Lake Baringo in 2021 constituting 47.7% followed by *C. gariepinus* 29.8% , *L. intermedius* 11% and *O. niloticus* 12% (Mugo et al 2022).

**Criterion 8 : Fish spawning grounds, etc.**

**Justification** The fish catch trends for the indigenous *Oreochromis niloticus baringoensis*, which was the main commercial species since 1960s, has been on the decline over the years. Its decline has been attributed to overfishing, depletion of juvenile fish stocks through fishing in breeding grounds among other reasons. Recent studies done in Lake Baringo indicate that *Oreochromis niloticus baringoensis*, *Labeo barbus intermedius* and *Labeo cylindricus* in breeding areas were of higher abundance than in normal fishing grounds for commercial fishers. The breeding areas were also important as recruitment grounds. These areas therefore need to be protected for fisheries sustainability through monitoring control and surveillance (MCS) and use of right sizes of gear (Mugo et al 2022).

**Optional text box to provide further information** Ruko Community Conservancy which borders the lake to the North is home to 14 threatened Rothschild giraffe/Nubian giraffe or formerly Baringo giraffe (*Giraffa camelopardalis rothschildi*) that is endemic to Baringo which were translocated from Soysambu Conservancy in 2011. The species is listed as Near Threatened by IUCN and there are about 700 individuals in Kenya

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

| Phylum                         | Scientific name      | Criterion 2              | Criterion 3                         | Criterion 4              | IUCN Red List | CITES Appendix I         | Other status | Justification                         |
|--------------------------------|----------------------|--------------------------|-------------------------------------|--------------------------|---------------|--------------------------|--------------|---------------------------------------|
| <b>Plantae</b>                 |                      |                          |                                     |                          |               |                          |              |                                       |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Euryale ferox</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | LC            | <input type="checkbox"/> |              | Used for making domestic bread(ugali) |

