

SHORT NOTE

RUBONDO ISLAND NATIONAL PARK, LAKE VICTORIA, TANZANIA: A FUTURE OTTER SANCTUARY?

Jan REED-SMITH^{1*}, James Leonard MAZELELE², Tom SERFASS³

¹African Otter Network, email: africanotternetwork@gmail.com.

²RINP (Rubondo Island National Park),

³Frostburg State University, Frostburg, PA, USA

*Corresponding Author



(Received 6th July 2021, accepted 27th July 2021)

Abstract: Studies of otters on Rubondo Island National Park were ongoing for several years. Ad hoc observations recorded between 2017 and 2021 are reported on here and it is suggested this location be considered as an otter refuge.

Citation: Reed-Smith, J., Mazelele, J.L., and Serfass, T. (2021). Rubondo Island National Park, Lake Victoria, Tanzania: A Future Otter Sanctuary? *IUCN Otter Spec. Group Bull.* **38** (5): 300 - 309

Keywords: Otter, Africa, Tanzania, refuge

INTRODUCTION

Lake Victoria covers roughly 68,800 km² (51% Tanzania, 43% Uganda, 6% Kenya) and its watershed is home to approximately 45 million people. The only protected waters of Lake Victoria (Mnaya and Wolanski, 2002) are those surrounding Rubondo Island National Park which encompasses 456.8 km² (236.8 km² dry land and 220 km² water) in the Tanzanian portion of Lake Victoria, just south of the equator (Latitude 2°18'10.3" and Longitude 31°51'26.9"). The entire Park consists of 11 islets and the main island (referred to here as RINP), which itself is formed by 4 hills of volcanic origin connected by lower elevation isthmuses. At its highest point RINP is 351 m above lake level, with a north-west axis of approximately 31 km and a width varying from 3 to 10 km (TANAPA 2003) (Fig. 1). Roughly 80% of the island is semideciduous and evergreen forest interrupted periodically by open grassland. The northern ¾'s of the eastern shoreline is characterized by rocky areas with dense vegetation and stretches of sandy beaches, some of which have some aquatic vegetation, primarily the Balsa wood tree (*Aeschynomene elaphroxylon*) along portions of the shoreline. The western shoreline and southern quarter of the eastern shore is characterized by large stretches of papyrus (*Cyperus papyrus*), water hyacinth (*Eichhornia crassipes*), reed grass (*Phragmites mauritianus*), and other emergent wetland species (Fig. 1, right).

Gazetted as a national park in 1977, this island is little known and occupied by a variety of introduced wildlife [e.g. elephant (*Loxodonta africana*), giraffe (*Giraffa*

camelopardalis), chimpanzee (*Pan troglodytes*), colobus monkey (*Colobus guereza*), suni antelope (*Neotragus moschatus*) and numerous native avian, amphibian, reptile (e.g. crocodile (*Crocodylus niloticus*)), and mammal species (e.g. stititunga [*Tragelaphus spekei*], bushbuck [*Tragelaphus scriptus*], vervet [*Cercopithecus aethiops*], hippopotamus [*Hippopotamus amphibious*], spotted-necked otter [*Hydrictis maculicollis*], African clawless otter [*Aonyx capensis*], and marsh mongoose [*Atilax paludinosus*). As a result, the park has become a refuge for both otter species which are listed as Near Threatened by the IUCN (Reed-Smith et al., 2015, Jacques et al., 2015).

