African Wildlife & Community Conservation Research Course

JUNE 4 - JULY 29, 2017
Wildtrax Explorations (Wildtrax) envision a younger generation that is familiar with the challenges and nuances of conserving natural resources and cultures. Their international experiences should generate perspectives that allow them to create interdisciplinary solutions to develop a sustainable society. Wildtrax programs inspire people to take action in making a difference within themselves and their surroundings through learning and experiencing the complex interactions between humans and nature.

Following our vision, we have teamed up with the few wildlife monitoring organizations in Africa, Wildlife Africa Conservation Team (Wildlife ACT), to provide students access to sustainable research and monitoring projects. Their mission is to save our planets’ endangered and threatened wildlife and wildlands from extinction and Wildtrax wants to create opportunities for students to be part of this mission. Both entities identify science and education as key components to the sustainable utilization and management of wildlife resources; thus, our collaboration achieves a comprehensive research program in the Okavango Delta Region of Botswana.

Wildlife ACT has two main research initiatives in Botswana, implementing biodiversity monitoring in collaboration with Botswana’s Department of Wildlife & National Parks and conducting human-wildlife conflict studies and implementing mitigation strategies with the University of Botswana’s Okavango Research Institute. Students play an active role in the research through data collection and implementation and will gain valuable skills and knowledge to equip them for their future. Our comprehensive programs ensures that today’s students are prepared to deliver a better tomorrow for people and wildlife!

Our Vision is to provide students with a learning platform to develop through our dynamic research projects focused on biodiversity monitoring, adaptive management and the human-wildlife interface.

The 8 week course objectives are to equip students with an ability to decipher and adapt applicable research techniques to field studies. Overviews of wildlife ecology, behavior, conservation and research theory are included in the first week lecture series, presented by Wildtrax Explorations, Wildlife ACT, and the Okavango Research Institute. The course includes both scientific and social aspects to data collection to prepare students for their interactions with communities and different cultures. Students are then placed for two 3-week periods at different project sites where they will be trained on many different research and monitoring methodologies and fully understand their applications, along with completing a mini-research project on the data they collect.
The overall objectives are to equip students with adequate knowledge of various wildlife management and conservation issues in Africa and to attain proficiency in field research methodologies. An emphasis will be placed on understanding the patterns and underlying processes of the human-wildlife interface and biodiversity of the Okavango Delta. The programs’ objectives will be fulfilled through students’ participation in Wildlife ACT’s two main research focuses and thus provide a constructive feedback system for successful conservation efforts in Africa.

The programs’ objectives are to

- Learn valuable wildlife management and conservation principles
- Understand the challenges facing wildlife conservation & community based natural resource management
- Observe the ecological organization and biodiversity of the Okavango Delta and surrounding ecosystems
- Develop advanced field research techniques and associated skills
- Understand the social aspects of conservation science
- Train future conservationists in understanding and applying research in the field through:
  - Research design & methodologies
  - Data collection & analysis
  - Application and implementation of data
  - Long-term sustainable conservation management projects
Research initiatives are focused on highlighted conservation priorities within Botswana's ecosystems and conservation areas and include Biodiversity monitoring and Human-Wildlife Conflict. In order to address these topics, Wildlife ACT has partnered with the Okavango Research Institute (ORI) of the University of Botswana and Botswana's Department of Wildlife and National Parks (DWNP). By collaborating with international universities and their students, we are able to work towards fulfilling research and management strategies for both the human-wildlife conflict needs and long-term biodiversity monitoring throughout Botswana.

**Biodiversity Monitoring**

Both adaptive management and consistent standardized monitoring of the ecosystem is currently a prioritized management, conservation and research focus in Botswana. The Okavango Delta Management Plan highlighted this need already in 2008 and monitoring for adaptive management was prioritized within the Wildlife Conservation Research Strategic Plan in 2014. Consistent monitoring provides an essential tool to adaptive management that enables perturbations to be measured in space and time. Wildlife ACT has formulated a plan to meet these needs using effective remote camera trapping surveys to capture standardized wildlife population monitoring data.

**Goal**

To monitor and record biodiversity dynamics within Ecoregions of Botswana in order to inform adaptive management cycles and develop new policy.