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

| Phylum                             | Scientific name                      | Species qualifies under criterion   |                                     |                          |                          | Species contributes under criterion |                          |                                     |                                     | Pop. Size | Period of pop. Est. | % occurrence 1) | IUCN Red List | CITES Appendix I                    | CMS Appendix I                      | Other Status      | Justification   |
|------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|-----------|---------------------|-----------------|---------------|-------------------------------------|-------------------------------------|-------------------|---|
|                                    |                                      | 2                                   | 4                                   | 6                        | 9                        | 3                                   | 5                        | 7                                   | 8                                   |           |                     |                 |               |                                     |                                     |                   |   |
| <b>Others</b>                      |                                      |                                     |                                     |                          |                          |                                     |                          |                                     |                                     |           |                     |                 |               |                                     |                                     |                   |   |
| CHORDATA/<br>MAMMALIA              | <i>Hippopotamus amphibius</i>        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | VU            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| <b>Fish, Mollusc and Crustacea</b> |                                      |                                     |                                     |                          |                          |                                     |                          |                                     |                                     |           |                     |                 |               |                                     |                                     |                   |   |
| CHORDATA/<br>ACTINOPTERYGII        | <i>Clarias gariepinus</i>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |           |                     | 9.8             | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   | <a href="https://doi.org/10.14321/ae hm.025.04.53">https://doi.org/10.14321/ae hm.025.04.53</a> |
| CHORDATA/<br>ACTINOPTERYGII        | <i>Enteromius lineomaculatus</i>     | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |           |                     | 0.96            | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>ACTINOPTERYGII        | <i>Labeo cylindricus</i>             | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |           |                     | 0.89            | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   | <a href="https://doi.org/10.14321/ae hm.025.04.53">https://doi.org/10.14321/ae hm.025.04.53</a> |
| CHORDATA/<br>ACTINOPTERYGII        | <i>Labeobarbus altianalis</i>        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   | <a href="https://doi.org/10.14321/ae hm.025.04.53">https://doi.org/10.14321/ae hm.025.04.53</a> |
| CHORDATA/<br>ACTINOPTERYGII        | <i>Labeobarbus johnstonii</i>        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   | <a href="https://doi.org/10.14321/ae hm.025.04.53">https://doi.org/10.14321/ae hm.025.04.53</a> |
| CHORDATA/<br>ACTINOPTERYGII        | <i>Oreochromis niloticus</i>         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |           |                     | 80.4            | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   | <a href="https://doi.org/10.14321/ae hm.025.04.53">https://doi.org/10.14321/ae hm.025.04.53</a> |
| CHORDATA/<br>SARCOPTERYGII         | <i>Protopterus aethiopicus</i>       | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                     | 7.95            | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| <b>Birds</b>                       |                                      |                                     |                                     |                          |                          |                                     |                          |                                     |                                     |           |                     |                 |               |                                     |                                     |                   |   |
| CHORDATA/<br>AVES                  | <i>Acrocephalus griseldis</i>        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | EN            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                   |   |
| CHORDATA/<br>AVES                  | <i>Anhinga rufa</i>                  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>AVES                  | <i>Aquila heliaca</i>                | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | VU            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                   |   |
| CHORDATA/<br>AVES                  | <i>Ardea alba melanorhynchos</i>     | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 |               | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>AVES                  | <i>Ardea goliath</i>                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   | The Ol'Kokwe Island on the lake is an important breeding habitat for Goliath herons             |
| CHORDATA/<br>AVES                  | <i>Ardeola ralloides</i>             | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>AVES                  | <i>Balearica pavonina</i>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | VU            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>AVES                  | <i>Circus macrourus</i>              | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | NT            | <input type="checkbox"/>            | <input type="checkbox"/>            | Cited Apendix II  |   |
| CHORDATA/<br>AVES                  | <i>Ephippiorhynchus senegalensis</i> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>AVES                  | <i>Falco fasciinucha</i>             | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | VU            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>AVES                  | <i>Falco naumanni</i>                | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                   |   |
| CHORDATA/<br>AVES                  | <i>Gyps rueppellii</i>               | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | EN            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>AVES                  | <i>Necrosyrtes monachus</i>          | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | EN            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>AVES                  | <i>Neophron percnopterus</i>         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | EN            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                   |   |
| CHORDATA/<br>AVES                  | <i>Phoeniconaias minor</i>           | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | NT            | <input type="checkbox"/>            | <input type="checkbox"/>            | CITES Appendix II |   |
| CHORDATA/<br>AVES                  | <i>Podiceps cristatus</i>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>AVES                  | <i>Polemaetus bellicosus</i>         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | EN            | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |
| CHORDATA/<br>AVES                  | <i>Porzana pusilla</i>               | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 |               | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |   |

| Phylum        | Scientific name                | Species qualifies under criterion   |                          |                          |                          | Species contributes under criterion |                          |                          |                          | Pop. Size | Period of pop. Est. | % occurrence 1) | IUCN Red List | CITES Appendix I         | CMS Appendix I                      | Other Status | Justification |
|---------------|--------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-----------|---------------------|-----------------|---------------|--------------------------|-------------------------------------|--------------|---------------|
|               |                                | 2                                   | 4                        | 6                        | 9                        | 3                                   | 5                        | 7                        | 8                        |           |                     |                 |               |                          |                                     |              |               |
| CHORDATA/AVES | <i>Rynchops flavirostris</i>   | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            |              |               |
| CHORDATA/AVES | <i>Terathopius ecaudatus</i>   | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | NT            | <input type="checkbox"/> | <input type="checkbox"/>            |              |               |
| CHORDATA/AVES | <i>Thalassornis leuconotus</i> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            |              |               |
| CHORDATA/AVES | <i>Torgos tracheliotus</i>     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | VU            | <input type="checkbox"/> | <input type="checkbox"/>            |              |               |
| CHORDATA/AVES | <i>Trigonoceps occipitalis</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | CR            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |              |               |

