Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note for compilers:
1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.

2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Bureau. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

Sango Bay -Musambwa Islands -Kagera Wetland System (SAMUKA) Ramsar Information Sheet (RIS)

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2. **Date:** 16 September 2005.

3. **Country:** The Republic of Uganda

4. **Name of the Ramsar site:** Sango Bay–Musambwa Island–Kagera Wetland System (SAMUKA).

5. **Map of the Ramsar site:**

Hard copy: attached
Digital (electronic) format: yes

6. **Geographical coordinates:** 31°39’ – 31°52”E and 00°59’ – 00°49”S.

7. **General Location:**

SAMUKA complex borders Uganda-Tanzania National boundary to the southwestern shores of Lake Victoria, in Sango Bay, the Southern part of Uganda, within the sub-counties of Kyebe, Kakuuto, Kasasa and Kabira in Rakai district as well as in the sub-county of Kyanamukaka in Masaka district. It is located 25 kms from Rakai town. It is bordered on the western side by the Lukaya – Masaka – Mutukula road down to the

Tanzanian border and in the eastern side through Lake Victoria encompassing Musambwa Island which lies about 3 km from the Sango Bay shoreline. Musambwa Island is also located in Kyebe subcounty Rakai District.

8. Elevation: 1130 to 1190m above sea level.

9. Area: 55,110 hectares

10. Overview:

SAMUKA complex covers two Important Bird Areas (Sango Bay Complex and Musambwa Islands). Sango Bay Musambwa Islands consists of three rocky islets, about 3 km offshore in the Sango Bay. The largest is about 5 ha, and the next about 3 ha (these are locally known as ennene (large) and entono (small) respectively), whilst the smallest is just a rocky outcrop jutting out of the lake. The shoreline has no fringing swamp or sandy beaches.

The Forest Reserves consisting of Kigona, Kaiso, Tero (East and West), Namalala and Malabigambo are part of the Sango Bay area. The Sango Bay forests are rather homogenous in nature and the biggest section can be broadly classified as swamp forest. The canopy is generally lower than that of medium altitude mixed evergreen forest, although many of the component species are the same (Davenport and Howard 1966). The area is considered to be of biogeographic interest because it lies in the transition between the East and West African vegetation zones and this biogeographical ecotone makes it biodiversity rich. Malabigambo Forest and Kaiso wetlands are contiguous with the Minziro Forest wetlands of neighbouring Tanzania and important as an international cross-border management site. The site contains a mosaic of wetland types including permanent and seasonal swamp forests, papyrus swamps, herbaceous swamps interspersed with palms and seasonally flooded grasslands. Malabigambo Forest is contiguous with Kagera wetland and floodplain mainly composed of a mat of papyrus swamp sectioned by the meandering Kagera River. Kagera swamp runs to the Tanzanian border.

Sango Bay wetlands are extensive, stretching along a varied shoreline consisting of sandy shores, rocky shores, forest shores, and the fishing villages. Large portions of the seasonal swamp forests are included within the six forest Reserves. The Rakai District forest offices manage these Forest Reserves. There is a low human population density in the surrounding areas. Because of being inaccessible, poor stocking of usable timber and lack of potential for conversion to agricultural land the Sango Bay forests have had no immediate threats. However, as overexploitation of resources and grazing depletes the rest of the landscape, forest reserves become the immediate retreat for the surrounding communities. There is therefore a growing demand for forest resources.

The system is of socio-economic importance to the people living in the surrounding areas. It is also of national and international interest. It contains one of the World's Stone Age Sites, internationally known as the Sangoan, which dates to about 200,000 years ago. The system is a source of fish to the people of the area, source of medicinal plants, raw materials for building and making crafts including luxurious sofa chairs and mattresses. The plains are also used for grazing and tourism has been developed on Musambwa Island. Sango Bay wetland system is part of the area in Uganda, which supports more than 75% of the global population of the Blue swallow. In addition, the system supports huge

congregations of waterbirds, unique plant communities including endemic tree species, breeding ground for several fish species, contains globally endangered mammals and restricted range primate species and is considered to be a Pleistocene refugium.

11. Ramsar Criteria:

Criteria used to justify wetland include: 1, 2, 3, 5, 6 and 8.