**Objectives**

- Monitor the broader mammal, bird and invertebrate populations and vegetation to improve our understanding of the system.
- Record and quantify potential drivers of change in the Ecoregions; wildlife, human or climate induced.
- Develop adaptive management strategies while continually monitoring system responses to existing management actions.

Students on the Study Abroad course will be trained on research methodologies used in fulfilling the above objectives and play an active role in collecting and constructing the data. The monitoring is implemented continuously with some survey work conducted bi-annually.
Human Wildlife Conflict Project

Wildlife ACT are exploring aspects of human-wildlife conflict (HWC), specifically crop-raiding and water resource competition by elephants and depredation of livestock by lions, hyena and wild dog, which is a complex management and conservation issue in Botswana. Information on spatial patterns, environmental predictors and socio-economic aspects of HWC are required in order to devise effective mitigation and adaptation strategies.

The project Wildlife ACT works on, concentrates investigations in HWC ‘hotspot’ areas of northern Botswana, namely the greater region in and around the Okavango Delta in Ngamiland District. A country-wide assessment of status and trends of HWC has been started by exploring data compiled by the DWNP over the past three decades and additional data will be collected to validate it. Data from this project will contribute crucial information to the Government of Botswana about the processes and underlying patterns of HWC in hotspot areas. Such information will be useful in designing effective HWC mitigation strategies and suggesting alternative land use plans to reduce HWC, which is essential for the success of national and regional conservation strategies, such as the Kavango Zambezi (KAZA) Transfrontier Conservation Area, which now includes the area West of the Okavango Delta (NG 1 - 4). Wildlife ACT sits on a Human Wildlife Conflict focus group, where much of this information, data and understanding feeds into.

Goal

To assist with collecting and collating information to inform mitigation and policy development to alleviate HWC at the wildlife and human interface within northern Botswana.

Wildlife ACT actively assists in the following HWC objectives:

1. Determine the current status and trends in incidents of HWC and map the spatio-temporal distribution of HWC.

2. Monitoring livestock depredation from predators.

3. Explore the effectiveness of current mitigation techniques for predation on livestock, to then develop and test innovative techniques.
## PROPOSED SCHEDULE*

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DAY</th>
<th>DATE</th>
<th>ACTIVITY/TOPIC</th>
<th>LOCATION</th>
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<td><strong>WEEK 1</strong></td>
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<tr>
<td></td>
<td>Sunday</td>
<td>4-Jun</td>
<td>Arrive to Maun, Botswana</td>
<td>Maun</td>
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<td>Monday</td>
<td>5-Jun</td>
<td>Welcome and Course Overview</td>
<td>Maun</td>
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<td>Tuesday</td>
<td>6-Jun</td>
<td>Introduction to the Okavango Delta</td>
<td>Maun</td>
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<td>Wednesday</td>
<td>7-Jun</td>
<td>Mokoro Trip</td>
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<td>Thursday</td>
<td>8-Jun</td>
<td>Overview of Wildlife ACT Monitoring Program</td>
<td>Maun</td>
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<td>Friday</td>
<td>9-Jun</td>
<td>Carnivore Ecology, Conservation &amp; Research Techniques</td>
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<td>Saturday</td>
<td>10-Jun</td>
<td>Herbivore Ecology, Conservation &amp; Research Techniques</td>
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<td>Tuesday</td>
<td>11-Jun</td>
<td>Biodiversity Monitoring Methodologies: Design, methods &amp; application</td>
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<td>Wednesday</td>
<td>12-Jun</td>
<td>Biodiversity Monitoring Methodologies: Design, methods &amp; application</td>
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<td>Thursday</td>
<td>13-Jun</td>
<td>Field Practical</td>
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<td>Friday</td>
<td>14-Jun</td>
<td>Field Practical</td>
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<td>Saturday</td>
<td>15-Jun</td>
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<td>Sunday</td>
<td>16-Jun</td>
<td>Groups Split</td>
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<td><strong>Week 2 - 4</strong></td>
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<td>Group Splits</td>
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<td>Group 1: Human Wildlife Conflict</td>
<td>Research Camp</td>
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<td>Group 2: Wildlife Biodiversity Monitoring</td>
<td>Research Camp</td>
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<td></td>
<td>Friday</td>
<td>18-Jun</td>
<td>Students Travel to Kasane</td>
<td>Kasane</td>
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<td><strong>Week 5</strong></td>
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<td>Sat - Mon</td>
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<td>Victoria Falls Weekend Adventure Experience!</td>
<td>Victoria Falls</td>
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<td>Tues - Thurs</td>
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<td>Groups together; mid-term assessment &amp; project overviews</td>
<td>Research Camp</td>
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<td>Friday</td>
<td>20-Jun</td>
<td>Group Splits</td>
<td>Research Camp</td>
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<td><strong>Week 6 - 8</strong></td>
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<td>Group Split</td>
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<td>Group 2: Human Wildlife Conflict</td>
<td>Research Camp</td>
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<td>Group 1: Wildlife Monitoring</td>
<td>Research Camp</td>
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<td>Week 8</td>
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<td>Regroup - final group course closure, presentations</td>
<td>Maun</td>
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<td>Weekend 8</td>
<td>Wed - Sat</td>
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<td>Departure from Maun</td>
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*Itinerary may change throughout the course, depending on circumstances
Students will learn, understand and practice each of these survey methodologies:

1. Herbivore Survey Methods: Strip transects, point counts and camera trapping
2. Predator Survey Methods: Spoor transects and camera trapping
3. Bird Surveys: Terrestrial point counts and wetland continuous counts, vulture nest monitoring
4. Camera Trapping: Grid survey, analysis and predator identification
5. Invertebrate Sampling Methods: Night-light, net sampling and pitfall traps
6. Wildlife Corridors: Activity and use monitoring and mapping
7. Community: Wildlife co-existence monitoring
Students will learn and be competent in the following skills before they leave:

• Create a predator identikit (Identify species, sex and age of predators)
• Conduct a predator spoor (animal tracks) transect
• Set up a camera trap, collect photos, review & enter data, analyze data
• Complete large herbivore transects & enter data
• Identify habitat types within the study areas, by identifying different types of grass, shrub and tree species
• Conduct a bird survey, learning to identify different species of birds
• Conduct an invertebrate survey
• Determine coordinates with GPS
• Identify and determine ungulate herd demographics
• Determine species richness and large herbivore and predator occupancy of an area using camera trap and transect data
• Assist with human-wildlife co-existence data collection and when possible, mitigation strategies
• Identify and report poaching incidences
• Identify and report predator attacks on domestic animals
• Work and interact with a research team, learning about logistics, data input and management
• Create a scientific poster from your research
**FIELD SITES & ACCOMMODATION**

**MAUN**

On arrival into Maun, Botswana, student’s will stay at a gated campsite in twin dome tents. There are male and female communal bathrooms with basins, showers and toilets. Hot water is provided via solar geysers. Communal laundry facilities are available to students with detergent for washing clothes provided.

A communal kitchen and dining area are situated within the campsite. Meals will be prepared together with other Wildlife ACT students. Food for three meals each day will be provided along with drinking water.

**RESEARCH CAMPS**

Wildlife ACT coordinates and runs mobile research camps in and around the Okavango Delta area to implement biodiversity monitoring and perform human wildlife coexistence research. The region is rich in diversity and home to important populations of endangered predators and threatened wildlife species. Wildlife ACT focuses their monitoring and research where population baseline monitoring data is most needed and where human-wildlife conflict is the greatest.

Student’s stay in twin dome tents on cots and have male/female pit-toilets and bucket shower facilities. Meals are prepared by an in-house cook 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 field sites and amenities might change depending on the location of research*
DATES

June 4 - July 29, 2017

COSTS

Included: Student participation fees cover orientation, lectures & course materials, University of Botswana certification on completion, accommodation, transportation, 3 meals a day while you are at the Wildlife ACT camps and participation on the projects research and monitoring activities and training.

The following additional activities are included:
• Three night/four day excursion to Victoria Falls incl. transfers and accommodation only.
• Cultural Experience in Maun
• Game Drive into Moremi Game Reserve
• Traditional dug-out canoe (mokoro) trips in the Okavango Delta

Excluded: Luxury food items, including soda drinks, alcohol, sweets and chocolate are for your own account. Food at restaurants excluded. All travel costs to Maun, Botswana, are for students to cover.

Note: Victoria Falls trip excludes food & beverages (est. to be around $25.00 per day if eating out), and all adventure activities.

Course participation fees
Given in US Dollars - $6,900
Journey with Purpose...

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