



Ecology and Conservation in Africa

Biology 100 Block 8, 2002
Bruce Byers, Visiting Professor

Course Description

This course will provide an overview of the ecology of Africa and of efforts to conserve its species and their natural habitats -- the savannas, grasslands, forests, deserts, mountains, wetlands, and coasts of this huge, old continent. We will consider the historical influence of our own species on the ecology of Africa, and of Africa's influence on humans, including the evolution of our earliest ancestors. With its ecological, cultural, and economic diversity, Africa is a laboratory for understanding how humans influence, adapt to, and sometimes devastate their environment. We will examine some of the conservation struggles and successes to be found in Africa in this course, and explore their implications for conservation everywhere.

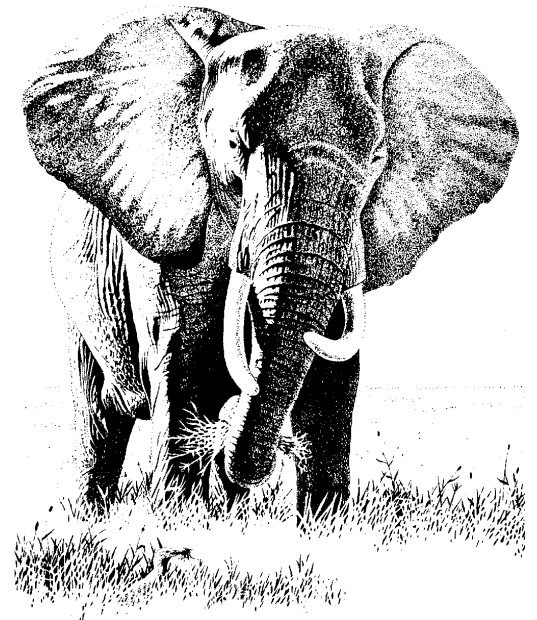
Textbook: *The Myth of Wild Africa: Conservation Without Illusion*. Jonathan S. Adams and Thomas O. McShane. New York: W.W. Norton & Company. 1992.

Course Objectives

1. Learn and/or review some basic ecological and evolutionary concepts and apply them to African ecosystems.
2. Gain a basic understanding of some aspects of human ecology in Africa.
3. Compare and contrast some approaches to conservation as applied in Africa, and understand their history and cultural roots.
4. Learn about the unique situations of some famous African national parks and other protected areas, and about experiments in community based conservation, integrated conservation and development, and other innovative approaches to conservation in Africa.
5. Individualize learning in this class through an individual research project on some aspect of ecology and/or conservation in Africa.

Tentative Schedule

<u>Date</u>	<u>Topic/Activity</u>	<u>Reading</u>
<u>Week One</u>		
22 Apr., Mon	Course Introduction; geology, climate, biomes, biogeography, evolutionary patterns	Introduction
23 Apr., Tue	Grasslands & savannas; Ngorongoro, Serengeti, and Masai Mara cases	Ch. 1
24 Apr., Wed	“Out of Africa” video movie & discussion	Ch. 2
25 Apr., Thu	Elephant ecology & savanna woodland dynamics; Mana Pools, Tarangire, Amboseli, Serengeti cases	Ch. 3
26 Apr., Fri	Discussion; practice quiz/writing assignment	Ch. 4
<u>Week Two</u>		
29 Apr., Mon	Miombo & other woodlands; Great Dyke serpentine endemic plants; baobab ecology; Kasungu, Great Dyke, Mana Pools cases; Congo Basin Rainforests individual internet research	Ch. 5
30 Apr., Tue	Deserts, Afrotropical ecosystems, and Great Rift lakes; Namib, Chimanimanis, E. Africa; Lake Malawi cases	Ch. 6
1 May, Wed	Conservation philosophy, history, & approaches Yellowstone; Pinchot & Muir; Zimbabwe sacred Forests; individual project prospectus due	Ch. 7
2 May, Thu	Madagascar ecosystems & conservation; Andohahelo & Andasibe cases	Ch. 8
3 May, Fri	Discussion; practice quiz/writing assignment	Ch. 9

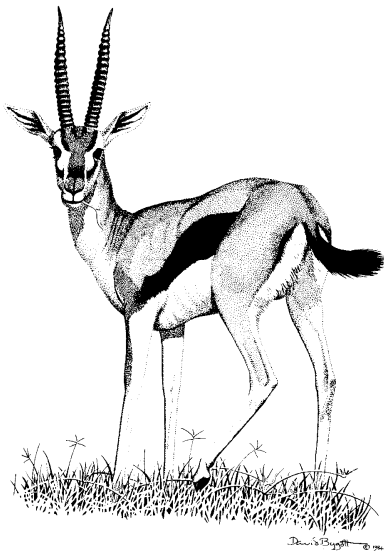


Week Three

6 May, Mon	Human ecology & human influences in Africa hunter-gatherers; pastoralists, agriculturalists; fire, rinderpest, tsetse; colonial expansion, emerging diseases	Ch. 10
7 May, Tue	Ngorongoro; slides & discussion	Ch. 11
8 May, Wed	Lake Nakuru, Etosha, Amboseli cases	Ch. 12
9 May, Thu	Review and Discussion	
10 May, Fri	Comprehensive Exam	