1) Percentage of the total biogeographic population at the site

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

| Name of ecological community | Community qualifies under Criterion 2? | Description | Justification  |
|------------------------------|--|-------------|--|
| Fish Community               | <input checked="" type="checkbox"/>    |             | The lake is an important habitat for the endemic <i>Oreochromis niloticus baringoensis</i> which is found only in Lake Baringo. The site also harbors the threatened <i>Labeo cylindricus</i> and <i>Barbus intermedius</i> .                        |
| Riparian Vegetation          | <input type="checkbox"/>               |             | Riparian vegetation is threatened through clearing by communities and by invasive alien species <i>Prosopis</i>  |
| Hippo community              | <input type="checkbox"/>               |             | The lake hosts a large population of hippos  |
| Bird community               | <input checked="" type="checkbox"/>    |             | Lake Baringo is home to a number of regionally threatened bird species including; Great crested grebe, African darter, Great egret, Saddle-billed stork, White backed duck, White headed vulture, Martial eagle, Baillon's crane and African skimmer |



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

### 4.1 - Ecological character

The lake ecosystem supports a number of aquatic flora and fauna including phytoplanktons and zooplanktons, diverse fish community, avifauna and large mammals. The shoreline consists of riparian vegetation and marshes such as *Typha domingensis* and *Cyperus papyrus* although the shoreline vegetation is poorly developed around most parts of the lake. Other vegetation recorded in the wetland include *Paspalidium geminatum*, *Aeschynomene pfundii*, *Nymphaea lotea*, *Azolla* spp and submerged *Ceratophyllum demersum*. Invasive plants such as Water hyacinth *Eichhornia crassipes* and *Pistia Stratiotes* have been recorded in the site. The terrestrial part is dominated by *Acacia tortilis*, *Acacia mellifera* and *Boscia* spp although this is threatened by the invasive plant *Prosopis Juliflora*.

Lake Baringo constitutes a critical habitat and refuge for more than 500 avifaunal species including species of regional and global significance. The lake is an invaluable habitat for seven fresh water fish species including *Aplocheliches* sp., *Barbus intermedius australis*, *Barbus lineomaculatus*, *Clarias gariepinus*, *Labeo cylindricus*, *Protopterus aethiopicus* and *Oreochromis niloticus baringoensis* which is endemic to the lake (Britton et al. 2006). Four species, namely, *Barbus intermedius australis*, *Clarias gariepinus*, *Oreochromis niloticus baringoensis*, and *Protopterus aethiopicus* are economically exploited. The fishery of the lake was once dominated by the endemic *Oreochromis niloticus baringoensis* but is presently dominated by *Protopterus aethiopicus*. Fishery is particularly important towards socio-economic development of the local communities. In addition it is a habitat for threatened mammal species such as Hippopotamus (*Hippopotamus amphibious*), Rothschild giraffe (*Giraffa camelopardalis rothschildi*), Crocodile (*Crocodylus niloticus*), amphibian and invertebrate communities.

Lake Baringo has a surface area of about 160 km<sup>2</sup>, however due to the recent floods in Kenya's Rift Valley Lakes, it was one of the worst affected lakes with an estimated area of 108.57 km<sup>2</sup> being submerged between 2010 and 2020. This led to the loss of riparian habitats which are important wildlife habitats and loss of tourism infrastructure thus affecting the tourism sector in the region. This further resulted in the displacement of wildlife and increase in Human Wildlife conflicts in the neighboring settlements. The rise in lake levels also submerged several settlements bordering the lake particularly in the southern and the western parts with approximately 3,087 households being affected (GOK & UNDP, 2021).

### 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 |
|---|--------------|--|---------------------------|------------------------------|
| Fresh water > Lakes and pools >> O: Permanent freshwater lakes                      | Lake Baringo | 1  | 27000                     | Rare                         |
| Fresh water > Marshes on inorganic soils >> Tp: Permanent freshwater marshes/ pools | Lake Baringo | 2  |                           | Unique                       |

#### Human-made wetlands

| Wetland types (code and name)              | Local name | Ranking of extent (1: greatest - 4: least) | Area (ha) of wetland type |
|--|------------|--|---------------------------|
| 2: Ponds                                   |            | 4  |                           |
| 3: Irrigated land                          |            | 2  |                           |
| 4: Seasonally flooded agricultural land    |            | 2  |                           |
| 9: Canals and drainage channels or ditches |            | 3  |                           |

#### Other non-wetland habitat

| Other non-wetland habitats within the site   | Area (ha) if known |
|--|--------------------|
| There are seven islands within the lake namely Longicharo, Rongena, Samatian, Ol kokwa, Parmolok and the Devil's Island. | 559                |

