

# Mapping UNSW Impact Global Development

<b>Primary SDG</b>	<b>15: LIFE ON LAND</b>
<b>Broad theme</b>	Researching hippos in Botswana
<b>Research</b>	Studying the movements and behaviours of hippos around The Okavango River in Botswana
<b>Impact region</b>	Botswana
<b>Faculty</b>	Science
<b>School/Institute</b>	School of Biological, Earth and Environmental Sciences
<b>Academics</b>	Dr Keith Leggett
	Victoria Inman
<b>Project partners</b>	Fowlers Gap Research Station (UNSW) – funding one PhD student 2016-2018
<b>Related SDGs</b>	12: Responsible Production and Consumption
	9: Industry, Innovation and Infrastructure

## Elevator pitch

UNSW is pioneering the research of hippo behaviour, making a big step towards preserving hippos in Botswana and across Africa for the long term as the human population expands and poses an increasing threat to hippo habitats and numbers.

## The Challenge: How can we preserve hippo numbers for the long term?

Very little is known about hippos. An aggressive nature and nocturnal habits have restricted research efforts in the past. But like all big mammals in Africa, hippo numbers and habitats are under threat from rural development and farmers who set up close to rivers for irrigation and look to protect their crops. There is a need to further understand hippo behaviour and habits to come up with conservation targets for the long term.

The Okavango River hosts some of Africa's most stunning and impressive wildlife. It is one of the best and most expensive tourist destinations in the world. With farm land encroaching on unprotected land near the river (around 65% of the Okavango is unprotected), farmer and wildlife conflict is common, threatening animal numbers and their habitats.

## UNSW's solution: Pioneer the study of the behaviour and habits of hippos

Using funds from the sale of sheep at Fowlers Gap, UNSW is studying the behaviour and habits of the hippo. Hippos are attracted to certain parts of the Okavango River, resting in water or mud during the day to stay cool. To eat, the vegetarian hippos go on land in search of plants and grass, but how far they go and how much food they need is unknown.

Calling on over 20 years of researching and tracking elephants, Keith and Victoria are finding out some of these answers by tracking hippos with GPS trackers, and using drones and cameras to study night and daytime behaviour.

They are specifically interested in the hippos' tendency to cleave a distinct path through the wetlands, creating channels for the river to spread that benefit other animals, like crocodiles and elephants, and flora. What roles do these channels play in the ecosystem? Are hippos ecosystem engineers? They are also looking at ways to determine hippo sex, so estimates about population density can be made. Further funding will help them to target key areas of conservation interest highlighted by Victoria's PhD work.

### **The Impact: Starting the conservation process for the hippo, Africa-wide**

This research work is primarily concerned with finding out what hippos need in order to live a full and healthy life. UNSW is one of the first in the world to study the hippo in depth. Their efforts will inform NGOs and other researchers looking to preserve hippo numbers around the Okavango and across Africa, as the number and size of national parks where these animals flourish are increasingly threatened by expanding human populations and rural development.

### **Researcher**

Dr Keith Leggett completed his PhD in oceanography before researching elephants in Africa for over 20 years. He worked for a number of NGOs, including the Botswana Conservation Society, and he founded his own NGO, the Namibia Elephant and Giraffe Trust. He is currently Director of the Fowlers Gap Research Station. He was drawn to hippos by the lack of knowledge about them and the opportunity to bridge this gap with modern technology.

Victoria Inman is a PhD candidate researching hippos in Botswana for two years. She is focussing on hippos as ecosystem engineers.

Ben Falkenmire 3.10.17