

AFRICAN INSIGHT

EXPERIENCES THAT MAKE A DIFFERENCE



ACADEMIC MODULE: 7

ZULULAND

WILDLIFE RESEARCH FIELD TRIP



MODULE 7: ZULULAND WILDLIFE RESEARCH FIELD TRIP



Introduction

This 11 night / 12 day module covers 3 unique conservation areas located in the Zululand and Maputaland regions of KwaZulu Natal province of South Africa. Incorporating a unique opportunity for students to engage in practical fieldwork, explore one of South Africa's true wild 'Big 5' reserves and experience the most pristine marine wilderness in the world. This module incorporates aspects of Modules 4, 5 and 6 with more emphasis on practical sessions.

The first and last days are taken up with travelling giving a full 10 days on the ground for learning through practical fieldwork and discussion with conservation professionals.

PART 1 SOMKHANDA GAME RESERVE DAYS 1-6

When the Gumbi Tribe won a successful land claim over a substantial tract of prime Zululand bushveld, the result was the consolidation of a number of privately owned game and hunting ranches into a 12,000ha continuous game reserve.

This magnificent Zululand wildlife reserve, being ideal habitat for white and black rhino, was identified by the Black Rhino Range Expansion Project as being suitable for the introduction of a founder population of this rare and endangered species. The Biodiversity Stewardship South Africa (BSSA) programme, recognizing the habitats and endangered species that are present on Somkhanda, provided the legal mechanism (Protected Areas Act 57 of 2003 and Biodiversity Act 10 of 2004) to formally proclaim the game reserve in perpetuity.

Currently the Reserve has white and black rhino, leopard, hyena, African wild dog and a comprehensive range of all the common ungulates and smaller predators that historically occurred in this region, and introductions of buffalo and elephant scheduled for 2016. This unique situation affords the opportunity for students, in relative safety due to absence of lion and elephants, to track animals in their natural surroundings using radio tracking telemetry, and to be involved in the Reserve's wildlife and vegetation monitoring programmes.



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THE RESEARCH / MONITORING PROGRAMME:

Small groups of students will rotate daily between projects, spending one day on each (note Project 9 requires the entire group working together for 3 days). Students are accompanied by qualified field guides and a facilitator on each project. Generally projects include collecting data in the field, a data-handling component where data is entered or specimens are prepared for preservation. Basic data analyses will be undertaken.

All research and monitoring will contribute to the Reserve's baseline data collection as well as assist ongoing conservation and biodiversity management of the Reserve.

A comprehensive range of projects are carried out and maintained on Somkhanda. Programme organizers have the following projects to select from and, with sufficient advance notice and consultation, the fieldtrip can be adjusted to suit the academic requirements / interests of the student's academic programme.

Project 1: Camera trap surveying

Students will accompany experienced monitors as they check camera traps strategically sighted for specific species. The practical component involves visiting camera traps in the field, changing batteries, swopping data cards and checking for damage and alignment. The 'lab' component involves discussing the methodology of different camera trap survey techniques, sorting and cataloguing photographs and recording the sightings. There is a range of camera trap surveys ongoing on Somkhanda. For the purpose of this module we will focus on our leopard survey as well as the value of camera traps in identifying a range of the more elusive nocturnal species, such as the small elusive cats, antbear and honey badgers etc.



Project 2: Rhino monitoring

Due to the ecological significance of all rhino species in Africa and the exponential threat on them from the poaching pandemic, rhino monitoring is an ongoing project on Somkhanda with many of the animals having been fitted with radio tracking devices. Students will be briefed on the background to the rhino's demographic history in Africa and will demonstrate how the monitoring systems operate. They will then split into three groups and accompany African Insight professional guides into the field on a rotational basis. Information gathered from rhinos includes: general health, associations with other animals and offspring, movement, home range plotting, individual identification from ear notches and other distinguishing features, feeding preferences etc.



Project 3: Vegetation monitoring

Without an understanding of the vegetative components of the reserve it is impossible to effectively manage biodiversity. Students will be collecting data to be used in developing an understanding of the reserve's vegetation composition which will greatly assist in informing management's decision making processes with respect to the Reserve's planning cycles.