12. Justification for the application of each criterion listed in 11. Above:

Criterion 1: Sango Bay-Musambwa-Kagera Wetland System represents a unique natural wetland type found in the transition of two vegetation zones within the biogeographic region.

Sango Bay-Musambwa-Kagera area is unique in many ways. It lies in the transition between the East and West African vegetation zones and this biogeographical ecotone makes this area a unique complex of natural wetland and swamp forest. Sango Bay contains the biggest tract of swamp forest in Uganda. The following communities were identified as unique in the area: Acacia woodland along the Bukola system; Papyrus mixed with *Vossia* swamp along the Kagera and Bukola Rivers; Phoenix species in the swamp forest; *Miscanthus* and *Loudetia* community in the permanent swamps; and the rocky area of Musambwa, one of the biggest breeding sites for water birds and large extents of seasonally flooded areas that contain a large population of wintering Blue Swallows in Uganda. The major area of interest is the Kagera system and associated swamp forest in the Malabigambo Forest Reserve. The forest reserve is contiguous with the permanent swamp and completely floods in the wet season. Surveys in this forest have confirmed over 30 species of highland type tree species including *Podocarpus sp* that is important for its soft wood, as well as 12 restricted range tree and shrub species (Howard and Davenport 1996). For this reason Sango Bay area is thought to be a Pleistocene refugium and extensive surveys of the swamp system may reveal more of the importance to conserve Sango Bay-Musambwa-Kagera area and its regional importance as a cross-border site.
The area also contains one of the World's Stone Age Sites, internationally known as the Sangoan, which dates to about 200,000 years ago.

Criterion 2: Sango Bay-Musambwa-Kagera Wetland System supports rare, vulnerable, endangered, or critically endangered species or threatened ecological communities.

The African Elephant *Loxodonta africana* (Vunerable) is the only globally threatened mammal species found in the area. A subspecies of the Black and White Colobus Monkey *Colobus guereza adolfi-friederici* (CITES App. II) is restricted to Sango Bay in the Ugandan part of its range. In addition, a subspecies of the Blue Monkey *Cercopithecus mitis doggetti* (CITES App. II) occurs at Sango Bay as part of its limited range in southwestern Uganda, as well as the Sitatunga *Tragelaphus spekii* (CITES App. III).

The Wetland System contains globally threatened species of birds. The Blue Swallow *Hirundo atrocaerulea* (Vulnerable) occurs along the northern shores of Lake Victoria and Sango Bay. This area is the non-breeding range for the Blue Swallow. Mabamba Bay, Lake Nabugabo and Sango Bay wetland systems together contain more than 75% of the global

population of the Blue Swallow during the wintering period. The Shoebill *Balaeniceps rex* (Vulnerable) also occurs in the seasonally flooded swamps in Sango Bay area and is thought to occur in large numbers in the Kagera extensive wetlands. In addition, the wetland system contains 14 regionally threatened bird species. Huge congregations of migratory species have been recorded in the area especially the White-winged Black Tern *Chlidonias leucopterus* (CMS App. II).

Criterion 3: Sango Bay-Musambwa-Kagera Wetland System supports populations of plant and animal species important for maintaining the biological diversity of the region.

Sango Bay-Musambwa-Kagera area is unique in many ways because of its biogeographical location. It is found in the transition between the East and West African vegetation zones and this biogeographical ecotone makes it biodiversity rich. A total of 331 species of vascular plants belonging to 88 families were recorded. Of these 122 were herbs, epiphytes or hemi epiphytes belonging to 35 families; 68 lianas belonging to 38 families and 141 trees and shrubs belonging to 42 families.

Sango Bay-Musambwa-Kagera Wetland System is home to rare and endemic forest swamp tree species several of which are known to be relics of the Albertine Rift area. This has given rise to a hypothesis that Sango Bay forests may be a refugium of some species characteristic of afromontane habitats. The local endemics of *Baikiea* and *Podocarpus* species predominate forming unique vegetation, broadly classified as *Baikiea-Podocarpus* seasonal swamp forest.

Among the lianas, the restricted range species include *Ipomoea heterotricha*, *Macaranga spinosa* and *Urera hypsodendron*. There are also several herbaceous species found in Sango Bay wetland system, which have only been found in the Albertine rift and montane areas (for details, see point 19).