#### (ECD) Habitat connectivity

Lake Baringo is connected to other smaller swamps within the riparian system upstream and recently connected to other neighbouring wetlands for example Lake 94, Weiwei-mining and Bogoria due to the rise in Lake levels. Hippopotamus and Crocodiles have been

### 4.3 - Biological components

#### 4.3.1 - Plant species

##### Other noteworthy plant species

| Phylum                     | Scientific name             | Position in range / endemism / other   |
|----------------------------|-----------------------------|--|
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Aeschynomene pfundii</i> |  |
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Boscia angustifolia</i>  |  |
| TRACHEOPHYTALILIOPSIDA     | <i>Cyperus papyrus</i>      | endangered by poor land use practices. |
| TRACHEOPHYTALILIOPSIDA     | <i>Diplachne fusca</i>      |  |
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Nymphaea lotus</i>       |  |
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Senegalia mellifera</i>  |  |
| TRACHEOPHYTALILIOPSIDA     | <i>Setaria geminata</i>     |  |
| TRACHEOPHYTALILIOPSIDA     | <i>Typha domingensis</i>    |  |
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Vachellia tortilis</i>   |  |

Invasive alien plant species

| Phylum                     | Scientific name             | Impacts                | Changes at RIS update |
|----------------------------|-----------------------------|------------------------|-----------------------|
| TRACHEOPHYTALILIOPSIDA     | <i>Eichhornia crassipes</i> | Actual (minor impacts) | increase              |
| TRACHEOPHYTALILIOPSIDA     | <i>Pistia stratiotes</i>    | Potential              | No change             |
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Prosopis juliflora</i>   | Actual (major impacts) | increase              |

Optional text box to provide further information

The invasive *Prosopis juliflora* is widely distributed around Lake Baringo and has negatively affected the dominant native plant species such as the *Acacia tortilis*. The aquatic invasive plant water hyacinth has invaded the lake and its major tributaries in the recent years. The water hyacinth and Nile cabbage were probably introduced by fisher folk through their fishing gears.

4.3.2 - Animal species

Other noteworthy animal species

| Phylum            | Scientific name                              | Pop. size | Period of pop. est. | % occurrence | Position in range /endemism/other |
|-------------------|--|-----------|---------------------|--------------|-----------------------------------|
| CHORDATA/REPTILIA | <i>Crocodylus niloticus</i>                  |           |                     |              |                                   |
| CHORDATA/MAMMALIA | <i>Giraffa camelopardalis camelopardalis</i> | 14        | 2022                |              |                                   |
| CHORDATA/AVES     | <i>Oxyura maccoa</i>                         |           |                     |              | Near threatened                   |

Optional text box to provide further information

*Protopterus aethiopicus* was introduced Lake Baringo in 1975 to boost the fishery but has ended up dominating the fishery of the lake which was previously dominated by the endemic *Oreochromis niloticus baringoensis* (Mlewa & Green 2006). The species largely survives in many East and Central Africa wetlands. The species was first witnessed in Lake Baringo landing beaches in 1984 and has since comprised the long line fishery of the lake, alongside the native catfish *Clarius gariepinus*. It is now the dominant species in the fish catches (Kobingi et al 2020).

4.4 - Physical components

4.4.1 - Climate

| Climatic region | Subregion                                     |
|-----------------|---|
| B: Dry climate  | BWh: Subtropical desert (Low-latitude desert) |

The recent rise in lake levels in Rift Valley Lakes has affected the site resulting in the loss of riparian habitat, infrastructure damage and displacement of wildlife and several settlements bordering the lake. Lake Baringo was one of the worst affected lakes in the Rift Valley with an estimated area of 108.57 km<sup>2</sup> being submerged between 2010 and 2020 (GOK & UNDP, 2021).

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- Coastal

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.

Lake Baringo has a catchment area of 6820 km<sup>2</sup> including the Mau forest and the Tugen Hills. The main perennial rivers are Perkerra and Molo while the seasonal rivers include Endao, Chemeron, Ol Arabel, Mukutani and Tangelbei. Lake Baringo waters remain fresh despite the lack of surface outlet and high evaporation rates that characterizes the rift floor but some water is lost by underground seepage through the fractured lake floor (Onyando et al., 2005).