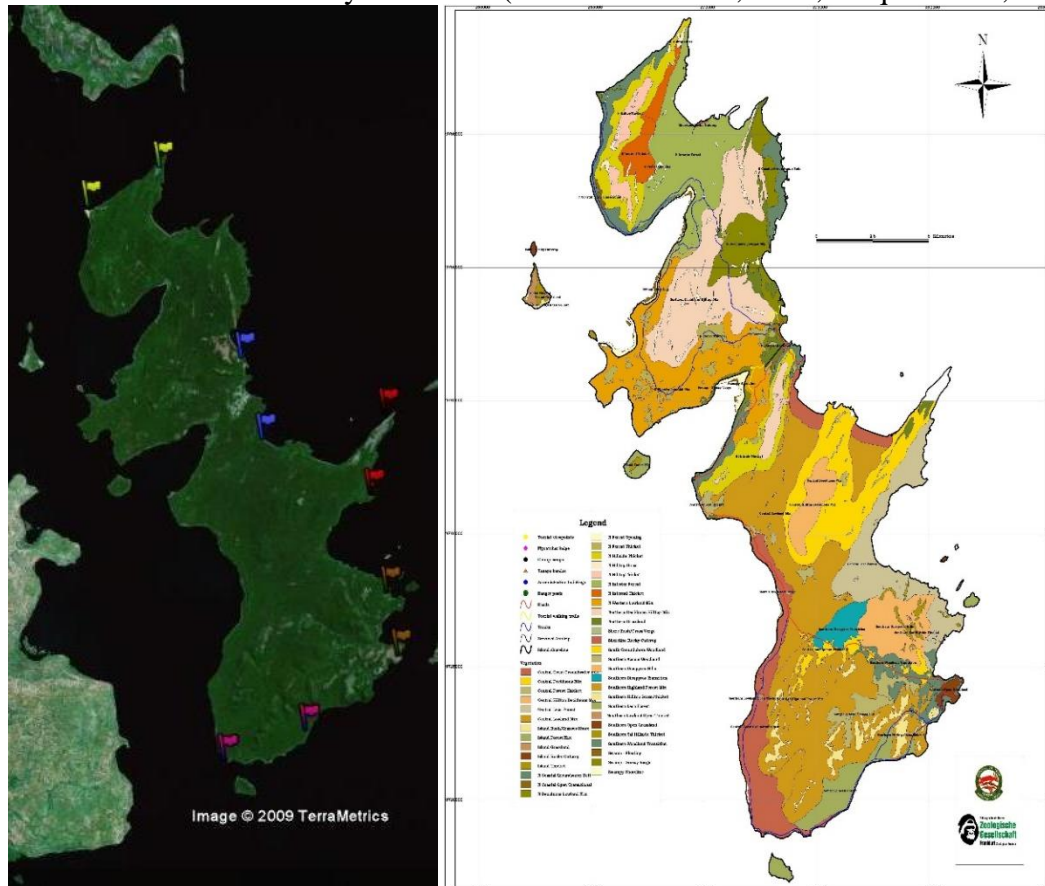


Figure 1. Original shoreline survey sections (left, from a 2006 – 2009 latrine study; Reed-Smith 2010), RINP NP Vegetation zone map (right, TANAPA 2003)

Kruuk and Goudswaard (1990) were the first to study the otters on Rubondo. Since that time several studies looking at behavior and latrine placement (Reed-Smith, 2010; Reed-Smith et al., 2014) as well as appeal to tourists (Stevens, 2011; Amulke et al., 2013), species identification and name confusion (Stevens et al., 2014) and traditional lore (Reed-Smith et al., 2010a) have been reported on. Additionally, the occasional article promoting Rubondo as a good place to see otters have been published (e.g., Reed-Smith et al., 2010b). All but Kruuk and Goudswaard (1990) have focused on the spotted-necked otter because the African clawless population appears to be primarily confined to the western side of the island where the terrain makes it hard to find or study them. However, there have been a few scats found along the eastern side of the island that seem to confirm that species still exists on the island. However, this is unknown at this time. Focused studies of the island’s spotted-necked otter stopped in 2009, intermittent tracking occurred between 2010 and 2016, and volunteer, opportunistic observation, when the observer would position himself at known areas where otter had been seen, has occurred since 2017. These sessions occurred when time

was available and at a location the observer was close to, no attempt was made to capture specific time slots or to take samples evenly throughout the day. We review outcomes of these sessions here.