Unique fauna have been recorded in the area. These include 65 species of mammals and 417 species of birds including huge congregations of migratory species such as the White-winged Black Tern *Chlidonias leucopterus* and large numbers of Squacco Herons (*Ardeola ralloides*). Musambwa islands in Sango Bay contain the biggest known breeding colony of Grey-headed Gulls (*Larus cirrocephalus*) as well as the only breeding area known for the Little Egrets (*Egretta garzetta*) and Long-tailed Cormorants (*Phalacrocorax africanus*) in Uganda. The Papyrus Gonolek *Laniarius mufumbiri* is a papyrus endemic which is common and vocal in the Sango Bay-Kagera swamps. Great White Pelicans (*Pelecanus onocrotalus*) roost at the mouth of the River Kagera in several hundreds and small numbers of Pink-backed Pelicans (*Pelecanus rufescens*).

In addition, this wetland complex contains over 50 guinea-congo biome bird species of the 142 bird species found in the whole biome that stretches from Liberia to Kakamega Forest in Eastern Kenya: of these over 30 are restricted to the forest interior. It contains 8 out of the 12 bird species of the lake Victoria basin restricted Biome and one record of an afrotropical Highlands biome bird species, Chubbs Cisticola (*Cisticola chubbi*). The occurrence of these species at such low altitude is indicative of a unique and complex biological diversity.

Thirty one (31) species of fish including *Clarias spp*, *Protopterus aethiopicus* and *Labeo victorianus* have been recorded. The Sango Bay ecosystem of wetlands and forests contains 14% of the fish species of Uganda. It has endemic fish such as *Oreochromis esculentus* and *O. variabilis*. The invertebrate communities observed include a large variety of butterflies and dragonflies for which 259 and 67 species have been recorded respectively. The System contains an endemic dragonfly *Macromia bispina* and endemic butterflies *Tametheira orientalis, Elymnias bammakoo* and *Charaxes imperialis ugandicus*.

Each of the above flora and fauna categories make the Wetland System one of the species rich habitats in the country and a very important area for maintaining the biological diversity of the region.

Criterion 5: Sango Bay-Musambwa-Kagera wetland system regularly supports 20,000 or more water birds.

Regular waterfowl counts coordinated by ***Nature***Uganda and Wetland Inspection Division show that Lutembe Bay regularly supports over 20,000 roosting water birds. According to counts taken between 1999 and 2004, Sango Bay-Musambwa-Kagera wetland system has supported an average of 54,409 wetland birds (Annex I).

Criterion 6: Regularly supports 1% of the individuals in a population of one species or subspecies of water bird.

Uganda is an important migratory stopover / destination for migratory bird species both to the south and Palaearctic. Water fowl counts conducted between 1999 and 2004, have shown that Sango Bay-Musambwa-Kagera wetland system support an average of 16.5% of the population of Grey-headed Gulls (*Larus cirrocephalus*) (Annex I).

Criterion 8: Important spawning ground and or nursery on which fish stocks, either within the wetland and or Lake Victoria.

Sango Bay-Musambwa- Kagera system has a shoreline, which is interspaced with boulders, rocks, pebbles and sandy beaches with very gentle and / or precipitous gradients. The vegetation cover extends in many parts to the waterfront. The coastline is typified by ambatch (*Aeschynomene elephroxylon*), *Sesbania*, *Cyperus papyrus*, *Phragmites*, *Vossia*, *Miscanthus* and water hyacinth. The shore therefore provides an ideal breeding area for Nile tilapia. The in-shore or littoral zone vegetation is also a refuge for fry and juveniles of Nile Perch, *Haplochromis* species and Nile tilapia. Young *Clarias spp* are collected from the wetland forest pools for baiting the Nile Perch. The streams and river Kagera provide breeding ground for potamodramous species such as *Labeo victorianus* (Ningu), *Barbus* (Kisinja), *Clarias gariepinus* (semutundu), mormyrids (Kasulubana), and resident populations of *Haplochromis*, *Mastacembelus*, *Cyprinodontidae* (*Notobranchius*) and Lungfish resident in the wetlands.

