Functional Ecosystems and Wildlife Conservation Challenges at the Community Interface in Africa — Botswana 2018

Location: Okavango Delta & Kalahari Basin System, Botswana
Dates: July 22 – Aug 11, 2018
Instructors: Dr. Simon Morgan, Adjunct Lecturer, University of Illinois
TBC, Educator, Wildtrax Explorations

OVERVIEW

Make your text books come alive as you traverse the length of the Okavango Delta World Heritage Site via boat, one of the most iconic wilderness areas on the planet rich with wildlife. Along the way encountering elephant, lion, buffalo, hippo, crocodile and more while wild camping on the islands. Transitioning from boat to land you will make your way around the edge of the Delta, gaining a different perspective of the wildlife and flora of the system. From here you will follow the waters as they flood down the Boteti river and disappear into the famous Kalahari basin. You will see how this precious life-source provides during the dry season, before making your way to the wet season wildlife ranges of the Makgadikgadi Pans National Park, where you will explore one of the largest salt pans in the world. You will have numerous learning engagements en route to understand this dynamic system and hands-on experiences throughout to help you learn several field research methods for monitoring biodiversity and implementing mitigation strategies for Human-Wildlife Coexistence.

Throughout the 3-week course, you will be gaining valuable field experience while meeting and learning from many different researchers, NGOs, and wildlife managers. The course will equip you with the ability to apply appropriate research techniques to field studies. Overviews of wildlife ecology, behavior, conservation and research theory are included throughout the course, coordinated by Wildtrax Explorations. The course includes both scientific and social aspects to data collection to prepare you for your interactions with wildlife, communities and different cultures. You will have a workbook to guide your learning while also have training sessions on many different research and monitoring methodologies so you fully understand their applications, along with completing mini-field projects using the skills you have acquired.

These diverse experiences provide the foundation concerning the interface of ecology and wildlife management. Scientific principles and human dimensions are used to explain current strategies and techniques for managing natural and cultural resources. Our curriculum focuses on how changes in land use and resource availability in Botswana's ecosystems can be managed to assist local communities while conserving biodiversity. Experiencing the socio-political and ecological variables in Botswana will give you an understanding of how culture and ecology interact to aid successful conservation efforts. This comprehensive program is designed to ensure that today's students are prepared to deliver a better tomorrow for people and wildlife.

Through field-based, experiential learning opportunities in the Okavango Delta & Kalahari Basin Ecosystems, the aim of the course is to train future conservationists in understanding and applying research in the field.

Learning Objectives

- Understand the functional heterogeneity of the ecosystems in Northern Botswana and how they drive ecological processes and wildlife migrations along with the threats to the system
- Learn valuable wildlife management and conservation principles
- Understand the challenges facing wildlife conservation & community based natural resource management
- Develop advanced field research techniques and associated skills
- Understand the social aspects of conservation science
- Gain appreciation of long-term sustainable conservation management projects
- Develop competency working in small groups toward a common goal

THE EXPEDITION

DAY 1: Arrive into Maun, Botswana, the gateway to the Okavango Delta

DAY 2 – 8: Embark on a Trans-Okavango adventure via boat, traversing the entire Delta and camping on pristine wilderness islands along the way. During this time, students will be learning how to conduct bird and herbivore transect surveys, predator spoor surveys, dragonfly bio-indicators studies and understanding fish survey methodologies.

DAY 9: Full day cultural submersion in Maun with Bonty of Tharientsho Storytellers. The aim of the cultural induction program is to improve understanding of African and specifically Batswana culture. This understanding will highlight how learning local culture can help researchers and conservationists to maintain and improve rapport during field work and reduce cultural misunderstandings/distrust or miscommunication.

DAY 10 – 13: Journey around the edges of the Okavango Delta's unspoiled wilderness in the and Moremi National Park via safari vehicle. Here you will meet with villagers to learn about community natural resource management strategies, receive lectures from the Botswana Predator Conservation Trust on wild dog, cheetah and lion research and further develop your research methodology skills and understanding of animal behavior.

DAY 14 – 16: Students will follow the Delta's floodwaters down the Boteti River, where it disappears into the Kalahari sands. This is an area where humans and wildlife coexist and compete for resources, causing many issues with elephant crop raiding and livestock depredation from predators. Students with have the opportunity to learn from two great experts in the field, Elephants for Africa focusing on the human-elephant interface and mitigation strategies and Oxford University's WildCRU focusing on the human-lion interface, initiating a Lion Guardian program.

DAY 17 – 20: Change of scenery from the dry season resource of the Delta waters to the wet season resources of the Makgadikgadi Pans, one of the largest saltpan systems in the world. Although you will be visiting the pans during the dry season, you will gain an appreciation for the vital role it plays in the functional ecosystem of northern Botswana. Here you will learn about the migratory routes, corridor systems and the effects of fences throughout Botswana. Here you will also have a play day in the vast pans full of Meerkat adventures, quad biking, horseback safaris and more.

DAY 21: Depart for your home country…or carry on exploring Africa with the help of Wildtrax!