#### 4.4.3 - Soil

Mineral

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

No available information

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)

The soils in the basin are generally sandy, loam and volcanic ash.

#### 4.4.4 - Water regime

Water permanence

| Presence?                       | Changes at RIS update |
|---------------------------------|-----------------------|
| Usually permanent water present |                       |

Source of water that maintains character of the site

| Presence?                       | Predominant water source | Changes at RIS update |
|---------------------------------|--------------------------|-----------------------|
| Water inputs from precipitation | <input type="checkbox"/> | No change             |
| Water inputs from surface water | <input type="checkbox"/> | No change             |
| Water inputs from groundwater   | <input type="checkbox"/> | No change             |

Water destination

| Presence?         | Changes at RIS update |
|-------------------|-----------------------|
| Feeds groundwater | No change             |

Stability of water regime

| Presence?                   | Changes at RIS update |
|-----------------------------|-----------------------|
| Water levels largely stable | No change             |

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology.

The water levels are largely stable however the lake level fluctuates over the years depending on seasonality and other factors such as siltation. In the recent years the water level has risen significantly due to the floods which affected the Rift Valley Lakes.

(ECD) Connectivity of surface waters and of groundwater

Lake Baringo has no visible outlet but is believed to have an underground seepage at Loruk to the north and the water flows out as geysers and hot springs into Lake Turkana.

(ECD) Stratification and mixing regime

The mixing of surface and bottom water induced by the wave actions together with the clay soils of the catchment contributes to the lake's notable high turbidity, reported to affect the primary productivity of the lake.

#### 4.4.5 - Sediment regime

Significant accretion or deposition of sediments occurs on the site

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Sediment regime unknown

Please provide further information on sediment (optional):

The clearing of vegetation in the catchment and riparian areas has resulted in increased soil erosion and sediment transport to the lake leading to pollution, reduced water depth and increased incidences of flooding

(ECD) Water turbidity and colour

The water is turbid with turbidity of 9.89 NTU in 2016 and 86.9 in 2020 (KMFRI, 2020)

(ECD) Light - reaching wetland

The Lake's high turbidity limits light penetration into the water column resulting in low biomass production

(ECD) Water temperature

Water temperature mean is about 26°C

#### 4.4.6 - Water pH

Alkaline (pH>7.4)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

Please provide further information on pH (optional):

The pH range is between 8-9. The lake's pH is relatively high because of alkaline hostspring discharge from Kokwa island which is located in the lake.

#### 4.4.7 - Water salinity

Fresh (<0.5 g/l)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

Please provide further information on salinity (optional):

Salinity range from 0.15 ppt to 0.2ppt (Ochuka et al 2019)

(ECD) Dissolved gases in water

Mean dissolved oxygen of 5.81 mg/L was recorded in 2020

#### 4.4.8 - Dissolved or suspended nutrients in water

Eutrophic

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

Please provide further information on dissolved or suspended nutrients (optional):

According to a recent study, the lake recorded high nutrient loading leading to the deterioration of the water quality. The study recorded; TN (1.32- 9.98 mg/L), nitrate (0.09 - 5.11 mg/L), TP (0.25 - 2.91 mg/L), OP (0.09 - 1.84 mg/L) (Ochuka et al 2019).

(ECD) Water conductivity

Electrical conductivity of 378 to 445 µS/cm was recorded between 2016 and 2020 (KMFRI, 2020). During a field visit condu

#### 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

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

Surrounding area has more intensive agricultural use

Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

The surrounding area has intensive agriculture including the Perkerra irrigation scheme. There are upcoming urban centers such as Kampi ya Samaki, Loruk and Marigat with increasing human population. The site is also a key tourism destination with increasing number of hotels being developed within the site. In addition there is geothermal exploration in the surrounding area to the South of the lake (Paka and Loruk).