The areas where these opportunistic viewings occurred were all located at bay tips (defined as projections at either end of a bay projecting out into the lake), within bays or along rocky shorelines (Fig. 1, between blue flags; Fig 2). The most sightings occurred along the densely vegetated and rocky shorelines to either side of the small bay where the only tourist camp (Asilia area) is located (31 of 44 attempts), at the rocky point (Asilia Point) just to the north of that bay (Fig. 3) where the local otters have long had denning sites (33 of 38 attempts). The other areas where viewings occurred were an area known as the Staff Point just to the south of the main camp which is again a small projection along a densely vegetated shoreline (3 of 4 attempts), a shoreline that included a wide bay (Bandas) with dense vegetation and rocks along the arms of the bay and a sandy base (13 of 16 attempts), and the shoreline between the southern tip of this bay and Asilia point (Bandas/Asilia) (20 of 22 attempts). The observation attempts at the base of a very large bay known as Majimatakafifu (5 of 6 attempts) were the outliers as this is where otters are known to forage amongst the shoreline vegetation with long sandy/wetland shorelines. They have to travel through this area to reach favored resting/feeding/denning areas. Divisions are based on topography and viewing distance when sitting on the shoreline. The observer sat in locations where the greatest length of shoreline could be observed while still hidden from the otters. The length of each session was recorded, time otters were seen, how many, approximate distance from shore, what they were doing, and a GPS location recorded. Otter sightings included time points when otters changed behavior, e.g., they were swimming and went to rest, eat, etc. The longer observation periods sometimes included when the otters were resting (Figure 4,5,6) or had gone into a den. Thus, these periods do not always indicate continuous viewing but reflect a knowledge of where they were and a reappearance during the given time period.



Figure 2. Example of Banda/Asilia shoreline during the study of spotted-necked otter activity patterns, (Photo ©Reed-Smith November 2009)



Figure 3. Part of Asilia point taken in 2008, by 2011 most of these rocks were under water due to rising lake levels. The otters continued to use the area and remaining rocks for shoreline foraging and resting. (©Reed-Smith)



Figure 4. Otter resting at tip of Asilia Point during the study of otter activity patterns. (©Reed-Smith November 2013)



Figure 5. Male otter sleeping under rocks at the base of Asilia point, (©Reed-Smith November 2011), one of nine otters resting in the area.



Figure 6. Water entrance to den at base of Asilia point. (© Reed-Smith, November 2015)



Figure 7. Cub nursing in rocky/dense vegetation area at base of Asilia point. (©Reed-Smith November 2011)



Figure 8. Single male otter grooming at Asilia point. (©Reed-Smith, June 2011.)



Figure 9. Female and yearling cub resting at tip of Asilia point. (©Reed-Smith, November 2011)

Observation session length varied as well as time of observations (Table 1,2,3). Of the 130 separate sessions, twenty-five sessions resulted in no otters being seen. Single otters were seen 50 times (Figure 8), duos were seen 26 times, (Figure 9) trios seen 14 times, 4 animals were seen together 8 times. Larger groups were seen 9 times with 3 of these consisting of 5 otters, 6 observations were of groups of 6, and two observations were of groups of 8 otter (Table 2).

Table 1. Rubondo Island NP – July 2017 through May 2021 Otter Sightings
Opportunistic sightings during sighting attempts of various total lengths when the volunteer observer sat quietly in a location where he would not be observed by the otters.