13. Biogeography:

Sango Bay - Musambwa - Kagera area is situated predominantly in the Lake Victoria Regional Mosaic. This is bordered by the Guinea – Congolian region that is found to the south-west and the Afromontane archipelago regional centre of endemism to the west. The

wetland system therefore lies in the transition between the East and West African vegetation zones and this biogeographical ecotone makes it biodiversity rich. The Afromontane regions are known particularly for their distinctive rich flora and to a lesser extent, fauna. Being at the transition zone, Sango Bay Wetland System is home to rare and endemic forest swamp tree species several of which are known to be relics of the Albertine Rift. The predominant natural vegetation is wooded savanna with medium – low Altitude rainforest.

14. Physical features of the site:

Climate: Rainfall is bimodal with the principal peak between March and May, whereas the minor peak is from October to November. The mean annual rainfall varies from 1,350 to 2,125 mm depending on location while the mean annual temperature varies from 15^{o} to 26^{o}C.

Geology and soils: Lacustrine coastal processes during the quaternary dominate the Sango Bay area. The soils consist of lacustrine deposits and fluvial sediments from Pleistocene and Holocene formations and are considered to belong to the Sango series, covering the entire shoreline of L. Victoria and virtually the whole of Kyebe and parts of Kakuuto sub-counties. The Sango soils occupy 70 – 80 % of the shore plain west of Lake Victoria. They are gray coarse sands or loamy sands some 1.5 – 3 m thick, or more, with gravel from river alluvium, gray clays from the lake deposits and pebbles in the horizons. The mechanical analysis reveals that Sango soils consist entirely of sand and gravel fractions. The soils are unproductive because of their coarse sandy texture, loose consistency and serious deficiencies in the major plant nutrients. They are very low in organic matter and exchangeable bases. The topsoil contains low organic matter and is generally acidic limiting nutrient uptake by plants. The pH of the topsoil is below 5.0 indicating an advanced stage of leaching. The only nutrient, which is present in large quantities, is phosphorus (121 ppm). Variants have been identified in the Sango series:
1) Swampy associates in Shallow depressions or buried river valleys and characterized by a 60 cm thick ‘A’horizon with raw, acid humus. Such areas are subject to seasonal flooding and support papyrus vegetation.
2) Forest associates possessing a well-developed ‘Aoo’ horizon composed of partly decomposed leaf litter. This variant contains silt and clay horizons at a 50 – 100 cm depth.
3) Shallow associates consisting of a sandy layer overlying mottled clay at 45 – 90 cm depth.
4) Greyish-yellow associates containing silt as one of the mineral fractions.
5) Immature associates are those recently buried by sediments. All these variants display the same low agricultural productivity and none is cultivated at present.

Hydrology: The Katonga and Bukola rivers drain the wetlands system into Lake Victoria from the Western direction.

No information is available on water quality, Soil chemistry, Soil pH, Sediment characteristics and water depth fluctuations

15. Physical features of the catchment area:

The catchment comprise the Ankole and Koki surface, Strongly dissected Buganda surface and Miscellaneous alluvia (dominates) geomorphic units (Aniku, 1996). The geomorphic units make up many of the peculiarities of landscape and soil patterns in the catchment. The Sango Bay catchment is generally flat with an extensive floodplain that contains a mosaic of wetlands types including permanent and seasonal swamp forests. The areas stretching along the shores of Lake Victoria, the shoreline is varied with sandy shores, rocky shores, forested shores, and a fishing village. The shoreline of the bay itself is fringed by papyrus merging into the extensive floodplains of the Bokora River delta. The features of the catchment are relatively similar to those of the site (refer to section 14).

16. Hydrological values:

The system plays an important hydrological role for the waters entering Lake Victoria. The main hydrological functions of the system include water storage, flood control, groundwater recharge, and shoreline stabilization and water purification. During the dry season, the system maintains a steady discharge of water and supplements the water supply to the surrounding areas including Lake Victoria.

The system also plays a big role in trapping sediments carried from the surrounding catchments in times of heavy run-off and hence reduces the level of sediments carried to Lake Victoria, thereby helping to maintain the natural clean water conditions important for the survival of many fish species in the lake.

17. Wetland Type in order of importance:

P – (Seasonally flooded plains), **Xf** – (Swamp forest), **Tp -** (Permanent freshwater marshes) **O** - (Permanent freshwater lake); **M** – (Riverine Swamps).

18. General ecological features:

The permanent wetlands of Sango Bay fringe Lake Victoria and follow most of the river / stream valleys. On the lower plains, near the Kagera River and on the Lake shores, the Sango Bay area contains some complex forest wetland ecosystems classified as *Baikiea – Podocarpus* seasonal swamp forest with sub-types of tropical high forest, permanent and seasonal swamps and Acacia woodlands.

