

Otters of Uganda

Determining distribution, ecology and threats of otter species in Uganda



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Acknowledgment

We would like to express our gratitude to all the generous funders who have made our project a reality. Your support has empowered us to implement critical research initiatives, and raise awareness about the significance of otter conservation. Once again, thank you for your commitment and generosity. Your investment in our otter project will have a lasting positive impact on both the otters themselves and the world we share. Together, we are making a difference.

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Preliminary Study Report

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Introduction

An initial review of published literature suggests that historically three species of otter range in Uganda: The African clawless otter, the spotted-necked otter and the Congo clawless otter (Male,1970; Baranga,1995). Currently, there are no formal records from the many lakes in the region, despite anecdotal reports (iNaturalist, personal communications) of sightings of otters in these areas. Limited research and major gaps in the knowledge of the biology and behaviour of these three otter species make it imperative to study them, to better understand the conservation actions required to secure their future. This study, which included field sign surveys and camera trapping, was a pivotal first step to identify areas of otter presence, understanding the ecology and habitat preferences as well as determine specific threats to these species. In doing so, this study has established the baseline for further research in the region. Research, education, and awareness (facets of this study) are three necessary components required to create stewardship and value for local ecosystems and the species in them, among local communities. This project is also an example of positive collaborations between organisations to train, build capacity and strengthen otter research on the African continent. Although a continuing long term project, here we present the results of our preliminary study (June and July 2022) done at Lakes Mutanda and Bunyonyi, two of our five chosen study sites in Uganda

Goals and Objectives

Goals:

1. To confirm the presence of otter species in and around wetland areas in two of the five (initially identified long term project sites) in Uganda.
2. Determine the ecology, habitat, behaviour, and threats to otter species in Uganda.
3. Generate awareness and education to create stewardship and foster positivity towards wildlife and habitats.
4. Identifying conflict issues and threats and developing mitigation measures where necessary.

Objectives:

1. Conduct field surveys in wetland habitats in Uganda to investigate and identify otter presence, habitat, ecology, potential threats and map their distribution.

2. Conduct opportunistic camera trapping surveys to collect data to positively identify the species in the study area, its behaviours, and ecology.
3. Develop outreach and education initiatives to increase awareness, foster positivity towards wildlife and habitats, and implement mitigation measures if necessary.

Methods

Study Area

This study was conducted at Lake Bunyonyi in July 2022. Lake Bunyonyi is located in the Kabale district and is the largest and deepest of the minor lakes in the region (Tibihika *et al.* 2016). The lake is predominantly outside of a protected area with only a small segment of the north shore located within a protected area. The lake covers an area of 50.47 square kilometres with a total shore length of 204 kilometres and a depth of 40 to 900 m (Tibihika *et al.* 2016).

Field Surveys

Visual sign surveys were conducted at the study areas on land, from man-powered canoes and motor boats. Sites were surveyed for species activity along the shoreline and adjacent land along the lakes. Signs of otter presence were categorised by type and included scat (spraint), defecating area, den, resting/grooming area, footprints, and direct observations of otters. If not directly observed, otter presence was determined by the amount of degradation to the sign with consideration of the weather conditions (temperature, humidity, wind, precipitation, and hours of direct sunlight). The age of the sign was defined into three age categories: less than 24 hours, less than one week, and greater than one week. Due to the dense vegetation along the lake shores, it was not always possible to conduct surveys from the shoreline. In the case of direct observation of otters, behavioural characteristics were thoroughly documented.

Sites were additionally (or in place of in areas with dense vegetation) surveyed from man-powered canoes and motor boats. Man-powered canoes were selected to reduce the disturbance and increase the likelihood of observing otters in addition to cost constraints in Lake Mutanda. Canoes were also used in Lake Bunyonyi, but due to the large size and time constraints, motor boats were utilised to travel to areas across the lake that would not be feasible in a man-powered canoe. Canoes and boats were taken along the shorelines of the lakes and small islands to identify otter signs. Motorboats were driven at a low speed along the shoreline to reduce noise and allow for observation of signs. If an area was found to have otter signs from the canoe or boat and it was possible to navigate on the land, surveys were then conducted on the land to thoroughly document any signs. In addition to the location and age and type of sign, we collected ecological parameters including the habitat type, weather, water flow, wind, and disturbance to the area.

Results

Field Surveys

A two day field survey was conducted on Lake Bunyonyi. This included surveying for otter signs while walking on shore or from a man-powered canoe. Two survey sites were positive for otter presence i.e. scats, resting sites and defecation areas. A total of 7 signs were recorded, which included 5 scats (including defecation areas) (**Fig.1**) and 2 resting areas. Scats were recorded from 0.2 to 2 metres from the waters edge.. Some of these scats were deposited on tree trunks and roots as well as floating logs. Scats at Lake Bunyonyi were recorded on floating swamps of vegetation (*Cyperus papyrus* and *Cladium janiacien*) that were termed as 'floating islands' (**Fig.2**) that were on average approximately 5 meters from the shore line.