Location	# of sessions	# of sessions no sightings	Duration of sessions (total hours)	Duration of sightings (total hours)	% of sessions otters seen
Bandas	16	3	48	5.36	12
Bandas to Asilia	22	2	57.3	4.8	8
Asilia Area	44	13	166.5	15.5	9
Asilia Point	38	5	121	15.75	13
Asilia Staff Point	4	1	11.52	6 minutes	0.08
Majimatakatifu Bay	6	1	20.4	1.5	7

Table 2. Rubondo Island NP – Number of otters seen and duration of observation maximum/minimum (Minutes)

Location	Greatest # of Otters Observed together	Least # of Otters	Longest Observation*	Shortest Observation
Bandas	6	1	119	1
Bandas to Asilia	8	1	56	1
Asilia Area	6	1	120	1
Asilia Point	8	1	108	1
Asilia Staff Point	3	1	2	1
Majimatakatifu Bay	6	1	43	<1

* Some of these longer observations include periods when the otters were known to be sleeping on/under rocks or to have entered a den/resting site.

Table 3. Number of sessions when otters were seen & total number of otters seen per geographic section* by time slots

Location (n= total sessions when otters seen)	# sessions/#otters seen 6am – 10am	# sessions/#otters seen 10am – 2pm	# sessions/#otters seen 2pm – 6+pm
	Morning	Mid-day	Late afternoon
Bandas (n= 16)	6/10	11/13	7/7
Bandas to Asilia (n = 22)	10/23	10/10	10/16
Asilia Area (n = 44)	16/17	20/22	23/30
Asilia Point (n = 38)	16/19	19/29	18/32
Asilia Staff Point (n = 4)	1/0	1/1	2/3
Majimatakatifu Bay (n = 6)	2/7	2/0	2/8

* Some sessions lasted for more than one time period so marked in each time slot. Otter sightings were counted only for the time slot in which they occurred. Four sessions did not have times associated with the sightings so these were not counted. Larger groups of otters (4 to 8 animals) typically were sighted in the 2 to 6pm sessions, but not all of them.

Over the years much has been published regarding the changing ecosystem of Lake Victoria due to the introduction of the Nile perch (*Lates niloticus*) (Kruuk and Goudswaard, 1990), and eutrophication (Kolding et al., 2015). The dramatic spread of the fishing industry that occurred during the growth of the export market caused: massive destruction of shorelines and islands (see Figure 10); altered traditional fishing practices, impacted endemic fish fauna, resulted in an increase in poaching of fish, and the use of poisons to increase catches in some areas (Neuwinger, 2004). Since the early 2000's Nile perch stocks are believed to have fallen leading to increased pressures and the collapse of some of the industrial complex that arose around this industry (Economist, 2021) which is further impacting the economic security of people dependent on the fish industry.

There is an urgency to protecting some of the remaining natural habitats along Lake Victoria's shorelines to preserve fish nurseries and healthy ecosystems for the lake's wildlife, in particular the otter, which is considered competition for fish resources by many (Reed-Smith et al., 2010a; Mgomo and Reed-Smith, 2020). For this reason, and its position as a haven for spotted-necked otters, Rubondo Island NP was identified as a key project in The Global Otter Conservation Strategy (Rowe-Rowe et al., 2018). We encourage future studies of Rubondo Island NP as an otter refuge in Africa's great lakes.



Figure 10. Altered island landscape to facilitate the fishing industry.

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RÉSUMÉ

RUBONDO ISLAND NATIONAL PARK, LAKE VICTORIA, TANZANIA: LE PARC NATIONAL DE L'ILE RUBONDO, AU LAC VICTORIA, EN TANZANIE : UN FUTUR SANCTUAIRE POUR LES LOUTRES?

Des études sur les loutres dans le parc national de l'île Rubondo étaient en cours depuis plusieurs années. Les observations ponctuelles enregistrées entre 2010 et 2016 sont rapportées ici et il est suggéré que cet endroit soit considéré comme un refuge pour la loutre.

RESUMEN

PARQUE NACIONAL ISLA RUBONDO, LAGO VICTORIA, TANZANIA: ¿UN FUTURO SANTUARIO DE NUTRIAS?

Se desarrollaron estudios de las nutrias en el Parque Nacional Isla Rubondo, durante varios años. Aquí se reportan observaciones ad hoc entre 2010 y 2016, y se sugiere que ésta área puede ser considerada un refugio para las nutrias.