### 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) | High                           |
| Fresh water               | Water for irrigated agriculture                      | Medium                         |
| Fresh water               | Drinking water for humans and/or livestock           | High                           |
| Wetland non-food products | Fuel wood/fibre                                      | Medium                         |
| Wetland non-food products | Livestock fodder                                     | Medium                         |
| Wetland non-food products | Other  | Medium                         |
| Genetic materials         | Medicinal products                                   | Medium                         |

##### Regulating Services

| Ecosystem service                   | Examples                              | Importance/Extent/Significance |
|-------------------------------------|---------------------------------------|--------------------------------|
| Maintenance of hydrological regimes | Groundwater recharge and discharge    | Medium                         |
| Erosion protection                  | Soil, sediment and nutrient retention | High                           |
| Hazard reduction                    | Flood control, flood storage          | Low                            |

##### Cultural Services

| Ecosystem service           | Examples   | Importance/Extent/Significance |
|-----------------------------|--|--------------------------------|
| Recreation and tourism      | Recreational hunting and fishing   | High                           |
| Spiritual and inspirational | Cultural heritage (historical and archaeological)  | Medium                         |
| Spiritual and inspirational | Spiritual and religious values   | Medium                         |
| Scientific and educational  | Educational activities and opportunities   | Medium                         |
| Scientific and educational  | Important knowledge systems, importance for research (scientific reference area or site) | Medium                         |
| Scientific and educational  | Major scientific study site  | Medium                         |

Supporting Services

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

Optional text box to provide further information

Lake Baringo Ramsar site is an important ecosystem hosting a high diversity of flora and fauna including threatened species such as the Common Hippopotamus, Rothschild Giraffe and some threatened bird species thus is an important tourist destination. It supports a thriving fishery which is important to the local community. The lake is also an important source of drinking water for humans, livestock, irrigated agriculture and energy production (geothermal).

Other ecosystem service(s) not included above:

The Lake has some islands such as Kokwa, Samatian and Longicharo with human settlements, hotels and schools hence the lake serves as a transport channel to these islands.

Within the site:

Outside the site:

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

- i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland
- ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland
- iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples
- iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

<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  |
|--|-------------------------------------|--------------------------|
| Local authority, municipality, (sub)district, etc. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Private ownership

| Category                                   | Within the Ramsar Site   | In the surrounding area             |
|--|--------------------------|-------------------------------------|
| Other types of private/individual owner(s) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Other

| Category                   | Within the Ramsar Site   | In the surrounding area             |
|----------------------------|--------------------------|-------------------------------------|
| Commoners/customary rights | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Provide further information on the land tenure / ownership regime (optional):

The Lake is under the management of Baringo County Government while the surrounding area is communal land and some areas are under private ownership.

#### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Baringo County Government

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

The Governor of Baringo County

Postal address:

P.O Box 53-30400,  
Kabarnet, Kenya.

E-mail address:

info@baringo.go.ke

## 5.2 - Ecological character threats and responses (Management)

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

Human settlements (non agricultural)

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Housing and urban areas          | Low impact    | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Tourism and recreation areas     | Medium impact | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

Water regulation

| Factors adversely affecting site  | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|-----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Water abstraction                 | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Salinisation                      | Low impact    | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Canalisation and river regulation | Low impact    | High impact      | <input type="checkbox"/>            | No change | <input checked="" type="checkbox"/> | No change |

Agriculture and aquaculture

| Factors adversely affecting site      | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|---------------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Annual and perennial non-timber crops | Medium impact | High impact      | <input type="checkbox"/>            | No change | <input checked="" type="checkbox"/> | No change |
| Livestock farming and ranching        | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

Energy production and mining

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Mining and quarrying             | Low impact    | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Renewable energy                 | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input type="checkbox"/>            | No change |

Transportation and service corridors

| Factors adversely affecting site            | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|---|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Roads and railroads                         | Low impact    | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Utility and service lines (e.g., pipelines) | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Shipping lanes                              | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

Biological resource use

| Factors adversely affecting site           | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|--|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Hunting and collecting terrestrial animals | Low impact    | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Logging and wood harvesting                | Medium impact | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Fishing and harvesting aquatic resources   | Low impact    | High impact      | <input checked="" type="checkbox"/> | No change | <input type="checkbox"/>            | No change |

Human intrusions and disturbance

| Factors adversely affecting site    | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|-------------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Recreational and tourism activities | Low impact    | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