EXPEDITION LECTURE SERIES

Wildtrax Explorations, Wildlife ACT, Okavango Research Institute and specialized researchers will provide lectures on a spectrum of wildlife conservation topics, including the human-wildlife interface.

The lectures offered will include:

1) An introduction to Botswana & Conservation in Africa
2) African wetland ecology
3) African herbivore & carnivore ecology
4) Elephants and ecosystems
5) Behavioural Ecology, Conservation and Research Techniques
6) Human-Wildlife Coexistence & Community Conservation Introduction
7) Biodiversity Monitoring Methodologies: Strategies, design, methods, application

FIELD RESEARCH METHODOLOGIES TRAINING

Research methodologies are focused on those which are applicable to the conservation priorities identified by Botswana's Dept. of Wildlife & National Parks, which include Biodiversity monitoring and Human-Wildlife Coexistence. Students will have the opportunity to interact with, learn from and develop relationships with different wildlife conservation organizations and specialists focused in these fields. Organizations will include, but not be limited to, the Oxford University's Wildlife Conservation Research Unit, Botswana's Predator Conservation Trust, Elephants for Africa, National Geographic's Into-the-Okavango research team, and Wildlife ACT.

Students will learn about long-term monitoring projects, from understanding the design to data collection and reporting. Students will practice different methods of data collection, analysis and understand the application of collected data.

PRACTICAL SKILLS COMPONENT

We expect you to learn, understand and practice each of these survey methodologies to acquire these skills:

1. Herbivore Survey Methods: Strip/Line & Spoor Transects & Point Counts
   - Identify and determine ungulate herd demographics
   - Identify Spoor among different herbivore species
   - Complete large herbivore transects & enter data
   - Identify habitat types within the study areas by identifying different types of grass, shrub and tree species
   - Develop an ethogram & collect focal and scan behavior observations
2. Predator Survey Methods: Spoor transects and camera trapping
   - Create a predator identikit (Identify species, sex and age of predators)
   - Conduct a predator spoor (animal tracks) transect
   - Determine coordinates with GPS
   - Use ArcGIS and make a simple map for leopard territories (optional)
3. Bird Surveys: Terrestrial point counts and wetland continuous counts, vulture nest monitoring
   - Learn to identify different species of birds from sight and sound
   - Conduct a bird survey for BirdLife Botswana
4. Camera Trapping: Grid survey and predator identification
   - Set up a camera trap, collect photos, review & enter data
   - Determine species richness and large herbivore and predator abundance of an area using camera trap (Optional)
5. Community: Wildlife co-existence monitoring
   - Learn about human-wildlife co-existence data collection and mitigation strategies
   - Interact with and learn from communities living within wildlife areas
6. Work and interact with a research team, learning about logistics, data input and management