The riverine system along Bukola is characterized by Acacia woodland and permanent wetlands along Kagera River. There are little islands in the middle of Lake Victoria called Musambwa Islands that are major breeding colonies for birds. The habitats offer a variety of flora and fauna reminiscent of that in highlands prompting a view of Sango Bay as a refugium.

The dominant vegetation is a short and sparse savannah with *Loudetia kagerensis* and *Eragrostis chalcantha* as the main species. Some evergreen Acacia woodland, shrubs and small trees are confined to well-drained mounds.

19. Noteworthy flora:

Surveys in the Sango Bay wetland forests have confirmed over 30 species of highland type rare and endemic Albertine Rift plant species including *Podocarpus sp* that is important for its soft wood. The system also contains 12 restricted range tree and shrub species (Davenport and Howard 1996). Of conservation interest is *Pseudagrostistachys ugandensis*, not known elsewhere in Uganda, and *Podocarpus usambarensis vardawei*, an endemic variety. There are also several herbaceous species found in Sango Bay wetland system, which have only been found in the Albertine rift and montane areas and include *Asystasia congensis, Dicliptera colorata, Isoglossa rugioides, Pseuderanthemum tunicatum, Pteris atrovirens, Asplenium erecta, Asplenium friesorum, Asplenium inaequilaterala, Dryopteris athamantica, Coleotrype laurentii, Hypolytrum heteromorphum, Tectaria gemmifera, Chlorophytum filipendula, Trachophrynum braunianum, Nervilia bicarinata, Renealmia congolana* and *Pilea bambuseti*. Other restricted range species include *Leptaspis zeylanica* and *Microsorum pappei*. The tree species characteristic of the Albertine rift and afromontane areas which are endemic and considered rare include *Ilex mitis, Maytenus acuminata, Elaeophorbia drupifera, Uapaca paludosa, Trichocladus ellipticus, Apodytes dimidiata, Bersama abyssinica, Podocarpus usambarensis, Cassipourea congensis, Cassipourea ruensoriensis, Galiniera saxifraga, Hallea rubrostipulata, Pancovia turbinata, Manilkara obovata, Pseudagrostistachys ugandensis, Coffea spathicalyx,* and *Coffea mufudiensis.*

20. Noteworthy fauna:

A number of unique fauna have been recorded in the Sango Bay area. The African Elephant *Loxodonta africana* and the Sitatunga *Tragelaphus spekii* are the only globally threatened mammal species found in the area. The subspecies *adolfi-friederici* of the Black and White Colobus Monkey *Colobus guereza* is restricted to Sango Bay in the Ugandan part of its range. In addition, the subspecies *doggetti* of the Blue Monkey *Cercopithecus mitis* occurs at Sango Bay as part of its limited range in southwestern Uganda.

21. Social and cultural values:

Fisheries especially the *Clarias spp* is socially very important. The wetlands are targeted for the *Clarias*, which are used as bait for catching *Lates niloticus* from Lake Victoria. Quite a large community is involved in the fishery of Lake Victoria, which is dependent on baits from Sango Bay wetlands. There are huge catches of *Protopterus aethiopicus* (Mamba), which is considered a local delicacy, from the wetlands fringing the Kagera and Lake Victoria.

Many forest trees and wetland shrubs and herbs are useful as medicine including an allegation of ‘treatment of AIDS’, in addition to being used as raw materials for crafts. The *Phoenix* is probably over-harvested for poles for fencing because of the ready market in Kampala, the capital city of Uganda. The *Phoenix* poles are also crashed to form fibrous materials used for making luxury sofa chairs and mattresses. The wetland is also important as source of raw materials for handcrafts, building and fuel, and for hunting.

There has been a long history of cultural attachment to Musambwa islands, where women are not allowed to stay overnight. The Musambwa islands are important for the breeding of the Grey-headed Gulls. The local communities also harvest the eggs and use them as a protein supplement.

During periods of drought the local communities use the floodplains for grazing their cattle.

Sango Bay area contains one of the World's Stone Age Sites. The site internationally known as the Sangoan Archaeological Site is located both in the wetland areas of the woodland forest and has some of the tools which were used by Stone Age men approximately 200,000 years ago. The site has Archaeological and Religious importance.