Natural system modifications

| Factors adversely affecting site     | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area  | Changes   |
|--------------------------------------|---------------|------------------|-------------------------------------|-----------|--------------------------|-----------|
| Dams and water management/use        |               |                  | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> |           |
| Vegetation clearance/land conversion | Low impact    | Low impact       | <input checked="" type="checkbox"/> | No change | <input type="checkbox"/> | No change |
| Unspecified/others                   | Low impact    | Low impact       | <input checked="" type="checkbox"/> | No change | <input type="checkbox"/> | No change |

Invasive and other problematic species and genes

| Factors adversely affecting site  | Actual threat | Potential threat | Within the site                     | Changes | In the surrounding area  | Changes |
|-----------------------------------|---------------|------------------|-------------------------------------|---------|--------------------------|---------|
| Invasive non-native/alien species |               |                  | <input checked="" type="checkbox"/> |         | <input type="checkbox"/> |         |

Pollution

| Factors adversely affecting site    | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|-------------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Household sewage, urban waste water | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Agricultural and forestry effluents | Low impact    | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Garbage and solid waste             | Low impact    | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

Geological events

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Earthquakes/tsunamis             | Low impact    | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

Climate change and severe weather

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Habitat shifting and alteration  | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Droughts                         | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Temperature extremes             | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Storms and flooding              | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

Please describe any other threats (optional):

High water levels has been experienced in the recent years at Lake Baringo and the entire Kenya's Rift Valley Lakes due to flooding leading to loss and habitat shifts (GOK & UNDP, 2021).

5.2.2 - Legal conservation status

Global legal designations

| Designation type         | Name of area         | Online information url | Overlap with Ramsar Site |
|--------------------------|----------------------|------------------------|--------------------------|
| Other global designation | Lake Baringo Geopark |                        | whole                    |

National legal designations

| Designation type | Name of area                  | Online information url | Overlap with Ramsar Site |
|------------------|-------------------------------|------------------------|--------------------------|
| National Reserve | Lake Baringo National Reserve |                        | whole                    |

Non-statutory designations

| Designation type    | Name of area | Online information url | Overlap with Ramsar Site |
|---------------------|--------------|------------------------|--------------------------|
| Important Bird Area | Lake Baringo | datazone.birdlife.org  | whole                    |

5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

| Measures         | Status                |
|------------------|-----------------------|
| Legal protection | Partially implemented |

Habitat

| Measures                                  | Status                |
|---|-----------------------|
| Re-vegetation                             | Partially implemented |
| Catchment management initiatives/controls | Partially implemented |

Species

| Measures                                      | Status                |
|---|-----------------------|
| Control of invasive alien plants              | Partially implemented |
| Threatened/rare species management programmes | Partially implemented |

Human Activities

| Measures   | Status                |
|--|-----------------------|
| Regulation/management of wastes                                      | Partially implemented |
| Livestock management/exclusion (excluding fisheries)                 | Proposed              |
| Management of water abstraction/takes                                | Partially implemented |
| Fisheries management/regulation                                      | Partially implemented |
| Harvest controls/poaching enforcement                                | Partially implemented |
| Communication, education, and participation and awareness activities | Partially implemented |
| Research   | Partially implemented |

5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

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

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

Visitor center is in place in Lake Bogoria National Reserve.  
 Warden's office  
 A Snake Park in Lake Baringo where visitors are provided with information about the site  
 Field research station available .  
 Social amenities available.



### 5.2.6 - Planning for restoration

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

#### Further information

There are some restoration activities undertaken in the surrounding areas for example management of *Prosopis juliflora* around Lake Baringo project by woody weeds and Kenya Forestry Research Institute (KEFRI), manual removal of Water hyacinth was undertaken by the County Government of Baringo and grass reseeding on eroded areas by the Rehabilitation of Environment project.

### 5.2.7 - Monitoring implemented or proposed

| Monitoring                      | Status |
|---------------------------------|--------|
| Water regime monitoring         |        |
| Animal community                |        |
| Animal species (please specify) |        |
| Birds                           |        |

Periodic waterfowl counts are currently conducted in the site twice in a year as part of the National waterfowl Census programme. Wildlife Monitoring is conducted periodically within the Lake and neighboring Community Wildlife Conservancies adjacent to Lake Baringo. Fish and water quality monitoring is being undertaken by KEMFRI.