Fig. 1. A defecation area with multiple fresh scat.

Fig. 2. Differently aged scats on 'floating island'

Direct Observation

At Lake Bunyonyi there were 2 independent instances of direct observations of spotted-necked otters. These were observed at various times during the day between 08:00 and 17.30 hours. Both instances were a pair of otters in the water diving, swimming, foraging and eating. These observations were made while in a canoe or whilst on land at the shore.

Camera trapping

A single camera trap was placed at a defecation area for three camera trapping nights.

Three videos of otters were recorded, but a conclusive identification on the species was not possible because of the camera placement.

Discussion

Preliminary surveys at Bunyonyi have confirmed the presence of the spotted-necked otter. During our surveys, we communicated with local fisherfolk, and investigated their catch (**Fig.3.**) to get a better understanding of the fish diversity in Lake Bunyoni. Historically, this lake has been artificially stocked with species that can withstand low temperatures (15-24°C). These include Nile tilapia (*Oreochromis niloticus*), Black bass (*Micropterus salmoides*), Common carp (*Cyprinus carpio*) and Crayfish (*Procambarus clarkii*). A cat fish species (*Clarias liocephalus*) and some haplochromine cichlids from lake Victoria were also introduced to these lakes. A study by Kamanyi et al (2000) suggests that this is because of a combination of high altitude (1800 masl) resulting in low temperatures (15 - 24°C), and reduced dissolved oxygen (~1.1 - 6.6 mgL) is not conducive to fish reproduction in these regions.

A documentation of potential threats during these preliminary surveys indicated that the spotted-necked otter is hunted and killed by humans at Lake Bunyoni. Several reasons were given for this; targeted killing due to human otter conflict, a result of both, resource competition (fish and crayfish), and because otters are seen as agents of crop destruction. For example, farmers reported that the otters often come up on shore (which is also where crops are grown), to groom and roll around, thereby squashing and destroying the crops (sweet potato, irish potatoes etc). A second reason for targeted killing of the spotted-necked otters was for their skin (**Fig.4**). Otter skins and body parts such as penis' have a variety of uses in traditional medicine practice. Pouches made out of the skin for example are tied around the waist of women to increase their fertility. The penis bone, also put into a pouch is a harbinger of virality for men. Necklaces made of the skin could be used for treatment of skin disease as well as direct application of otter skin on wounds.

Other uses of the skin include decorative pieces on objects such as walking sticks and as well as musical instruments. However, it must be noted that not all the skin trade is from targeted killings, sometimes otters drown in fishing traps/baskets and their skins are harvested too. Pelts are traded between communities and villages for anywhere between USD 40 and USD 50 depending on the size of the pelt and the sex of the otter. During one of our conversations at a village at lake Bunyoni, we were given to understand that these pelts are also sold to tourists, sometimes at a much higher price.

Other threats to spotted-necked otters at Bunyoni, include changes to the habitat due to increased agricultural practices that extend all the way to the shore of the lake. This means that the otters have limited choices of areas where they can have dens and resting places. Anthropogenic disturbance such as extensive boat traffic on Lake Bunyonyi, could potentially be influencing the activity patterns of the spotted-necked

otter.



Fig. 3. Crayfish (*Procambarus clarkii*) and Nile Tilapia (*Oreochromis niloticus*)



Fig. 4. Spotted-necked otter skins

Every opportunity was taken to exchange knowledge, skills and experiences with the community. We were able to engage with the local community which gave us insights into local community perceptions on otters and we were able to share our collective knowledge. Specifically, communicating that otters are ecological indicators, that is,

otter presence means the water is clean and good, showed a shift in perception of the species.

Conclusions

A significant amount of learning and documentation was done in a small amount of time, all of it highlighting the importance of continuing this work so that we can better understand these habitats, the threats to the species and how to effectively manage and conserve these areas and species. Most importantly, we need to further analyse and understand the ecology of these lakes and assess the potential of the future survival of otters in those landscapes. Studies on the aquaculture and fish diversity in these lakes have suggested that they are not ideal habitats and that they do not sustain fish populations over long periods of time. Better understanding why this is happening and what the role of otters are in this landscape and how they might survive in the future, are immediate questions.

During our interactions with different communities living along Lake Bunyoni there was no reluctance to share with us information on otter killings etc. It did not come across that these communities considered it illegal. Moreso, we concluded that there was a significantly more healthy population in the past, since people repeatedly said it was harder to come by otter skins these days.

All these aspects suggest that this study must continue, it must be replicated in other parts of Uganda, and target other species of otters as well. And most certainly education and awareness can play a big benefactorial role for the survival of these species.

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