22. Land tenure / ownership:

a) Within the Ramsar Site:
According to the Rakai district planner, the peripheral areas of Sango Bay wetlands are under a mailo land tenure system (a land tenure system where registered land is held in perpetuity) and about 12,000 hectares West of Kaiso Forest Reserve is under leasehold land tenure system.

b) In the surrounding area:
The surrounding areas are comprised of public land mainly wetlands and gazetted forest reserves.

23. Current land (including water) use:

Land use within the Ramsar site

Large-scale agriculture is planned by the Sango Bay Estates, which has been dormant since the 1970s. The proprietors of the estate have started reopening the estate. The whole estate covers 12,000 acres of which 500 and 200 are under sugarcane plantation and maize respectively. There are plans to introduce rice growing and a sugar factory.

Grazing in the floodplains is the major socio-economic activity. There are six forest reserve blocks, a sugar estate that is not yet fully operational, and subsistence agriculture on the catchment area. Open waters, rivers and swamps are important for fishing. The wetland is also used as source of water for domestic as well as for livestock consumption. Other activities include cultivation, harvesting for timber and poles, sand and clay mining, and water and firewood collection.

Land use in the surrounding/ catchments area

Grazing is one of the major land uses in the catchment area. Other activities including cultivation, harvesting for timber and poles, sand and clay mining, and water and firewood collection also take place in the catchments.

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

Threats within the Ramsar Site

Over fishing of *Clarias* and *Protopterus* from the wetlands is another growing problem. It was observed that local fishermen dig channels through wetlands to attract fish upstream during the wet seasons. When water recedes, the channels become drainage channels and in the process drain the wetlands.

Agricultural encroachment has recently been pronounced by population increases in the area coupled with a conception that soils under forest are more fertile than other non-forested habitats. Indeed, the Sango Bay catchments areas have less fertile soils leading to poor yields. Uncontrolled cultivation on riverbanks and wetlands may have serious ecological implications on the hydrology of Sango Bay area, especially if this activity led to change of the course of the main river Kagera. Large-scale agriculture is planned by the Sango Bay Estates, with sugarcane plantations and maize respectively. There are plans to introduce rice growing and a sugar factory. No environmental Impact Assessment has been carried out and the impact of this scheme needs to be studied. The estate has a resident population of over 500 cattle keepers each with 50 – 100 herds. Removing these people from the estate may cause conflict or overgrazing in other adjacent areas.

Threats arising from the catchments / surrounding areas

Although there is a low human population density in surrounding areas, there is growing demand for forest resources. As overexploitation of resources and grazing depletes the rest of the landscape, forest reserves become the immediate retreat for the surrounding communities. Illegal exploitation of forestry reserves is believed to be the biggest problem to the Sango Bay Forest reserve and surrounding environments. Illegal timber harvesting sometimes with armed encroachers poses a serious danger. There is exploitation of other wetland and forest products such as papyrus reeds for thatching and crafts, phoenix leaves and stems, firewood, building materials, medicinal plants and others. The impact of this harvest is not known.

Burning caused by cattle keepers in lieu of getting good pasture for their animals is increasingly becoming a major problem to the swamps especially the seasonally flooded areas.

Hunting in and around forests and wetlands is traditional but poses a serious problem. Hunting in wetlands is targeting mainly the Sitatunga and hippopotamus and in the forests various antelopes, buffalos and primates are targeted. Although traditionally hunting was mainly for subsistence, today it has been noted that some hunting may be for commercial purposes judging from the numbers killed and frequency. Primates are hunted as a means of vermin control. Although elephants still occur in the forests, they are not usually hunted today because of law enforcement and probably lack of markets for their products. Local people occasionally burn the bushes including wetland areas to scare animals being hunted.

25. Conservation measures taken:

Marabigambo, Kaiso, Tero and Namarara have been gazetted as forest reserves. There was promotion of tree planting by the GEF East African Cross Border Biodiversity Project, which ended in 2003. Other efforts of tree planting include the VI Agro-forestry project, Environmental Education by district and NGOs such as International Care and Relief (ICR) and District sub-county environmental committees. There are wetland conservation activities, law enforcement by forest department and the district administration.