Techniques that may be employed are:

- Transects to assess woody species dominance and cover (such as the Braun Blanquet method)
- The *Step-point method* to assess grass species composition and basal area density;
- The *Ecological Index method* to provide a rough calculation of (veld) rangeland conditions;
- The *Pasture Disc method* for the calculation of combustible fuel loads;
- *Fixed Point Photography method* to establish a baseline for qualitative vegetation assessment;
- The use of fire as a tool in vegetation management;
- Identification and management of invasive alien plants;
- Black Rhino browse assessment and availability.

Students will work in pairs per transect. During the course of their work they will collect samples of three woody species and two grasses to press, identify and present as voucher specimens. These will become the initial specimens in the Reserve's herbarium to be developed.

The afternoon session will involve students identifying, preparing and pressing their plant voucher specimens, and entering their transect data into a spreadsheet.

Note: Where plant specimens are collected these projects are normally concentrated in the summer months when the vegetation is flowering and fruiting.



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Project 4: **Game population monitoring**

For management purposes game reserves need to know every year what the composition of their game numbers per species are. This includes age, sex and numbers. Students will be split into three groups and cover three different road transects over a three day period, and at different times of the day. All species will be identified and counted with all the necessary data recorded. This data will then be fed into a recognised computer programme and analysed per group and per transect. The computer data will then be demonstrated and explained to students. If required the raw data can be taken back for further study.

Game numbers cannot be verified with any certainty by using just one counting method. Other counts are needed to give an overview of total game numbers and ratios. These are explained to students as options for further study.

Project 5: **Black rhino browse availability**

Black rhino are a key species at Somkhanda and consequently there are a number of research questions that need to be addressed for this species. For a start the vegetation needs to be assessed in terms of suitability, palatability and availability to black rhino, as forage quality often provides clues to a species' performance.

Students will work in groups of up to four to calculate black rhino browse availability in four plots, using the methodology described in Adcock (2005). Here, canopy cover and percentage vertical fill will be calculated for a plot, plant species will be identified and ranked according to their palatability to black rhino, and total browse availability will be calculated for each plot.

Each plot will be marked with a metal stake for later identification and follow-up research. Fixed point photos and GPS readings will also be taken at the centre of each plot.

Project 6: **Invertebrate sampling and collecting**

Somkhanda aims not only to conserve rare and vulnerable game species, but also habitats and ecosystems. Invertebrates form a critical component of any ecosystem and to this end, in addition to a herbarium, Somkhanda management would like to begin assembling an invertebrate collection for the Reserve with the aim of compiling an inventory.

For this exercise, students will be given an overview of the different orders of invertebrates that could possibly be encountered, and will then be asked to trap/collect 5 specimens each from 5 different orders. Insects will need to be killed, set and pinned, identified and labelled, and stored for inclusion in the Reserve's collection at a later date.

Project 7: **Hunting as an effective management option**

Hunting, although not a source of income in terms of the Somkhanda Game Reserve business model, it is a very well documented model successfully used throughout South Africa. Although hunting is regarded with much contention with strong lobbies on both sides of the divide as: (i) a tool for wildlife management and (ii) an economic model; it is worthy of academic consideration. In this project we will visit a private wildlife abattoir where the processing of wildlife carcasses is demonstrated and discussed. This will give students an insight into the case for use of hunting as a management option. Issues covered will include: Policy – ethical commercial hunting practice, population dynamics within a closed system, best practice, economics and hunting vs. live capture.



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Project 8: *Live capture and sale of game as an effective management tool*

The sale of live game, either through an organised game auction or between individual game reserves and private game ranches, is a recognised tool of game management in South Africa. This has contributed to a larger spread of many endemic species within the country. This tool has contributed to the game industry in South Africa expanding to being the fifth largest contributor to the countries GDP.

Live capture techniques and models will be discussed with all groups. There are only four formal game sales a year in KwaZulu Natal which, with prior planning and commitment, are available for groups to attend and experience first-hand how they work.