Final Week

13 May, Mon	Finalize individual project reports
14 May, Tue	Individual Project Reports
15 May, Wed	Individual Project Reports – cont'd



Slide Show Case Studies To Be Used In This Class

African Ecosystems Overview
Baobab Ecology
Elephant Ecology
Great Dyke serpentine soils & endemic plants
Chobe National Park, Botswana
Okavango Delta, Botswana
Amboseli National Park, Kenya
Lake Nakuru National Park, Kenya
Masai Mara National Reserve, Kenya
Andasibe Nature Reserve, Madagascar
Andoahela Nature Reserve, Madagascar
Kasungu National Park, Malawi
Lake Malawi, Malawi
Etosha National Park, Namibia
Namib Desert, Namibia
Lake Manayara National Park, Tanzania
Ngorongoro Conservation Area, Tanzania
Olduvai Gorge, Tanzania
Serengeti National Park, Tanzania
Tarangire National Park, Tanzania
Chimanimani Mountains, Zimbabwe
Hwange National Park, Zimbabwe
Mana Pools National Park, Zimbabwe
Muzarabani Forests, Zimbabwe
Mvuradonha Wilderness Area, Zimbabwe
Victoria Falls and Zambezi National Park, Zimbabwe



Evaluation & Grading

Participation	20%
Comprehensive Exam	50%
Individual Project (written & oral reports)	<u>30%</u>
Total	100%

Evaluation Comments and Details

Participation: I expect you to:

- Keep up with the reading assignments on a daily basis, and have read the chapter listed *before* class that day
- Read critically and actively, carrying out a dialogue with the authors of the text, as indicated by marginal notes in the book and/or reading notes kept separately
- Ask intelligent questions in class
- Contribute ideas, answers, and comments when called on, and voluntarily, in class
- Communicate interest, eagerness to learn, curiosity, and enthusiasm to me and to other students in the class
- Show respect for other students by listening when they are talking, giving everyone a chance to talk, and not interrupting when someone is talking
- Turn in all assignments on time
- Visit me during office hours if you need help or want to do extra work
- Let me know in advance when possible if you will miss class and make up/catch up on what you missed if you do miss class

Comprehensive Exam: This exam will cover *everything* we have talked and read about in class from lectures, discussions, slides, and reading. You will have a chance to practice the kinds of questions and get a feeling for the level of detail in two “practice” quizzes/writing assignments. This exam is 50% of your grade, and therefore very important.

Individual Project (written & oral reports): In order to individualize your learning in this class, an individual research project on a topic of your choice is required. This research should be presented in the form of a paper (approx. 10-15 pages, including illustrations and references), and a very brief oral report (approx. 10 min. maximum) to the class. More details and guidelines for content and format of both written and oral reports will be provided later.

Illustrative Individual Research Project Topics (to give a feeling for the range of possibilities)

Pel's Fishing Owl: Ecology and Conservation
African Giant Otters: Their Status and Conservation
Okapi Ecology and Conservation
African Wild Dogs (Painted Hunting Dogs): Status and Conservation
Cheetah Conservation in Namibia
Community-based Conservation Efforts in Madagascar
Honeyguides and Their Guiding Behavior
Endangered Primates of East Africa

Illustrative Individual Research Project Topics – continued

Ensete: The Unknown Crop of Ethiopia
Rinderpest and Its Influence on African Conservation
Was the Congo Basin Rainforest Once Farmland?
Effects of Climate Change on the Forest-Savanna Transition Zone in Central Africa
Kalahari-Gemsbok National Park
The Usambara Mountains, Tanzania: A Biological Treasure House
Conservation of Biodiversity in the Ruwenzori (Mountains of the Moon), Uganda
Safari Hunting and Wildlife Conservation in Southern Africa
Virungas National Park
Status and Conservation of the Cichlid Fish of Lake Tanganyika (or other African Great Lakes)
The Fynbos Vegetation of South Africa
Why Did the Megafauna of Africa Survive While America's Didn't?
Why Haven't Any African Mammals Been Domesticated?
The Okavango Delta and Threats to Its Conservation
The Effect of Veterinary Control Fences on Wildlife Movements in Botswana
Animal Totems in Some Bantu Cultures of East Africa
Hunter-Gatherers: Hanging On In the Kalahari
Effect of the Civil War in Sudan on Wildlife Populations
Coral Reefs of Kenya: Status and Conservation
The bushmeat trade and emerging diseases
National Parks of Ethiopia
Ebola virus and human/wildlife interactions
Chimpanzee Conservation and AIDS Research: Essential Links
Current status of tsetse control efforts in Tanzania
Angolan civil war and the illegal ivory trade
Birth control for elephants in Kruger National Park, South Africa
The economics of wildlife tourism in Kenya
Prospects for conservation in the Democratic Republic of Congo
Effects of oil production on biodiversity in the Niger Delta
Images of "Wild" Africa from National Geographic, 1960 – 2000: Do They Show the Reality of Africa?

