

Albertine Rift
Technical Reports
Volume 1

HUMAN-WILDLIFE CONFLICT



Identifying the problem and possible solutions

**WILDLIFE
CONSERVATION
SOCIETY**

C.M. HILL, F.X. OSBORN & A.J. PLUMPTRE

The WCS Albertine Rift Programme is working to conserve some of Africa's most biodiverse sites for the future generations of Africans and the global community. The Albertine rift stretches from the northern end of lake Albert down to the southern end of lake Tanganyika and encompasses the forests, savannahs, wetlands and mountains to be found in the rift and on the adjacent escarpment in Uganda, Rwanda, Burundi, Tanzania and Democratic Republic of Congo. This area of Africa contains 40% of all bird species and 25% of all mammal species on the African continent. Many species are endemic to this part of the world and it has been identified as being of global conservation importance by several global priority setting exercises (it is an endemic bird area, ecoregion and a hotspot). The Albertine Rift Programme focuses on three main goals:

- The provision of ecological information to enable protected area managers to better manage conservation sites within the region. We have focussed on undertaking surveys of most of the forests in the Albertine Rift to provide a baseline for future monitoring of populations, and to develop zoning plans that identify the core conservation areas within the forests based on biological criteria.
- Building capacity of African nationals to be able to use a scientific method in their approach to protected area management. Management can be thought of as a large experiment which requires monitoring and actions need adjusting in the light of the results of the monitoring. Management should focus on addressing threats to the protected areas and adapting management actions as threats change in importance. Training programmes have been developed with the Uganda Wildlife Authority, Office Rwandais de Tourisme et Parcs Nationaux, Tanzania National Parks and the Institut Congolais pour la Conservation de la Nature.
- Supporting management authorities to manage certain sites within the Albertine Rift through financial support for the basic operating costs, planning, training, monitoring and research programmes. WCS is committed to site conservation over long periods of time because it recognises the importance of long term support. WCS has supported Nyungwe Park throughout the civil war and genocide in Rwanda up to the present. WCS has also supported ICCN to manage Kahuzi Biega National Park and also supported Virunga National Park. WCS is also working with UWA, ORTPN, and TANAPA by providing training to support management.

Suggested Citation: Hill, C., Osborn, F. and Plumptre, A.J. (2002) Human-Wildlife Conflict: Identifying the problem and possible solutions. *Albertine Rift Technical Report Series* Vol. 1. Wildlife Conservation Society.

Cover Photo: Elephant in banana plantation, Rwanda. J.B. Bizumuremyi, Dian Fossey Gorilla Fund International.

contents

Section 1:Introduction	4
Section 2:Issues to be Addressed	8
• What a manager needs to know	8
• The level of detail	9
• The types of question to be asked	10
• Why a combination of approaches is necessary	10
Section 3:Measuring Crop Losses	12
• Introduction	12
• The types of question to address	13
• How to collect the data	16
• Farmer estimates versus independent measurements of crop losses	18
• Putting a quantitative value to crop losses – some possible problems	18
• Setting up a crop damage monitoring scheme	20
• Summary	21
Section 4:The Farmer’s Perspective	22
• Introduction	22
• The types of questions to address	24
• Degree of detail needed and useful strategies for collecting data	27
• Summary	31
Section 5:Conflict Resolution	32
• Introduction	32
• Goals of an intervention	32
• Community involvement	33
• Reducing crop losses	34
• Implementation of an intervention	37
• Summary	39
References:	40

Appendix I: Case Studies	41
The Manager's Perspective	41
Joachim Kagiri "Human – Wildlife Conflicts in Kenya: A Conflict Resolution Concept."	43
Byamukama Biryahwaho "Community Perspectives Towards Management of Crop Raiding animals: Experience of Care-DTC with communities living adjacent to Bwindi Impenetrable and Mgahinga Gorilla National Parks, Southwest Uganda."	46
The Farmer's Perspective	58
Catherine M Hill "People, Crops and Wildlife: A Conflict of Interests."	60
Anthony Nchanji "Crop Damage around Northern Banyang-Mbo Wildlife Sanctuary."	68
Andrew Plumtre "Crop-Raiding Around the Parc National des Volcans, Rwanda: Farmer's Attitudes and Possible Links with Poaching."	78
Robert A. Rose "A Spatial Analysis of Wildlife Crop Raiding around the Banyang-Mbo Wildlife Sanctuary, Cameroon."	88
Elephants – a Special Case	96
Richard Hoare "Towards a Standardized Data Collection Protocol for Human-Elephant Conflict Situations in Africa."	97
Patrick Ilukol "Elephant Crop Raiding Patterns in Areas around Kibale National Park (KNP), Uganda"	106
Amis Kamisse & Andrea K Turkalo "Elephant Crop Raiding in the Dzanga-Sangha Reserve."	114
F.V. Osborn & G.E. Parker "An integrated approach toward problem animal management"	120
Moses Kofi. Sam, Charles A.K. Hazieli & R.F.W. Barnes "Crop Damage by Elephants in the Red Volta Area During the 1997 Harvesting Season."	126
Appendix II: List of Participants and Contact Details	136

The Wildlife Conservation Society (WCS) is dedicated to saving wildlife and wildlands to assure a future for threatened species such as elephants, gorillas, chimpanzees, cheetahs, tigers, sharks or lynx. That mission is achieved through a conservation program that protects some 50 living landscapes around the world, manages more than 300 field projects in 53 countries, and supports the largest system of living institutions in the USA: the Bronx Zoo, the New York Aquarium, the Wildlife Centres in Central Park, Queens and Prospect Park, and the Wildlife Survival Centre on St. Catherine's Island, Georgia. We are developing and maintaining pioneering environmental education programmes that reach more than three million people in the New York metropolitan area as well as in all 50 United States and 14 other countries. We are working to make future generations inheritors, not just survivors.

