

# Hippopotamus amphibious expedition in Botswana

## Introduction

Since I was a child, I have always been fascinated by the species *Hippopotamus amphibious*. My interest stemmed from the children's television programme Babar. Although this programme was about Elephants (*Loxodonta Africana*), I thought it was about *Hippopotamus amphibious* because I suffer from poor eyesight. In this proposal I aim to study the breeding patterns of *Hippopotamus amphibious* in the Okovango Delta of Botswana (Figure 1).

I have been in contact with Dr. Seretse Khama Ian Khama, who leads the Okavango Field Centre, and who has initiated a study of *Hippopotamus amphibious* breeding patterns. Understanding the breeding pattern of *Hippopotamii* is extremely important, due to their threatened nature (Lewinsone, 2007).

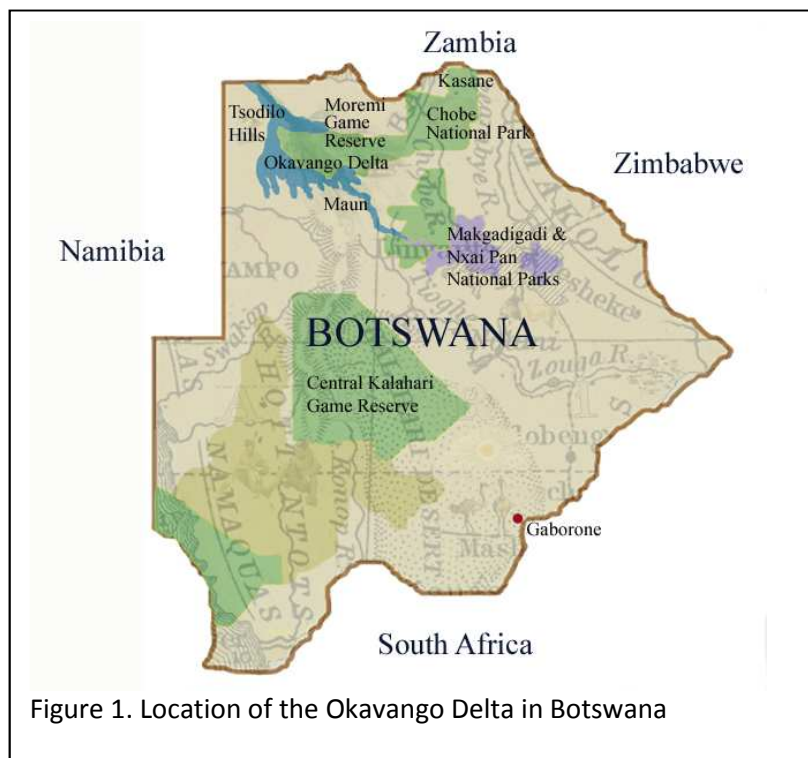


Figure 1. Location of the Okavango Delta in Botswana

## Methodology

I will spend six weeks in the field studying the mating patterns of *Hippopotamus amphibious* in July and August of 2015. To find these majestic creatures, I will search for their main food source, grass (Field, 1970). The Okovango Delta is rich in grass, so there should be no difficulty locating several individuals of the species *Hippopotamus amphibious* eat. Dr. Seretse Khama Ian Khama has also installed tracking devices on 14 individuals which I will find using special antennae purchased for this expedition (Figure 2).

Dr. Seretse Khama Ian Khama has established a programme of tracking



Figure 2. A radio antenna manufactured by TRACKUS Ilc, Birmingham, UK

## Example 2

that uses channels generated by these hippos, which are reoccupied by flood waters each year (McCarthy, 1998). I have been assured that breeding occurs in pools that form at the termini of these channels. Dr. Khama's team of volunteers will take turns on the Field Centre's boat tracking the 14 tagged individuals and I will be allowed to participate in this effort.

Hippopotamus amphibious are some of the most dangerous mammals in the world, so I will be accompanied by a local guide on each foray into the delta.

When an individual is located, I will follow the individual for the rest of the day. Dr. Seretse Khama Ian Khama has informed me that by tracking individuals in the July and August months, one can witness mating on ~15% of the days of observation. I will be tracing individuals for 6 weeks (40 field days total, so I expect to witness 6 mating events).

Each mating event will be recorded and filmed using a handheld digital camera. After mating is finished, we will continue to track the female individual until she defecates, and will sample the fecal matter. This fecal matter will be returned to the lab for fecal endocrine analysis using the methodology of Graham et al. (2002), (Figure 3).



Figure 3. Elephant fecal matter, which is very similar to the fecal matter of Hippopotamus amphibious.

## Budget

£2000 return flights to Botswana.

£1000 accommodation and sustenance for 6 weeks at field centre.

£6000 antenna.

## References

FIELD, C.R., 1970. A study of the feeding habits of the hippopotamus (*Hippopotamus amphibius* Linn.) in the Queen Elizabeth National Park, Uganda, with some management implications. *Zoologica Africana* 5, 71–86.

Graham, L.H., Reid, K., Webster, T., Richards, M., Joseph, S., 2002. Endocrine patterns associated with reproduction in the Nile hippopotamus (*Hippopotamus amphibius*) as assessed by fecal progesterone analysis. *General and Comparative Endocrinology* 128, 74–81.

Lewis, R., 2007. Population responses to natural and human-mediated disturbances: assessing the vulnerability of the common hippopotamus (*Hippopotamus amphibius*). *African Journal of Ecology* 45, 407–415.

Example 2

McCARTHY, T.S., Ellery, W.N., Bloem, A., 1998. Some observations on the geomorphological impact of hippopotamus (*Hippopotamus amphibius* L.) in the Okavango Delta, Botswana. *African Journal of Ecology* 36, 44–56.

### **What is wrong with this proposal?**

1. Species name misspelled and not italicised.
2. Proposal contains superfluous personal information that is not relevant to the proposed research.
3. The scientific basis is not outlined: why is studying the mating habits of hippos important?
4. The use of the data is not described: how will the fecal matter be used? What data about mating will be collected? How will the data collection meet the scientific objectives of the proposal?
5. Sites are not adequately identified. The Okavango Delta is a large region: site needs to be better defined. Does the applicant actually know where they are going?
6. It is not clear if the study has been designed by the proposer or the local contact.
7. If the local contact has installed radio collars, surely an antenna can be borrowed? Davis will not fund expensive kit that will be used in a one-off study. The only possibility for field equipment to be funded is if it is left with the local collaborator in regions with very poor scientific infrastructure.