26. Conservation measures proposed but not yet implemented:

GEF Cross Border Biodiversity Project, together with Forest Department and Rakai District Administration proposed a new Sango Bay Forest reserve that will comprise of all forest blocks and the associated permanent and seasonally flooded wetlands. A survey of the new boundaries has been made and planted in parts with belt woodlots as well as demarcation of the settlement areas. The new proposed reserve covers over 6,000 hectares.

NatureUganda had already recognized the Sango Bay area as one and contiguous system of different habitats that depended on each other and identified Sango Bay as an Important Bird Area that encompassed all forest blocks and associated wetlands.

It is important to note that the forests in Sango Bay have been waterlogged for many decades, probably now dependent on the surrounding wetlands for survival. In fact the forests of Sango Bay area could be characterized as swamp forests and indeed there is no clear demarcation between the forests and the wetlands. Therefore when the new proposed forest reserve is established, collaborative Forest management zones will probably include wetland portions. A summary profile of the proposed conservation area and the draft management plan was produced by GEF-cross border project. Conservation measures included in the management plan for Sango Bay forest include buffer zoning.

27. Current scientific research and facilities:

Projects working in Sango Bay areas include Lake Victoria Environment Management Project, ***Nature***Uganda, Forest department and UNDP/GEF Cross Border Biodiversity Project. They all deal with scientific research and environmental conservation. Some NGOs conducted baseline studies on natural resource use and management around Sango Bay that concentrated mainly on forest resources.

28. Current conservation education activities related to communications, education and public awareness (CEPA) related to or benefiting the site:

Several projects are involved in outreach conservation education programmes. These include International Care and Relief (ICR), Integrated Rural Development Initiative (IRDI), Lake Victoria Management Programme (LVEMP) some of which have produced information materials such as brochures, posters, and have had some school visits. DANIDA works in catchments areas and has taken lead in rural sanitation, health, infrastructure development and education. Forest Department and MUIENR conducted a training needs assessment for forestry and management.

29. Current recreation and tourism:

Proposed: Musambwa Islands ecotourism programme has been proposed through the Rakai District Administration by ***Nature***Uganda and a local community: Eco-tourism in Kakuuto – Kasoga initiative. Rakai District Administration has set up a tourism association (Rakai Tourism Development Association) to promote tourism in the district and several campsites and accommodation facilities have developed around the area. Tourists have started visiting Musambwa Island for Bird Watching.

30. Jurisdiction:

a) Territorial – Kagera River and associated wetlands are cross border resources between Uganda and Tanzania. In Uganda, they are located in Rakai and Masaka Districts and their lower councils.

b) Functional – National Environment Management Authority, District Environment Officers, District Fisheries Officers and Wetlands Inspection Division.

31. Management authority:

According to the 1995 Constitution, the government holds wetlands in trust for the people, therefore functionally; Sango Bay wetlands are in the hands of the Central Government. The 1997 Local Government Act devolved the wetland management to the District Local Governments.

Therefore, the management authorities are:

1. Rakai District Local Government
   (Kyebe, Kakuuto, Kasasa and Kabira Sub-counties)
   P. O Box 13,
   Kyotera,
   UGANDA

2. Masaka District Local Government
   (Kyanamukaka Sub-county)
   P. O Box 634,
   Masaka
   UGANDA.

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Annex 1: Showing Results of Waterfowl Counts between 1999 and 2004

Table I: Showing total number of birds Counted at Musambwa Islands in Sango Bay-Musambwa Islands-Kagera Wetland System from 1999 to 2004.

Time	Total no. of birds counted
Jan-99	81,630
Jan-00	22,449
Jan-01	19,096
Jan-02	55,712
Jan-03	19,791
Jan-04	127,780
Total	**326,458**
Average	**54,409.67**

Table II: Showing the percentage of Grey –headed Gulls (*Larus cirrocephalus*) Counted at Musambwa Islands in Sango Bay-Musambwa Islands-Kagera Wetland System between 1999 and 2004.

Time	No. of Grey Headed Gulls Counted	1% level	% Population
Jan-99	81,320	3,000	27.1
Jan-00	8,510	3,000	2.84
Jan-01	18,200	3,000	6.1
Jan-02	44,060	3,000	14.7
Jan-03	17,727	3,000	5.9
Jan-04	127,780	3,000	42.6
		Average	**16.5**