Project 9: *Sustainable financial models in the wildlife industry*

With modern dry land-use practices becoming more sophisticated and expensive, and with both good and marginal agricultural land becoming scarcer, all land use models have to be productive and meet important needs for holistic environmental and social objectives. Therefore practices must apply sound scientific, economic and social practices.

National game reserves and private game ranches alike are no exception to this. Due to the exponential need for land to satisfy human expansion and economic exploitation, national and global biodiversity is under threat. If managed for purely ethical reasons most of the world's remaining wild lands will not survive into the future. It is a case of 'IF IT PAYS IT STAYS'.

In this project we look at three different management and financial models.

- community game reserve
- private game reserve
- government game reserve

Note this model requires 2 full day excursions to visit examples of private and government game reserves.

Project 10: *Game reserve management plans*

The modern day game reserve is legally required to have an approved management plan that encompasses biodiversity inventories, management objectives, management techniques, research and a broad based economic plan. The management plan is key to motivating for permits from the conservation authority for the introduction or removal (live or dead) of wildlife. This project looks at planning methodology, desk top research and field work that is required to develop a professional management plan.

ACCOMMODATION:

Student accommodation on Somkhanda is a traditional permanent tented safari camp, communal showers with hot and cold running water.

Practical working clothes, a comfortable pair of walking shoes, water bottles and a pair of binoculars are essential equipment for this module.



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PART 2 TEMBE ELEPHANT PARK (see module 5) DAYS 7-9

In order to augment the Somkhanda experience with a true Big 5 experience we will visit Tembe Elephant Park. This remote park, deep in an area of sand forests, pans and wetlands in northern Tongaland, lies on the border between South Africa and Mozambique, where over 250 of the largest elephant in the world, the last remaining indigenous herd in KwaZulu-Natal, roam.

This 300 km² game reserve is owned by the Tembe Tribal Community and managed by KZN Wildlife – a parastatal conservation organization. It has the full complement of the Big 5 – elephant, lion, leopard, black and white rhino and buffalo – as well as over 340 bird species and many other mammal species, including the tiny Suni, one of the smallest antelope in the world.

The area was once known as 'The Ivory Route' that extended through the central interior of south-central Africa and the along the eastern seaboard of Africa because for many years this ancient route linked the ivory traders of Mozambique and Zululand. It is where the some of the largest elephants in Africa – and the world - roamed. Today, these gentle giants remain and thrive in their ancestral homeland. And this is where you can meet them...face to face.

This incredible wildlife experience combines two important components that represent core values of African Insight (i) an authentic Big 5 wildlife experience in (ii) a national game park that is owned by the Tembe tribe, headed by Nkosi (Chief) Tembe.

ACCOMMODATION:

Our accommodation is on Bhekula Community Reserve which is adjacent to Tembe Elephant Park and is free of dangerous game.

The camp is a mobile tented camp with rustic hot showers and flushing toilets. A real camping experience!



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PART 3

KOSI BAY (see module 6)

DAYS 10-12

Kosi Bay, in the far North Eastern corner of KwaZulu-Natal, forms part of the Greater St. Lucia Wetland Park - the first natural **World Heritage Site** in South Africa to be accorded this distinction. Kosi Bay epitomises the incredible splendour of untouched Africa at its most pristine, as are its people, resources, ecology and culture.

Kosi Bay is a system of an estuary with 4 lakes ranging from freshwater to saline that feed into the ocean. Age old traditions passed down by generations of tribal existence still continue to this day - ancient fishing kraals erected and tendered by the resourceful Tonga people. Kosi Bay has been described as "a wonderful aquarium and the most gorgeous aviary." The crystal clear, warm water offers tranquil swimming and awesome snorkelling on coral reefs. Optional extras include offshore scuba diving, deep sea safaris, and turtle nesting tours that take place during the breeding season, which is usually early November to the end of February

ACCOMMODATION:

Our base is Utshwayelo Lodge and Camp situated at the entrance to Kosi Bay Reserve, 2.5 km from the beach. The camp is a community partnership project of skills sharing and a life of purpose. The Lodge and all improvements are owned by the community providing them with an income. Local reeds, grass mats and other handmade articles are used for building materials.