To learn more about WCS visit: www.wcs.org

WCS has been a driving force in conservation in Africa since the 1920s when the Bronx Zoo's first president, William Hornaday, initiated a programme to save the white rhinos of South Africa. Since this time the WCS Africa Programme has been characterised by pioneering conservation work such as the first field studies and census of the mountain gorillas by George Schaller in Congo (1959), creation of the Nouabale-Ndoki national park in Congo Republic (1993), Masoala park in Madagascar (1956), and Nyungwe National Park in Rwanda (2001), applied research and monitoring of wildlife in many sites such as Amboseli park (Kenya), Luwangwa Valley (Zambia), Virunga Volcanoes (Rwanda, Uganda and Congo), Kibale park (Uganda), Nouabale-Ndoki park (Congo Republic), Banyang-mbo Wildlife Sanctuary (Cameroon), and Lopé reserve (Gabon), and initiatives with the private sector to reduce impacts on the environment (eg. Logging companies in Congo and Gabon; oil companies in Gabon), and working with communities to develop sustainable use programmes (Bushmeat hunting in Cameroon, Gabon, Congo Republic and Congo; Sport hunting in Zambia; harvesting medicinal plants and NTFPs in Uganda, Cameroon, Madagascar and sustainable logging practices in Uganda, Congo Republic and Gabon). WCS focuses on the use of good scientific information to manage conservation areas and as such has more field scientists on the ground than any other conservation organisation on the world. Currently the WCS Africa Programme works in 14 countries protecting a range of spectacular and diverse ecosystems across the continent. These include the vast savannas of east and southern Africa, the equatorial rainforest of central Africa, the spiny deserts and forests of Madagascar and the montane ecosystems of Cameroon and the Albertine Rift. While Africa has some of the richest landscapes of the natural world it also faces extreme challenges of poverty, high human population growth and rapidly changing political systems. WCS Africa programme recognises these challenges and the subsequent pressures on biodiversity. Throughout its field-based programmes WCS works with governments, national institutions and local communities to conserve Africa's natural heritage for both Africans and the world at large.

To contact the Africa Programme write to: wcsafrica@wcs.org

The conflict that occurs between people and wildlife when animals leave protected areas and raid their crops is becoming one of the largest problems for conservation managers around the world. This is particularly so in Africa where there are still many large mammals such as elephant, buffalo and rhino which not only eat large amounts of crops but also are dangerous to people. Much of the current thinking about conservation strategies advocates a dual approach to conserving protected areas law enforcement combined with working with local communities to reduce their impacts on the protected area. However, crop raiding by wildlife can completely undo initiatives that work with local people as it is a source of great friction. Many studies are carried out that attempt to assess the problem with crop raiding wildlife but they often address only one aspect of the crop-raiding problem. This subject is a complex issue and has to be understood as such if any meaningful solutions are to be developed. Often local farmers may complain about one animal when in fact it does not cause the most damage in fact insects and rodents probably cause the most damage to crops in many places rather than the large animals. Therefore simply measuring the damage and compensating people in some way may not in fact solve the problem in some areas. It is very important to understand what the real 'problem' is before trying to find solutions otherwise you end up finding solutions to something that wasn't really the problem in the first place. This report is the result of a workshop that brought together people from across Africa who have been addressing crop-raiding and trying to find solutions in a wide variety of cultural settings and habitats. The report synthesizes what these people have learnt through their experience in dealing with this issue and provides guidelines for protected area managers and researchers when facing this problem. The appendices provide several case studies which give more detail as to how crop-raiding has been tackled in various countries.

Author biographies

Kate Hill is a lecturer at Oxford Brookes University, in the UK. She has been undertaking research on the impacts of crop raiding on local farmers for 11 years. She has focussed her research in Uganda where baboons and bushpigs are a particular problem around the Budongo Forest Reserve. She is a strong proponent of the need to understand the farmer's perspective before trying to tackle crop raiding problems. She has organised many seminars that have looked at this problem, particularly in relation to primate crop raiding.

Ferral (Loki) Osborne has been developing techniques to tackle crop-raiding problems by elephants in Zimbabwe for 8 years now. He has devised several methods that involve the use of capsicum pepper to drive off elephants and has had considerable success in reducing crop damage in northern Zimbabwe where he works. Loki is supported in part by the Wildlife Conservation Society for his work in Zimbabwe.

Andrew Plumtre was the Assistant Director for the WCS Africa Programme at the time this workshop was held. He now directs the WCS Albertine Rift Programme. As part of his work he has been looking at the links between crop raiding and poaching in the Parc National des Volcans in Rwanda.