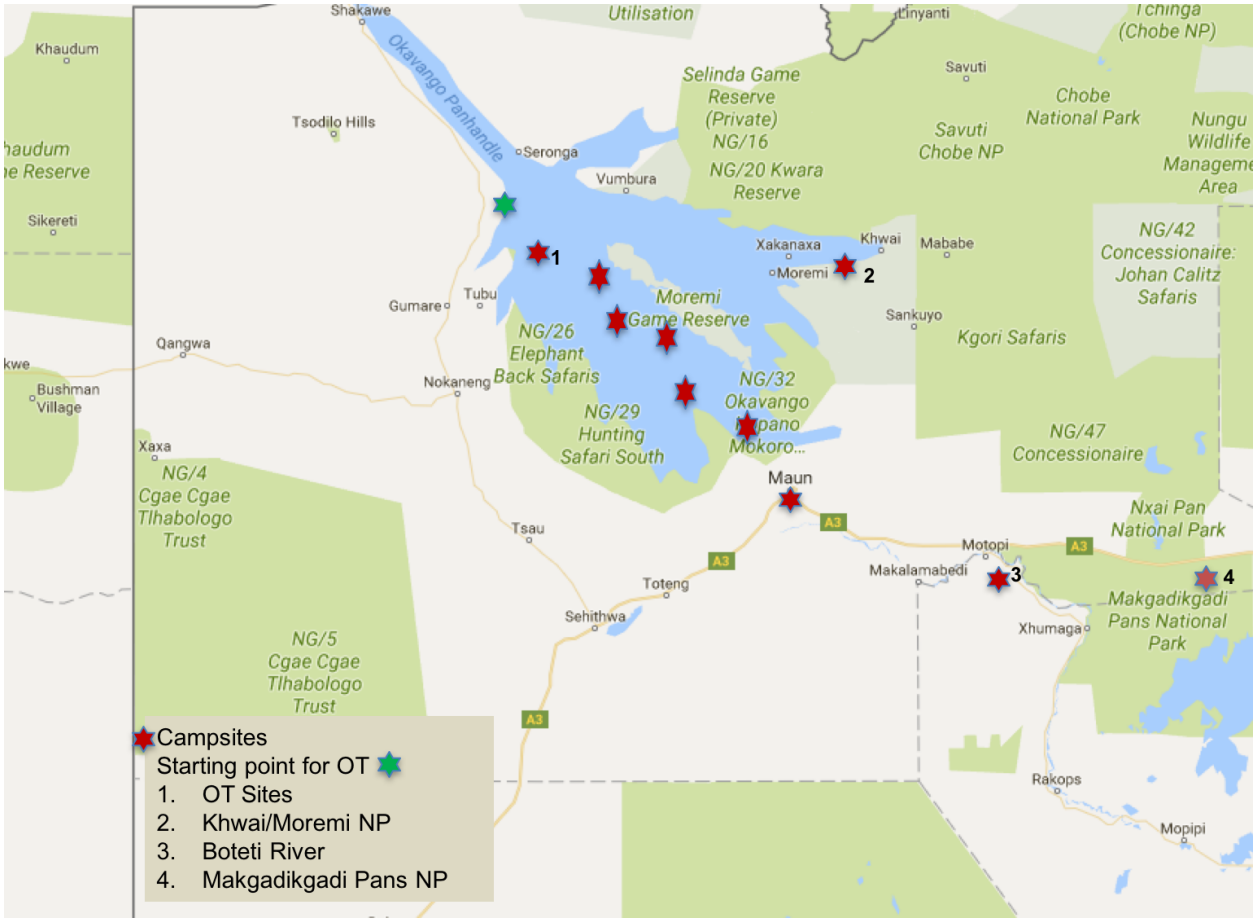
FIELD SITES

Where will you be during your time in Botswana?

On arrival into Maun, Botswana, student's will stay at a gated campsite in twin dome tents with mattresses. There are male and female communal bathrooms with basins, showers and toilets. Hot water is provided via solar geysers.

Throughout the expedition, each student will stay in their own twin dome tent with a mattress and cot. The wilderness camps will have male/female long drop toilets and bucket shower facilities. Meals will be prepared by an in-house chef in an open communal tent dining area. The fire is burning every night under the magnificent African skies full of bright stars, the Milky Way, and listening to the sounds of the bush!

***Locations of the campsites and amenities might change**



TENTATIVE SCHEDULE*: WILDLIFE CONSERVATION & COMMUNITIES—BOTSWANA, 2018

Date	Day	Area	Focus	Student Activity	Partner
22-Jul-18	Sunday	Maun	Arrive		
23-Jul-18	Tuesday	Trans Okavango	Delta Exploration	Introduction to the Delta	Sepopa Swamp Stop
24-Jul-18	Wednesday	Trans Okavango	Delta Exploration	Crocodiles in Botswana	Dr. Bourquin (Ikoga)
25-Jul-18	Thursday	Trans Okavango	Delta Exploration	Bird Surveys: Learn to identify different species of birds from sight and sound	
26-Jul-18	Friday	Trans Okavango	Delta Exploration	Intro to Herbivores: Identify and determine ungulate herd demographics	
27-Jul-18	Saturday	Trans Okavango	Delta Exploration	Intro to Spoor Transect: Identify Spoor of different herbivore & predator species	Chow Island - Walking
28-Jul-18	Sunday	Trans Okavango	Delta Exploration	Vegetation: Identify habitat types within the study areas by identifying different types of grass, shrub and tree species	
29-Jul-18	Monday	Maun	Cruse to Maun	Bird Survey for BirdLIfe Bots	Evening meet up - Nat Geo - IntoOkavango (Goetz Neef?)
30-Jul-18	Monday	Maun	Botswana Introduction & Cultural Experience	Full day of culture lessons and activities	Bonty: Tharientsho Storytellers
31-Jul-18	Tuesday	Khwai Community's Wildlife Management Area	Transfer Day	Camera Trapping & Research Methodologies: Set up a camera trap, collect photos, review	
1-Aug-18	Wednesday	Khwai Community's Wildlife Management Area	Khwai Exploration	Animal Behavior: Develop an ethogram & collect focal and scan behavior observations	
2-Aug-18	Thursday	Moremi National Park	Transfer Day	Community Conservation/Cont. Herbivore Surveys	
3-Aug-18	Friday	Moremi National Park	Moremi Exploration	Predator Ecology and Research Techniques	Botswana Predator Conservation Trust
4-Aug-18	Saturday	Boteti River	Transfer Day		Elephants for Africa
5-Aug-18	Sunday	Boteti River	Human - Elephant Coexistence Mitigation Research	Intro to Human Wildlife Conflict and Fences in Botswana	Elephants for Africa
6-Aug-18	Monday	Boteti River	Lion - Human Coexistence Mitigation Research	HWC Mitigation Strategies and visit to Cattle post	Oxford WildCRU
7-Aug-18	Tuesday	Makgadikgadi Pans	Transfer Day	Continuation of Spoor Transects	
8-Aug-18	Wednesday	Makgadikgadi Pans	Makgadikgadi Exploration	Learning about migration route & corridors, dry/wet season resources	
9-Aug-18	Thursday	Makgadikgadi Pans	Activity Day	Quad bike, visit Meerkats, horse ride etc	Planet Baobab
10-Aug-18	Friday	Maun	Transfer Day	Afternoon talk - RCB (Rhino Conservation in Botswana)	Wilderness/RCB Rhino Project
11-Aug-18	Saturday	Maun	Depart		WACT