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

1. Baker B.H and J. Wohlenberg (1971) Structure and Evolution of the Kenyan Rift Valley. Nature: 229:538-542
2. Bartholomew, G.A. and Pennycuit, C.J. 1973. The Flamingo and Pelican Populations of the Rift Valley Lakes in 1969. East Africa Wildlife Journal 11: Pg. 189-198.
3. Fairhead, J.D. 1976. The structure of the Lithosphere beneath the Eastern Rift, East Africa, deduced from gravity studies. Journal of Tectonophysics 30: Pg. 269-298.
4. Kilham, P. 1971: Biogeochemistry of African Lakes and Rivers. Ph. D. Thesis. Duke University.
5. Kobingi, N., Gichana, Z., Nyamora, J., Kipkorir, K., Kerich, E., & Angima, M. (2023). Some Aspects of Fish Biology and Ecology of River Perkerra in Lake Baringo Basin, Kenya. Journal of Aquatic Terrestrial Ecosystems, 1(1), 1-10.
6. McCall, C.J. H. 1957. Geology of the Nakuru- Thomson Falls- Lake Hannington Area. Geological Survey of Kenya. Report No. 78. pg.122. Government Printer. Nairobi, Kenya
7. Melack, J.M. 1979. Photosynthesis and growth of *Spirulina platensis* (cynaophyta) in Equatorial Lake (Lake Simbi, Kenya). Limnology and Oceanography 24(4): 753-760.
8. Melack, J.M. 1981. Photosynthetic Activity of Phytoplankton in Tropical African Soda Lakes. Journal of Hydrobiologia. 81: pg 71-85.
9. Melack, N.E. 1976. Limnology and dynamics of phytoplankton in Equatorial African lakes. Ph.D. Thesis, Duke University.
10. Mwangi, N.E. 1992. The Vegetation of Lake Bogoria National Reserve: Composition, Structure and Distribution. M.Sc. Thesis, Moi University.
11. Mlewa, Chriseptom M., and John M. Green. "Translocation of marbled African lungfish, *Protopterus aethiopicus* (Telostei: Protopteridae), and its fishery in Lake Baringo, Kenya." African Journal of Aquatic Science 31.1 (2006): 131-136.
12. Nyakeya, K., Chemoiwa, E., Nyamora, J. M., Ogombe, C. O., Gichana, Z. M., Mbaru, E. K., ... & Basweti, E. (2020). Endemic Lake Baringo *Oreochromis niloticus* fishery on verge of collapse: Review of causes and strategies directed to its recovery, conservation and management for sustainable exploitation. Lakes & Reservoirs: Research & Management, 25(4), 423-438.
13. P.K. Njuguna 1992. Some Aspects of the Limnology of Lake Bogoria and their influence on Lesser Flamingo Spatial Distribution. Msc. Thesis. Moi University.
14. Talling, J.F. and Talling, I.B. 1965. The Chemical Compositon of African Lake waters. International Gesamten Hydrobiologie. 50: 421-463.
15. Tuite, E.H. 1978. The Lesser Flamingo *Phoeniconaias minor*: Aspects of it's Ecology and Behaviuor in Eastern Rift Valley of Kenya and Northern Tanzania. Ph.D. Thesis, University of Bristol.
16. Tuite, E.H. 1979. Population Size, distribution and biomass density of the Lesser Flamingo *Phoeniconaias minor* in Eastern Rift Valley. Journal of Applied Ecology. 16: 765-775.

#### 6.1.2 - Additional reports and documents

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

<4 file(s) uploaded>

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

<no file available>

iv. relevant Article 3.2 reports

<4 file(s) uploaded>

v. site management plan

<no file available>

vi. other published literature

<1 file(s) uploaded>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



The little islands in Lake Baringo are illuminated by the setting sun. ( Wilson Tiren wilstiren@yahoo.co.uk, 22-12-2023 )

#### 6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation 2002-01-10